

THE MAGAZINE for TANDY Computer USERS

MAY 1987

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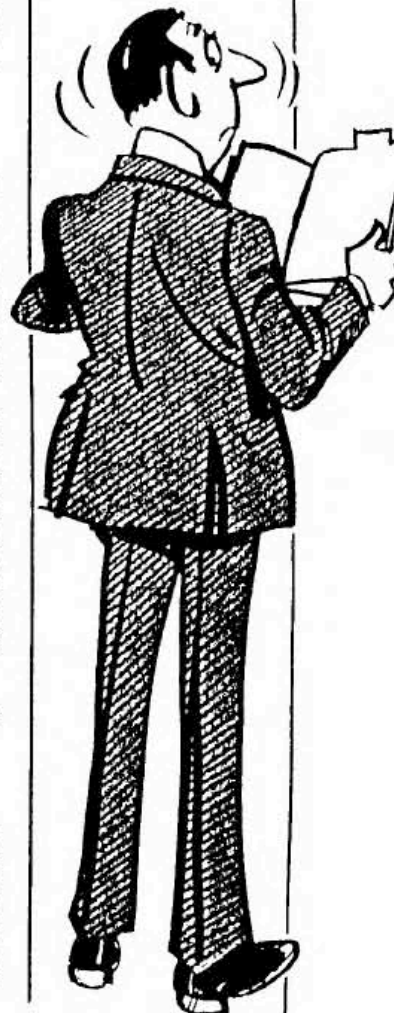
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WHO IS THIS MAGAZINE FOR?

This magazine is for computer users – especially users of Viatel, Tandy Colour Computer users, Tandy MC-10 computers, Tandy 1000 and 2000's and IBM PC's and compatibles.

WHO PROVIDES THE MATERIAL IN THIS MAGAZINE

The readers of this magazine supply the information you will find here. All of it has been volunteered and remains the property of the individual authors.

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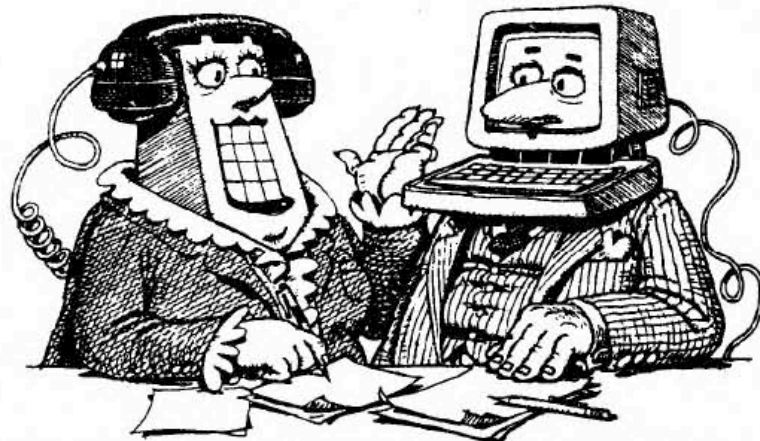
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Clubroom

Welcome Ken!

Readers will know Ken Allen's name as that of the InterTan Computer Buyer.

Well Ken has left there to join us!

We're sure Ken's move will benefit all Tandy Computer owners and we're looking forward to his input in these pages.

Conf '87

Following the announcement of dates for Conference this year, we've already started to take bookings!

We'll be taking a bus to Bundeena from Brisbane via the Gold Coast. If you would like to travel with us, please indicate your needs to us THIS MONTH. We can pick up on the way as well, so this applies to anyone on the north coast of NSW too.

If we get sufficient interest, we'll organise a bus from Melbourne as well.

But we need to know THIS MONTH!

New Lines

We're expanding some of the things we do.

One of the things we miss in the mag, as opposed to previous years, is that catalogue of goodies one could sift through!

So beginning this month, we're restarting that system, and we expect to be adding all sorts of interesting bits and pieces to it over the coming months.

If you need something your local store can't get, call us & we'll do our best to get it for you.

The Third CoCo 3 Disk

Well...disk or tape really!

These CoCo 3 Disks/Tapes are very popular, and understandably so, considering the lack of software currently available for the 3.

This one has a range of CoCo 3 programs from both our magazines over the last 2 or 3 months, and at \$16.50 is a very cheap way to catch up on all those programs you may have missed!

User Group News

As we were unable to change the information on the Contacts List last month, there are considerable changes this month.

We have a new contact in Bankstown - Pat Dorset. His phone number is 02 646 3619.

Welcome Pat!

The Cooma telephone exchange has just caught up with the 20th century and gone modern, and that means that the guys down there all have new phone numbers.

Ross Pratt's is 064 52 3065 whilst Fred Bisseling's is 064 52 3263.

Graeme Clarke phoned to say that the Dubbo group meets on the 2nd Friday of each month. Anyone with a Tandy computer in the area is very welcome at that meeting.

There is now a contact at Smithton in Tasmania. His name is Harry Chrisafis and the number is 004 35 1839.

David Horrick (Dandenong) also phoned this month. His group sounds very active! David's number has changed so if you are in the area please note the new number - 03 707 5870.

A number of the Contacts are on Viatel fairly regularly now.

Most active of these Contacts are Fred Bisseling (OS-9 - Cooma), Ron Simpkin (Bundaberg) and Jeff Larsen (Cairns).

All of these guys are very capable with the CoCo, so you can be assured of fast good advice if you log onto Viatel with a CoCo related problem!

Jim James who was the contact at Orange has moved to Cessnock. We're sorry to see him leave, he was a big help in that city.

The Geelong club held a programming contest recently which resulted in the production of some pretty hot programs.

Congrats to Mirsad Bulic who won a sub to Softgold for his effort. Hope to see your prog in the mag in the near future Mirsad!

Readers of Australian CoCo will have noticed Malcolm Patrick's name against some excellent thought starting articles on Machine Language.

Malcolm's work follows on discussions that have been taking place in the local club at Whyalla, and is very welcome material!

Bill Boardman from Port Lincoln gets around computers!

He started as a MC 10 contact, moved to the CoCo and to Forth & now he uses a Tandy 1000!

So local people who need a man with experience need look no further!

This month I attended two users meetings.

The first was more a sort of "drop in" day at the lovely Di McKinnon's Tandy shop in Coff's Harbour.

There we showed the new range of CoCo soft & hardware we are handling, including the hard drives and the new IMS relational database.

We then moved on to Grafton where a bigger meeting was planned. We'll have details of this event next month.

The Latrobe Valley Tandy Colour Computer Users' Group now consists of three divisions.

Each new group has monthly meetings in their respective towns/cities and the plan is to combine for feature events.

Families are especially welcome.

The Latrobe Valley OS-9 Users' Group was a subgroup of the 'Valley CoCoNuts' but now is separated and has regular meetings at Morwell.

The group, which is affiliated with the National OS-9 Users' Group started last year and is running currently, a course for its members in OS-9. Basic 09, assembly language and "C" will follow later in the course!

All OS-9 users are welcomed including those with "homebrew" 6809/68000 systems, CoCo's, Ataris & Amigas.

The Latrobe T1000 Users' Group may be formed later in the year. In the meantime, Peter Foley is the contact on 051 74 5791, and any problems with that machine can be directed to him.

Gippsland is now well supported with Tandy outlets in Sale, Traralgon, The Mid Valley Tandy Store, Morwell, Moe, Warragul, Pakenham and Wonthaggi!

No wonder everyone in Gippsland is going Tandy!

The following information was supplied by Brian Bere-Streeter, contact for Bris Biz, the group for business users of Tandy Computers:

BRIS-BIS is a small special interest user group which specialises in business related applications mainly for the Colour Computer.

The main aim of the group is to evaluate available software for functional use in business, both commercial programs and those written by members, and to note the special features of a program that gives it the power needed for business related usage.

Where commercial programs are used that can be set-up as a 'shell' for particular purposes, we note those shells so that a library of applications can be set-up for shared use by the members of the group that have the particular base program.

Another function of the group is to note data exchange protocols for transfer of data from program to program, often those which are unrelated.

The type of programs the group are involved in are, word processors, spreadsheets, databases, graphics, communications, financial and integrated software.

With the release of the CoCo 3 and Level II OS-9, higher levels of application for the CoCo will be available, and accordingly the group is expanding to encompass all CoCo 3 and OS-9 Level II applications.

We meet at my home office, and adjacent Carport, on Brisbane's southside on the third Saturday of each month (except December) at 1.00 PM.

Because of weather (eg windy or rainy days) ring to confirm if the meeting is still on.

Bring your CoCo and gear (+ powerboard) if you like, as there is now plenty of room for setting-up other CoCo's in the carport, beside the office.

So if you live in Brisbane or near environs, and feel the group looks interesting, give me a ring on 349-4696 after 6.00PM to find out when & where our next meeting is.

Competitions

The Graphix Competition is getting into swing again, but this year the time period allocated is a bit shorter than last, so if you have something to submit, or if you are working on something, get a move on, because you only have until the 31st July!

Martha has been busy doing a bit of work for me on Viatel lately, but she promises she'll have something to say next month about her contest!

And the Games Contest also closes on the same date. The prizes for this one are especially exciting, but again time is limited so hurry!

Telgraf

Telgraf started with a flourish & ended quite suddenly!

There were rumours about the system and the owners for sometime prior to the thing going under, but we elected to support it because we felt that the people operating it were prepared to have a go - something that is missing from our business world these days.

It is very easy these days to find someone who will tell you why something can't be done, very rare to find someone who will TRY to do something.

On this occasion we were wrong, but fortunately it appears that no one from the public has been hurt, so that is good.

I always feel very sorry for people in business who go broke, it is a tough decision to make, and an even tougher life to live afterwards.

The Tandy Store Award

I had hoped to have photos of the staff at the Bourke St store for the magazine this month.

Unfortunately we had some sort of breakdown in communications & we'll have to show you what they look like some other time!

Neil Soulier is the manager there - I have known him for sometime. He has a very different style, but one which wins him much respect and lots of customers!

In fact over Christmas, he showed the other stores how by being TWICE as good as anyone else! That's some accomplishment, and we congratulate Neil sincerely.

The appropriate award is on its way to you Neil!



SPECIAL!

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only!

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CoCoOz on Tape/Disk

\$90 ea

Hurry!! This month only!!
(Offer only valid if you ask for it!)



Feedback

NEED HELP? Write to Graham, to Dr CoCo or leave a message on Viatel and we'll do our best to answer your enquiry in these columns as soon as possible.

LETTERS

Dear Graham,

I am new to computers and I have purchased a Tandy 1000. Your magazine was recommended to me as a source to gain much needed knowledge of my machine. I realise that your magazine must cater to a wide group of users, but on my application I specified that I have a Tandy 1000 and I have found that your magazine only covers a small amount on the T1000.

I am sure that you are endeavouring to alter this imbalance, but I feel that at \$4.50 for one page in the last issue, it is a bit expensive.

Would you please answer the following questions as I do need your guidance.

1. Should I continue my subscription to Softgold for use with the T1000?

2. Would it be any advantage for me to purchase your Golddisk?

3. What does it cost? I quote from the order form - "Golddisk - available quarterly - 1 month: \$16.00).

Does this mean that the disk is available quarterly at \$16.00 * 3 = \$48.00?

4. Are printed programs checked out fully for operation before they are placed in the magazine? If they were this would help new users like me.

My daughter & I both typed out the program "Air Raid" and it failed to work properly for us.

I would be most happy if you would write me a reply.

Bob Milne
Whalan, NSW

Dear Bob,

Whilst we expect that this magazine for sometime to come, we'll not be fully laden with Tandy 1000 programs, under normal circumstances we would expect between 8 and 16 pages of content in one form or another for your machine.

Programs and articles for this magazine don't materialize we out of thin-air, and we certainly don't have the time to

write them; we depend on people who use their Tandy 1000 to provide us with the information for this magazine. If there no no information coming through from the users, then it is very difficult to print any.

Golddisk is issued quarterly - that means once every three months we issue another one, in theory. In practice, the second one we issued had problems and were still attempting to overcome it. Once that one is available, number three will follow fairly quickly.

Programs are run usually on a clone, the Tandy 1000 with 384K and a 256K Tandy 1000.

These three computers don't always pick up every problem, because there are so many little differences even between DOS's for each individual computer, but I am fairly confident that you shouldn't have had any problems with the "Air Raid" program.

*

Dear Graham,

I would like to enquire about an earlier issue of Australian Rainbow on Tape.

In the Australian Rainbow Magazine for November 1985, there are a number of programs I am interested in. Please could you tell me if one can obtain a copy or know where I can obtain a copy of Australian Rainbow on Tape for November 1985?

If you do obtain a copy or know where I could obtain a copy, could you please send me your information along with the price of the tape and any other additional information?

Thank you,
Graham Angel
Griffith, NSW

Dear Graham,

I am afraid that this tape is no longer available, and neither is any other material relating to Rainbow.

You may be able to obtain one second hand by advertising for it.

Dear Graham,

I am writing in the hope that you may be able to assist with regard to an article in the April '85 issue of CoCo Magazine concerning a program that was indicated to be in that specific issue.

The program was not printed in that issue nor was the follow up article, stated to be due in the next issue (May). I have searched all my magazines and there is no further reference to the articles in question - these articles and programs were supplied by Thomas Clarke and M. Garth of USA & Australia respectively.

The reason I have not contacted you prior to this date is that I am sorting through my things prior to packing and do not have an address of location at this stage.

I am a licensed Amateur (Radio Ham) and the article I refer to is on Satellite Tracking. I am waiting on my antenna system to arrive and of course would find the article on tracking a big help for operating satellite communications.

I purchased the magazines from the local Tandy store and please let me know of any details as soon as possible.

Cheers for now and thanks for a great magazine.

FW. Tam
DUNDAS, NSW

Dear FW.,

Yes, that was a program we missed. The best thing we can do is to re-print the entire article, program and all in the forthcoming edition of CoCo.

*

Dear Graham,

I would greatly appreciate it if you would be able to answer my questions regarding the Colour Computer "3".

I would like to know when both "Telewriter 64" and "CoCoMax" will work on this new machine, as they are my two most used programs. It is senseless to

even think of updating my old unit until they run hazard free.

David McNeill
Dundos, NSW

Dear David,

This letter was written and replied to using Telewriter 64 on a CoCo 3 with no change to the program whatsoever.

CoCoMax, I'm told, runs fine so long as you load the program and then resave it first.

*

Dear Graham,

I am writing to you to enquire about some programs which have appeared in your Australian CoCo Magazine which are also available on tape or disk.

I would like to know if the "Best of CoCoOz #2" and "Best of CoCoOz #5" are still available on tape. It would please me to know the price and the way I would go about ordering them.

I would hope you could reply as early as possible so I may order this software and obtain it.

Yours sincerely,
Paul Booth.
Tullamarine, VIC

Dear Paul,

Those products are still available and are advertised in our magazines currently. The price is \$16.00 for the tape or the disk and the programs listed under the heading "CoCoOz #2 part 2" or "CoCoOz #5" are ALL on the one tape and are ALL included for the price of \$16.00!

*

Dear Graham,

Earlier this year I wrote to you concerning the possibility of obtaining a copy of the "Cooking with CoCo" patch for disk BASIC. This was just before the Queensland mail exchange was blown up and so far I have not received an answer or any type of information about the program.

I can understand the work load on your office to produce two magazines of great quality and the fact that you have decided to drop the 'yank rubbish' from the magazine is not only a brave move but it should enable more Australian programmers to have their work published.

Can you see a push into the American computer magazine market? The domination of the (American) Rainbow (tm) in it's own area should be kicked a little, if not to help your

sales but also to wake them to reality and to the fact that they are not the only magazine in the world that is bought by TRS-80 Colour Computer User's.

The work will be hard but don't give in, I will keep buying both publications as long as they are there to be bought.

I buy them about two weeks apart and hack through them. They teach me as much as I can learn.

Watch this space for programs that are under my pen now ... !

With all my regards,
Steve Ridgeway.
Ingleburn, NSW

Dear Steve,

Unfortunately we are unable to assist you with details of the "Cooking with CoCo" patches as this material is owned by Falsoft in the U.S. and we are no longer their agents in Australia.

The move to publish Australian articles and programs only is a very scary one, and certainly can't be successful without the continuing co-operation of a large number of Tandy Computer Users.

The U.S. magazine is a fine publication which has taught us all a great deal over the years. I am very proud to have been a part of it for so long. Unfortunately, the cost of U.S. dollars plus the growing introspection of that magazine made it difficult to justify continuing with it. It was a very sad day, the day we ceased trading with them.

We already have magazine going into Canada, the USSR and other countries and I've no doubt that in time, we may put magazines into the U.S. At this stage we are not in a position to finance such a commitment.

*

Dear Graham,

I wonder if you could help me with a little problem. I am being sent to Hong Kong (no, that's not the problem) on business and it occurred to me that I might be able to purchase a couple of disk drives for my CoCo while I was there.

The problem is my knowledge on the various formats is somewhat limited. Assuming I purchase either a Tandy Controller or one of the others available in Australia and I am able to pick up 40 track drives, will these work with disks used on Tandy's 35 track drives?

For example, sometime ago I

For example, sometime ago I obtained a copy of Telewriter 64 on disk (original, not pirated) - would this work on a 40 or even an 80 track drive?

Thank you, and keep up the good work.

Ron Cook,
Warrandyte, VIC

Dear Ron,

Purchasing disk drives from Hong Kong isn't such a bad idea. But one of the questions that I would ask myself before I went and purchased drives is, "What do I want to do with them in the future? Do I want to go into other languages or do I just want to stay in BASIC?"

If you wanted to go into say, OS-9 (another programming language), then purchasing 40 and 80 track drives would be a great idea! But if you're not into that sort of thing, then buy the 40-track drives.

Tandy disk drives (both vertical and horizontal drives) are in actual fact 40 track drives "dressed-up" as 35 track drives, ie they use only 35 out of the 40 tracks.

To give an example: We here use a 40 and 80 track switchable drives with a switchable Rainbow Bits 1.4 and Tandy 1.0 DOS. When we're using BASIC, we switch the drives over to the 40-track mode, and when we're using other languages (like OS-9), we switch to 80-track drives.

BASIC, by the way, does not support 80-track drives. Other languages (like some versions of OS-9) will support 80-track drives.

When sending to us for anything, please detail what you require.

Recently we have had several instances of mix ups caused by people sending a cheque only in the post.

Even if you send your info on Viatel, or speak to us by phone, it is still necessary to detail what you want in a note you enclose with your money.

If you have a problem of a technical nature, or you have a problem of a programming nature, or you just have a computer - orientated problem, send it in to us and we will ask Dr CoCo to try to answer your problems.

Dear Dr CoCo,

I am writing to enquire about the cassette tapes I received from you on the subscription to the magazine.

I have attempted several times to load these tapes but I always get an error message or "Out of Memory".

The messages are not at the beginning of each tape but some are only a quarter of the way through. My computer is a CoCo 3 so I don't see that it should be an out of memory so soon in the program. I enter CLOAD and RUN every time.

Could you please let me know what I'm doing wrong or if the fault may be in the cassettes.

Thanking you in anticipation,
C.J. Knowles
Kilsyth, VIC.

Dear CJ,

There could be many things wrong in this sort of case. What I will attempt to do is list some possible causes and remedies.

1. You could clean your tape recorder and cold-start your CoCo everytime you have finished with a program; this, in actual fact, is something we have endorsed since the beginning!

2. You could take the tape down to the local Tandy store and ask them if you could use their CoCo 3 to check a tape (or some other excuse).

You then proceed to do the same thing on the store's CoCo 3 as you did with your own CoCo 3.

The theory here is that you're using a different CoCo 3, a different tape recorder, a different power source (in some

areas you might experience power surges and in in other areas you might not), and numerous other things.

If you tend to get the same errors you got before, then send back the tape and we will replace the tape pronto!

Send it to:
Freepost 5
Po Box 1742
Southport, Qld.
4215

No postage is required for this address.

*

Dear Dr CoCo,

Could you suggest a Database for a card index register of families & members which would not be too hard to use? I have a DECB 64K CoCo 2 and use VIP Writer. Would the VIP Database be O.K.?

With kind regards,
John A. Ford

Dear John,

In your case, VIP would be alright, as well as Deskmate and Fenpal.

*

Dear Dr CoCo,

I am having problems with CC-TALK (a smart terminal package) in the December '84/January '85 Australian Rainbow.

I call a bulletin board, connect my modem (a V1275 type), enter talk mode and I can't read any messages although I think I can enter them.

I suspect Control codes as I don't know any. Perhaps you could send me a list of phone numbers and control codes for public BBS's?

Yours desperately,
Jason
Seven Hills, NSW

Dear Jason,

There will always be a list of public BBS's published every January, with their telephone numbers.

Unfortunately, as this list comes from an external source, we cannot give anyone any control codes except for some preliminary entrance codes, ie 'Press <ENTER> to log on', 'Type VISITOR', etc.

*

Dear Dr CoCo,

Could you or one of our readers please help out? I own a CoCo 2 ECB 64K, and am using a DMP-130 printer. I also have the tape version of Telewriter-64.

But for the life of me I can not get into the world of printing graphics on the printer. I am a regular reader of both CoCo (now Softgold) and Rainbow (now CoCo). Both publications have numerous programs which state, " ... place your screen dump routine here ... ".

Terrific, the only screen dump programs I have seen so far are for every other printer except the DMP-130.

I am aware that some people will say, "buy CoCoMax or something similar", but by doing that will we ever learn about our CoCo?

It is frustrating to buy and read CoCo every month knowing it is printed with the same equipment that I have yet not being able to do the same myself.

Fred Remin,
Duntroon, ACT.

Dear Fred,

Your frustrating days are over! If you look at March 1987 CoCo in the beginning of the magazine, you will see a program called "Scr-Dump" by Craig Stewart.

This program will dump any FMODE 4 graphics picture to a DMP-130, twice the size.

On a side note; we here at the office use DMP-130's to print out the information you're reading right now, and more recently dump pictures to use in the magazine. See "Dragon", pg 19 of April's edition of Softgold. This picture has had to be reduced and is usually the size of one fan-fold paper (across) and half a sheet of paper (down).

*

COM * STATION 642

Com Station 642 64290181a 0c
 @01 Clubroom
 709813860 Member
 THU 26 MAR 1987 17:58:26

> Oops! damned programmable keys!!
 Hows things? It has been raining here
 most of the day! Sigh, tomorrow is not a
 RDO!

dBEST 2

RDO?? What is an (or a) RDO?
 I'm having fun using the programmable
 keys on CoCoTex V3.1 ... trying to
 program a key to download a frame
 is ... erm, an educational experience,
 to say the least.
 Mickey Rat

*

Com Station 642 64290182a 0c
 @01 Clubroom
 067000760
 THU 26 MAR 1987 19:59:02

> G'DAY TNO,UFO,RED AND EVERYONE ELSE OH
 AND I PETER SAY HELLO TO JEFF. HOW'S
 EVERYONE TONIGHT.

SIMO

Hello, simo. Did you find out what you
 wanted to know from UFO??

Also hi to ufo, red and everyone else
 on-line tonight!

Also, better say hi to Jeff, our
 resident 'Clubroomerian' ...

Ask me for a description of a
 'Clubroomerian'!

Mickey Rat

*

Com Station 642 64290180a 0c
 @01 Clubroom
 755100150 Member
 THU 26 MAR 1987 14:58:13

> HI, LadyBug here introducing myself
 on viatel and I hope to get to know
 some of you a bit better too.

Hope to have some good times and a
 lot of laughs along the way.

I'm also looking for a companion and
 since there's no "PERFECT MATCH" board
 here. Anyone wanting to get to know me
 better, send me a message on Clubroom.
 LadyBug...

Hey, how 'bout that, there's a bird
 looking for someone - well, you've
 come to the right place!! Mickey Rat

*

Com Station 642 64290197a 0c
 @01 Clubroom
 067001230 Member
 THU 26 MAR 1987 21:52:56

> Simo,
 Thank you for your advies but I'
 l take the risk and go full steam
 ahead on viatel.

LadyBug

Com Station 642 64290184a 0c
 @01 Clubroom
 033119340 Member
 THU 26 MAR 1987 20:47:54

> Hi Mickey Rat and JoKeR

<TWO after operation????>

HI All

Tasmaniac

No, TNO's new name and colour! I've got
 a grand announcement to make!
 Press 2 now!!

*

Com Station 642 64290185a 0c
 @01 Clubroom
 6983712690 Member
 THU 26 MAR 1987 21:03:16

> Okay, I'll be the mug

WHAT IS A CLUBROOMIAN

-RED.

Top marks for the first answer!
 You fail in the second statement,
 though!

'Clubroomian' = adj, pertaining to
 those who will always come onto
 Clubroom whether there is somebody
 there or not, through rain, hail,
 storm, nuclear war, flood, and an
 attack of herpes.

Mickey Rat (&JoKeR ...)

*

Com Station 642 64290186a 0c
 @01 Clubroom
 755105770 Member
 THU 26 MAR 1987 21:02:52

> good day ya mongrels what's up?? is i
 t friday or am i being extremely optimis
 tic?? hello, is anybody out there????
 darcy

Due to changes in the weather, and with
 the sun coming closer to the earth plus
 daylight savings, today is really only
 Wednesday; however, because of lack of
 interest Wednesday was cancelled and it
 has been replaced by Thursday...
 JoKeR

What have you been on today? hashish? t
 cocain? or was it LSD? Somethings a
 gotta explain your happy mood! Mickey R

*

Com Station 642 6429014a 0c
 @01 Clubroom

N E W S F L A S H N E W S F L A S H

The two superpowers have just
 declared war on each other! Nuclear
 War is now imminent!

News & film at 12.00pm (Qld time)

Com Station 642 64290187a 0c
 @01 Clubroom
 067000760
 THU 26 MAR 1987 21:06:14

> OK I'LL BIGHT WHAT'S A 'CLUBROOMERIAN'.
 YEP I FOUND OUT ENOUGH TO KEEP ME IN TRO
 URLE FOR AWHILE FROM UFO. WISH I HAD BEE
 N ABLE TO SPEND MORE TIME DOWN THERE SOR
 Y I MISSED YOU 'G'

SIMO

... and you still missed him, too!
 So how's UFO these days?
 Mickey Rat

No comment ... JoKeR

*

Com Station 642 64290188a 0c
 @01 Clubroom
 063003280 Member
 THU 26 MAR 1987 21:05:53

> Evening. Ah what a beautiful day. Harm
 ony all round. Isn't it wonderful having
 a strong government and an equally stron
 g opposition. Got my education toay by l
 istening to parliament. If you think Jok
 er's jokes are good, then you should tak
 e an hour off and listen to the biggest
 oke in the country. And what's worse i
 s that our money help them to behave ast
 hey do.

WOODROW

IFor a good nights laugh ... hear
 "Parliament" ... tonight! Mickey Rat
 Thank you, I like my jokes, and I also
 make a good cup of coffee! JoKeR

*

Com Station 642 64290189a 0c
 @01 Clubroom
 067000760
 THU 26 MAR 1987 21:15:35

> AFTER READING A FEW MESAGES I FOUND TH
 EONE FROM LADYBUG AND THOUGHT I WOULD VO
 RN HER ABOUT YOU LOT. AND INGORE HALF OF
 WHAT THEY SAW AND FORGET THE REST.

SIMO

Sssssshhhhh ... quiet, you fool!
 Do you wat her to know about us??
 Mickey Rat

I would like to send a cheerio to
 LadyBug if she's watching ... JoKeR

*

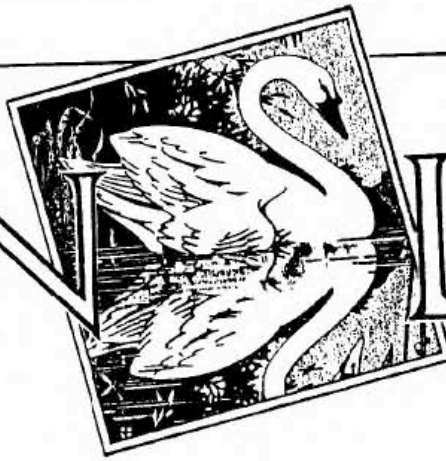
Com Station 642 64290179a 0c
 @01 Clubroom
 755100150 Member
 THU 26 MAR 1987 13:27:46

If you're watching.....

HI Mum!!!!!!!!!!!!!!!!!!!!

JoKeR

That's almost as bad as the last joke..
 Mickey Rat



SWANLINE

by Samantha McCormick

Hi! In last month's mag (you DID get the April Scottgold didn't you?!) I decided to give the uninitiated a quick run down on Viatellians in general. Hopefully you now have a slightly better insight into what Viatel and Goldlink is all about. No doubt you are all wondering "How do I join?" What do I need?" (If not, humour me anyway!)

There are several pre-requisites:

- 1/ A screen, keyboard, modem and telephone.
- 2/ A good sense of humour.
- 3/ A burning desire to be corrupted.
- 4/ A strong heart (see Viatel Page #92#)
- 5/ A pseudonym.

You see in addition to a whole new language, we all, or nearly all, adopt pseudonyms on Viatel. Names that we are known by or renowned as. This not only allows you to be as crazy as you like without undue repercussions, but also tends to make messaging a lot more interesting.

Lord Something or Other can be infinitely preferable to just plain Wilfred or Harold when you are trying to make an impression.

It also gives an interesting insight into the personalities of our users. A large number of Viatellians opt to be associated with various forms of wildlife. i.e. Wilderboast, Lone Wolf, Wombat, LadyBug, White Rabbit, SWAN (couldn't forget that one!).

Others prefer more regal titles; Supreme Commander, Princess Cygnus, Paragon, Lady Daisy, JoKeR, Lord Chook (or should that last come under wildlife?).

Then there are the deeper names; En Passant, Eddorean, Manticore. Anyway you look at it, the list is as wide and varied as the imaginations of our users. Its not all that easy selecting just the right name though.

One of our Com Joks had such a problem finding something appropriate that he ended up calling himself T.N.O. (The Nameless One).

Apart from the pseudonym and other bits and pieces, Viatel is pretty much open to everyone.

Our members range in age from 12 years to late 60s. Or in Woodrow's case early 80's (Graham made me say it Woody-honest!) They are all colours, creeds and personalities, with a huge range of interests. We do our best to cater for as many of these interests as possible with the boards available on Goldlink.

So, now you are becoming part of the family so to speak, lets have a look at:

Things to do on Goldlink

You can party on CLUBROOM, which is where the rabble gather to have fun. Give and receive cuddles on the CUDDLE BOARD.

Contact the HOMEWORK HELP BOARD if you are a student stuck on an assignment or wading through exams. Browse through the TRAVEL BOARD for an insight on where to go and what to do for those impending holidays, or recommend or warn us on places you have been to.

Vent your disgust or express admiration for television programmes on T.V. TALK.

Gain a sympathetic ear or help with any kind of problem on SWAN'S CARE BOARD.

If the problem you are having is one of a gaming nature, ie stuck in the middle of an Adventure game with no idea of how to get out again. You can call on WOODROW'S GAMES CLINIC.

You can give and get hints on fishing on the FISHING BOARD.

Get together with fellow railroaders on the board for RAILWAY ENTHUSIASTS.

Chat to C.B.'ers on the AMATEUR RADIO BOARD.

And of course talk computers on any of our COMPUTER USERS BOARDS:

TANDY - OS9 - ATARI - APPLE
COMMODORE - IBM /TANDY 1000
AMSTRAD - NIX - MSX & SEGA

There are new boards coming on all the time so there is always something to look forward to. Life tends to be anything but dull at Goldlink!

As this column continues in the months to come. I'll introduce you to a few of our more infamous regulars.

Goldlink people have become, for me anyway, more of a second family than anything else. Through Viatel I can honestly say, in six months I have met more people and made more friends, good friends, than I have the whole time I have been in Australia.

For a lonely, homesick Kiwi girl it has been a real blessing.

Catch you again next month.
See you on Com Station 642

SWAN.

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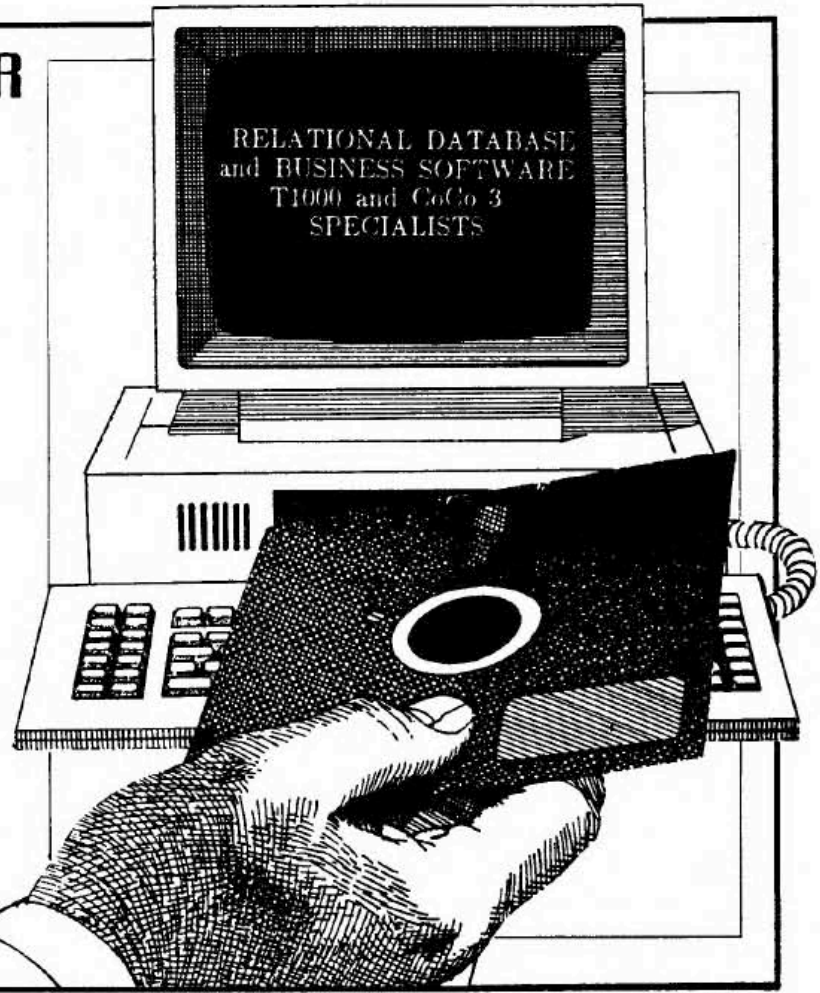
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LONG

& the

SHORT

& the

SUSS!

They came from miles around!

In fact they came from all over the country to be at the Goldlink Bash in Melbourne in March!

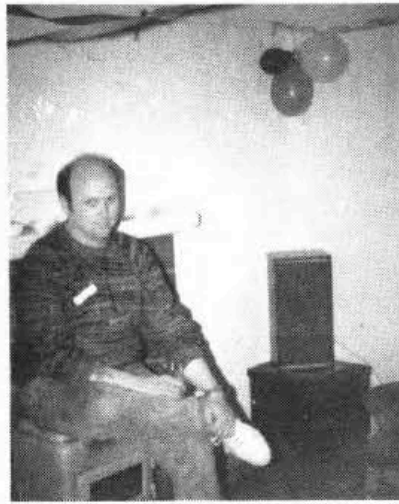
Once they got there, they even had fun!

And they went home tired!

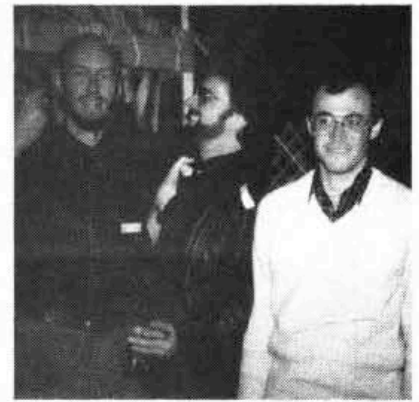
A Viatel Bash (English - party), is not dull, is fun, is VERY friendly, and is exhausting!

Once you've been to one, you'll go to them all!

Join us for the next one in Sydney in August!



The very definition of style
- Macaroni



Nodonn, his Supremeness and a Strange Person (rest of pic censored!)



Graham, PC & friends checking out the photos.



Rubber Duck - well he was tired - really! And Sundry in his LCBs disguise



Manticore, Deb 007 & Sun.er
LCBs share an intimate moment



LCBs in his Sundry disguise!

Manticore, Deb 007 and Black Panther - before BP found out what they did to his house!



Everyone's nightmare!
(Wombat in burrow)



Elio - a VIP from Viatel, with with an unknown person





Half a Sundry / LCBs and someone ordering 2!

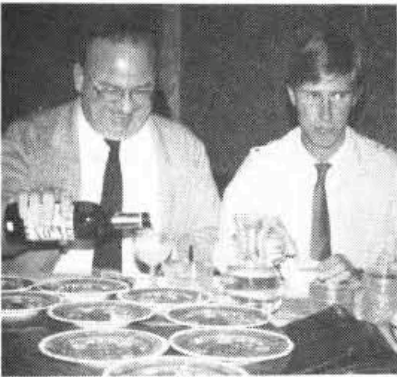


Casey - showing character!



Karen and the very cool Wozzie

Dessip, Maltese Sparrow, Abigail and The Jackal partying in Adelaide



Woodrow really hates Pernod - even if he is with Wombat!



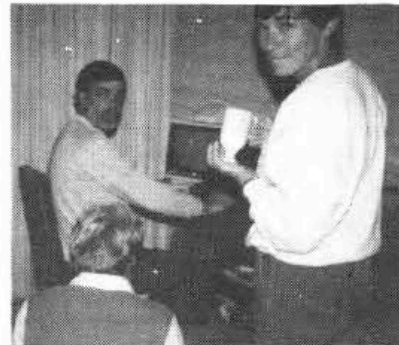
Eddorean minus his moustache - now if we can amputate the glass....



Ah how marriage changes them! Gypsy Rover since he married Greenwood!



The lovely Gwen with Big Bob



The Jackal at his command post



Wino & EP showing that some Viatelians will go to any lengths to get to a Viatel bash!

Ron Wright & his Mysterious Friend



Wombat - DJ Extrordinaire!



GETTING TO KNOW THE

TANDY 1000



by Jim Rogers

It has occurred to me that there could well be a number of T1000 users who are in a position similar to my own, that is, just learning their way around it. To this end it may be that, if I explain the problems I have run into and their solving (if I can), I may well be passing on some helpful hints.

The reference manuals contain a great deal of information but some of it appears a bit hard to work out without some outside help and also some very basic (not BASIC) points do not seem to be included. Of course I have the advantage of being able to bail up Alex Hartman for help; which help I hope to be able to pass on to other new starters.

The Tandy 1000 gets more and

more interesting as it becomes more familiar.

When I first fired up and loaded the MS DOS I thought that the whole machine had blown up because nothing happened. The MS DOS wouldn't load. No matter what I tried nothing happened. Just nothing.

Then, having tried everything else, I got hold of another backup MS DOS and discovered what the trouble was. The one I had been using was faulty or had

crashed or something. This was a lesson in the value of making several backup copies, I now have six backups !!!

Incidentally, the same thing happened with the program TYPIST. In this case, because MS DOS was now in the memory and therefore operating it could tell me that the TYPIST diskette was inoperable. A backup copy of that soon got me going again and my first job was a few more backup copies of that one also.

THE OS-9 BOARD ON

by Fred Bisseling

This month's article is designed to tell you a little about the OS9 Board on Goldlink. To access this Board you will need a modem, a Viatel number, and a suitable software package. Details on joining Viatel and Goldlink, plus information on suitable software have been published in previous issues.

OS9 is a powerful Operating System designed to run on 6809 and 68000 cpu machines. With the release of the COCO3 and the release of OS9 Level II expected shortly, the OS9 Board is now

being seen as playing a very important role in assisting both the newcomer and experienced user.

By accessing this board, you are able to leave requests for assistance or information that may be of assistance to someone else. This Board is supported by the National OS9 Users Group and is checked by a member of that group most nights. If you are not a member of Goldlink, you are still able to access the board and read messages (at no charge) but a small fee will

apply if you wish to leave a message.

The National OS9 Users Group have a monthly newsletter which contains a lot of valuable information for both the new and experienced user. To join, simply write to the National OS9 Users Group, c/- Graeme Nichols, 9 Milham Cres. Forestville N.S.W 2087.

As time goes on, the OS9 Board on Goldlink will become a very valuable asset to all OS9 users.

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MICO NEWS

Editor Jim Rogers

Special thanks this month to the two young ladies, Catherine Threlball and Juliette Hill for the programs they have submitted.

It is relatively rare for us to receive programs from the fairer sex, and these programs are therefore especially welcome!

Keep up the good work - let's see more of your work!

I have received, again this month, one of Frank Rees' many letters to me, enclosing a copy of his program, DIGITIZ, for the MC10.

DIGITIZ is a method of recording sound and playing it back, via the program, through the computer.

As always, Frank is obsessive in his desire to help, any and all, users of the MC10 and CoCo. So if you have problems and require help or wish to learn more, Frank sits there waiting for you to contact him.

He is a contributing author to our American MC10 counterpart, the MCUG newsletter and he is a chap with many years of experience in computer development. Believe me, we are very fortunate to have the benefit of this experience and any of you can share this by writing to Frank at:

FRANK REES,
17 KING ST.
BOORT. VIC. 3537

It will have been noticed by some and thought that I have changed over from the MC10 to the T1000. NOT SO! I have been conned, somewhat, by Graham into trying out the new Tandy 1000

and I have to admit that it is a beautiful and interesting machine. However it is a machine entirely different to the MC10 and also the CoCo.

As yet I am only starting to find my way around the T1000 and have not, at this time, found the familiarity with which I can use the MC10

Reluctantly, I have to admit to myself that the day must come when the discontinued MC10 will have to be put to one side. After four years of a lot of work my little machine hasn't given an ounce of trouble but should the day ever come when I may require any sort of replacement parts where would I get them?

Therefore in the meantime, until that terrible day, I will keep on with the MC10, but I will hedge my bets a little by getting some experience with the T1000!

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CALENDAR

16K ECB + Any TANDY Printer

Johanna Vagg

CALENDER IS A program originally made by Hong Kwong and published in the American Rainbow Magazine. It used a Star Micronics Delta-10 printer ... and used a screen dump to to print the calender.

My new version, using Hong Kwong's technique, has been modified for practically all the Tandy printers.

If you want, you can dump a graphics picture first and then use this program to print a calender underneath the picture, thereby creating a wall calender with the picture of your choice.

The Listing:

```
0 GOTO 20
1 '***** CALENDER *****
   ***** JOHANNA VAGG *****
3 SAVE"178L:3":END'10
20 REM EDIT 270 FOR BAUD RATE
30 REM 1987 CALENDAR ADAPTED BY
   JOHANNA VAGG
40 REM ORIGINAL PROGRAM BY HONG
   KWONG (AMERICAN RAINBOW MAY
   1986) FOR THE STAR MICRONICS
   DELTA-10 PRINTER.. IT HAD A
   SCREEN DUMP. THIS VERSION IS
```

```
FOR TANDY PRINTERS.. PICTURE
TO BE ADDED BY A SCREEN DUMP
ON RE-INSERTING PAPER
50 REM POSITION PRINT HEAD TWO
THIRDS DOWN THE PAGE
60 REM HAVE ENOUGH PAPER FOR THE
NUMBER OF CALENDARS REQUIRED
AND LET THE COMPUTER &PRINTER
DO THEIR STUFF.. WILL CONTINUE
UNTIL THE PAPER RUNS OUT!
100 REM 1987 CALENDAR FOR PIC TO
BE ADDED
110 CLS
160 DIM M(12,6,7),M$(12)
170 E$=CHR$(27)'ESCAPE CODE
180 C$=E$+CHR$(20)'CONDENSED
190 I$=E$+CHR$(19)'NORMAL
210 X1$=E$+CHR$(14)'ELONGATE ON
220 X0$=E$+CHR$(15)'ELONGATE OFF
230 E1$=E$+CHR$(31)'START BOLD
240 U1$=CHR$(15)'UNDERLINE ON
250 U0$=CHR$(14)'UNDERLINE OFF
260 TA=3:P=-2
270 POKE150,41'SET BAUD RATE TO
1200
280 READ Y$:YEAR
290 FORM=1 TO 12
300 READ DD,N
310 FORW=1 TO 6:FOR D=1 TO 7
320 M(M,W,D)=DD
330 DD=DD+1
340 IF DD>N THEN DD=-20
350 NEXTD,W:NEXTM
360 FORX=1 TO 12
370 READ M$(X)
380 NEXT
520 PRINT#P,I$;X1$;E1$;TAB(25)
Y$;X0$
```

```
525 PRINT#P,C$
530 FORX=1 TO 12 STEP 6
540 PRINT#P," " U1$;STRING$(1
33,32) U0$
550 PRINT#P,TAB(3)"!" U1$;:FOR Y
=X TO X+5
560 PRINT#P," "M$(Y)"
!";
570 NEXTY:PRINT#P,U0$
580 A$="S M T W T F S!"
590 PRINT#P,TAB(3)"!";U1$;" "
A$ "AS" "AS" "AS" "AS" "AS
"; U0$
600 FORW=1 TO 6
610 PRINT#P,TAB(TA)"!";
620 FOR M=X TO X+5
630 FOR D=1 TO 7
640 MM=M(M,W,D)
650 IF MM<1 THEN PRINT#P," ";:
GOTO 670
660 PRINT#P,USING"###";MM;
670 NEXT D:PRINT#P,"!";
680 NEXT M:PRINT#P,U0$
690 IF W=5 THEN TA=0:PRINT#P,"
"U1$; ELSE TA=3
700 NEXT W
710 NEXT X
720 PRINT#P,CHR$(12)'FORM FEED
730 RUN'START AGAIN
850 DATA 1987
860 DATA -3,31,1,28,1,31,-2,30,-
4,31,0,30,-2,31,-5,31,-1,30,-3,3
1,1,30,-1,31
870 DATA " JANUARY"," FEBRUARY"
," MARCH"," APRIL","
MAY"," JUNE"," JULY","
AUGUST"," SEPTEMBER"," OCTOBER"
," NOVEMBER"," DECEMBER"
```

1987

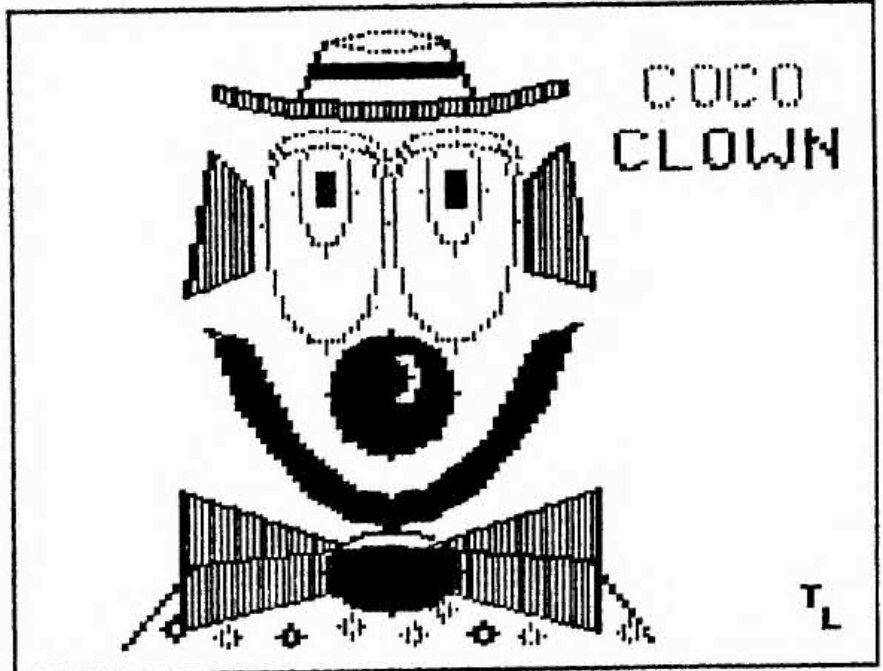
JANUARY							FEBRUARY							MARCH							APRIL							MAY							JUNE						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
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JULY							AUGUST							SEPTEMBER							OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4										1	2	3	4	5		1	2	3					1	2	3	4	5	6	7	1	2	3	4	5				
5	6	7	8	9	10	11	2	3	4	5	6	7	8	6	7	8	9	10	11	12	4	5	6	7	8	9	10	8	9	10	11	12	13	14	6	7	8	9	10	11	12
12	13	14	15	16	17	18	9	10	11	12	13	14	15	13	14	15	16	17	18	19	11	12	13	14	15	16	17	15	16	17	18	19	20	21	13	14	15	16	17	18	19
19	20	21	22	23	24	25	16	17	18	19	20	21	22	20	21	22	23	24	25	26	18	19	20	21	22	23	24	22	23	24	25	26	27	28	20	21	22	23	24	25	26
26	27	28	29	30	31	23	24	25	26	27	28	29	27	28	29	30			25	26	27	28	29	30	31	29	30						27	28	29	30	31				

CLOWN

HERE IS my entry to the graphics competition. It is a picture of a colourful clown.

The Listing:

```
00 GOTO10
03 SAVE"206:3":END'2
10 REM *****
20 REM * CO CO CLOWN 1987 *
30 REM * *
40 REM * BY TOM LEHANE *
50 REM *****
60 CLEAR300
70 PMODE3,1:PCLS:SCREEN1,1
80 CIRCLE(92,60),20,3,2,.90,.62
90 CIRCLE(132,60),20,3,2,.90,.62
100 CIRCLE(93,50),10,3,2,.90,.62
110 CIRCLE(133,50),10,3,2,.90,.62
120 CIRCLE(92,40),20,2,.5,.54
130 CIRCLE(92,45),20,2,.5,.54
140 CIRCLE(132,40),20,2,.5,.54
150 CIRCLE(132,45),20,2,.5,.54
160 CIRCLE(112,15),65,4,.2,.1,.4
170 LINE(90,44)-(95,54),PSET,BF
180 LINE(130,44)-(134,55),PSET,BF
190 CIRCLE(112,10),65,4,.2,.1,.4
200 ' hat TOP PART
210 CIRCLE(113,3),18,2,.20
220 LINE(131,3)-(139,20),PSET
230 LINE(92,3)-(85,20),PSET
240 LINE(166,16)-(166,20),PSET
250 LINE(59,16)-(59,20),PSET
260 PAINT(134,24),2,4
270 LINR(88,14)-(132,10),PSET,BF
280 ' smile
290 CIRCLE(112,35),57,4,2,.1,.42
300 CIRCLE(112,20),88,4,2,.1,.42
310 LINE(170,92)-(160,95),PSET
320 LINE(55,92)-(66,95),PSET
330 PAINT(60,96),4,4
340 ' nose
350 CIRCLE(113,113),20
360 CIRCLE(120,108),5,4,2,.75,.25
370 CIRCLE(115,108),5,4,2,.75,.25
380 LINE(115,100)-(120,100),PSET
390 LINE(115,116)-(120,116),PSET
400 PAINT(104,103),4,4
```



```
410 ' hair r/h side
420 LINE(155,47)-(166,36),PSET
430 LINE(166,36)-(175,81),PSET
440 LINE(175,81)-(154,75),PSET
450 LINE(154,75)-(154,43),PSET
460 PAINT(160,48),3,4
470 ' hair l/h side
480 LINE(69,48)-(56,37),PSET
490 LINE(56,37)-(49,82),PSET
500 LINE(49,82)-(69,74),PSET
510 LINE(69,74)-(69,48),PSET
520 PAINT(61,48),3,4
530 ' shirt
540 LINE(50,165)-(110,160),PSET
550 LINE(110,160)-(175,165),PSET
560 LINE(175,165)-(192,192),PSET
570 LINE(50,165)-(28,192),PSET
580 ' 1/h side of bow
590 LINE(96,159)-(47,142),PSET
600 LINE(47,142)-(47,186),PSET
610 LINE(47,186)-(96,173),PSET
620 ' r/h side of bow
630 LINE(125,160)-(176,143),PSET
640 LINE(176,143)-(176,188),PSET
650 LINE(176,188)-(124,173),PSET
660 ' centre of bow --circle--
670 CIRCLE(112,168),22,4,.65
680 PAINT(112,170),4,4
690 ' paint bow
```

```
700 PAINT(159,157),3,4
710 PAINT(159,173),2,4
720 PAINT(62,155),2,4
730 PAINT(64,171),3,4
740 ' spots on shirt
750 CIRCLE(100,185),5,3
760 CIRCLE(80,188),5,4
770 CIRCLE(118,188),5,2
780 CIRCLE(128,180),5,3
790 CIRCLE(140,188),5,4
800 CIRCLE(155,189),5,2
810 CIRCLE(186,188),5,3
820 CIRCLE(60,188),5,2
830 CIRCLE(44,185),5,4
840 ' letters for co co clown
850 Cs="NRHU4ER2FBD4GNL2BR4"
860 Ls="NU6R4BR3"
870 Ns="U5NUF4NU5DBR3"
880 Os="BRNR2HU4ER2FD4GER4"
890 Ws="BUNU5FE2F2ENU5BR3BD"
900 Ts="BR2U6NL2R2BD6BR3"
910 ' change color for letters
920 COLOR3
930 DRAW"S8BM194,24"+Cs+Os+Cs+Os
940 COLOR4
950 DRAW"BM185,44"+Cs+Ls+Os+Ws+N
960 DRAW"S4BM240,180"+Ts
970 DRAW"BM246,187"+Ls
980 GOTO 980
```

○

PARSA

IMPRESSIONS

by Johanna Vagg

GRAPHICS

OUR 32K CoCo 1 is ill.. or overworked. More and more the picture disappeared from the screen. The sound still came through. I blamed our ageing telly. The colours were different, and the picture (especially on ML games) clearer, when CoCo was teamed with the younger telly.

We never had a CoCo 2, we've skipped to a CoCo 3. It's arrival caused quite a stir. Some of Katy's first words had been 'game' and 'play game' and 'turn it on'. Now THE word is 'new game'. She sits up at the THREE, fingers poised, saying 'Turn it on. Play new game.'

As there was no sport on the telly at 4pm, my husband agreed to let the kids have the 'old computer' on HIS telly.

So I had to go from one to the other with the tape recorder. The kids wanted to try this, that and the other which hadn't worked on 32K. At the same time they wanted to see what other things looked like with the new telly.

Katy screamed for attention; I felt like screaming too, wishing I'd brought MY new friend home while the kids were in school!

Having CoCo 3 is like having a new telly... the ML games are clearer, the colours brighter.. AND now the computer doesn't interfere with the reception on the TV (the one on which my husband watches all the sport).

I wonder whether ONE is ill or just malingering. It co-operates well with the younger telly.

I'm having trouble typing this in to Telewriter-64. I use the arrow keys and the CLEAR key quite a bit in this program, and I used them without too much thought. Now I'm searching.

There was another problem with the Telewriter/CoCo 3 combination. It was one of the first things we tried. When we pressed RESET, everything HUNG.

So ONE continued as Telewriter CoCo. I had been pleased to see an extra 20K of 'typing space',

but it wasn't much good to me if I couldn't press RESET.

I realise that the program should operate okay without RESET, but pressing it, with a young child around, is inevitable. Out came the manual. I sacrifice the extra 20K for the feeling of security.

First I CLOAD TELE64, then type 19 GOTO100 before RUNNING to CLOADM the ML.

Graham asked me several months ago to write about kids and computers in the home. For one reason and another, I haven't done this yet. The best thing will probably be to mention the kids as the opportunity arises while I'm writing about other things. They (my kids) had been looking forward to trying COCOZONE from MAY 1986 RAINBOW.

They like graphics adventures.

They could have played it on our 32K ONE, but without the pictures. We had run COCODRAW and seen the rooms, even printed some of them out, but we didn't have the UPPER 32K to store them in.

The kids wouldn't play it that way. When we tried it on THREE, it was no better.. until I realised that because of an IO ERROR, I had pressed RESET.

That garbled the pictures! As long as little fingers, and bigger ones, stay away from RESET, we can play COCOZONE.

Neither Telewriter nor COCOZONE makes much use of COLOUR. I wanted to see COLOUR. I looked through the manual (and felt sorry for anyone who still has to start from scratch).

There was a funny command ATTR. We played with that. While in WIDTH 40 (or 80), this gave us a coloured screen with coloured typing. About time too... the Vic20 did that three and a half years ago, and a lot more predictably, as I remember.

I have a feeling that we'll search for the combination which is easiest on the eyes, and



LOTTO

by T.J. Davies 16K ECB

LOTTO WAS written for those who want to play Saturday night lotto with your computer or just want some help in choosing their lotto numbers. The program will print 6 numbers plus one supplementary. Alter the program in any way to suit yourself.
Good luck!

```
0 '***T.J. DAVIES*** (C)*****
1 '*****LOTTO*****
2 GOTO10
3 SAVE"LOT:2":END
10 CLS:SCREEN0,1
20 FOR V=0 TO 7 STEP 2
30 FOR H=0 TO 63 STEP 2
40 RESET(H,V)
50 NEXT H,V
60 FOR V=0 TO 6:FOR H=6 TO 7
70 C=RND(8):SET(H,V,C):NEXT H,V
80 FOR H=8 TO 13:C=RND(8)
90 SET(H,6,C):NEXT
100 FOR V=1TO5:FOR H=16 TO 17
110 C=RND(8):SET(H,V,C):NEXT H,V
120 FOR H=18TO 21:FOR V=0TO6 STE
P6:C=RND(8)
130 SET(H,V,C):NEXT V,H
140 FOR V=1 TO5:FOR H=22TO23
150 C=RND(8):SET(H,V,C):NEXT H,V
160 FOR H=26TO35:C=RND(8):SET(H,
0,C):NEXT
```

```
170 FOR H=38TO47:C=RND(8):SET(H,
0,C):NEXT
180 FOR V=1TO6:FOR H=42TO43
190 C=RND(8):SET(H,V,C):NEXT H,V
200 FOR V=1TO6:FOR H=30TO31
210 C=RND(8):SET(H,V,C):NEXT H,V
220 FOR V=0TO6 STEP6:FOR H=52TO5
5
230 C=RND(8):SET(H,V,C):NEXT H,V
240 FOR V=1TO5:FOR H=50TO51
250 C=RND(8):SET(H,V,C):NEXT H,V
260 FOR V=1TO5:FOR H=56TO57
270 C=RND(8):SET(H,V,C):NEXT H,V
280 FOR T=1TO10:D=RND(100)+100
290 SOUND D,1:NEXT
300 DIM T(40)
310 DIM D(7)
320 FOR X=1 TO 40
330 T(X)=X
340 NEXT
350 FOR X=1TO7
360 C=RND(40)
```

```
370 IF T(C)=0 THEN 360
380 D(X)=C
390 T(C)=0
400 NEXT
410 PRINT @128,"THE NUMBERS ARE
AS FOLLOWS:":SCREEN0,1
420 FOR X=1 TO 6
430 FOR W=1TO600:NEXT
440 PRINT D(X):SCREEN0,1
450 FOR H=1TO7:L=RND(100)+100
460 SOUND L,1:NEXT H
470 NEXT
480 FOR X=1TO 700:NEXT
490 PRINT"AND THE SUPPLEMENTARY
NUMBER IS":SCREEN0,1
500 FOR Q=1 TO600:NEXT
510 PRINTD(7):SCREEN0,1
520 SOUND 150,3
530 FOR C=1 TO 1500:NEXT
540 PRINT"PRESS <CLEAR> FOR NEW
NUMBERS":PRINT"PRESS <E> FOR END
":SCREEN0,1
550 P$=INKEY$:IF P$=CHR$(12)THEN
SOUND 180,4
560 IF P$=CHR$(12) THEN RUN
570 IF P$="E" THEN END
580 FOR T=1TO200:SCREEN0,1:NEXT
590 GOTO 550
```

stick with that for keying in programs, using other colours to highlight areas within such programs.

Then I found PALETTE. I wasn't able to try much. The kids wouldn't let me near it. All of a sudden they were interested in the computer.

I read about PALETTE and uttered a few naughty words. How could anyone possibly understand that? Maybe it would be better if I could experiment instead of just reading. Today our THREE is six days old. While the kids were in school and Katy was walking with her Dad, I experimented. It wasn't as difficult as it looked. I wrote a little program for you. My first program written specifically for the THREE.

Richard (10) has decided to HDRAW. So far he hasn't used much colour, but is impressed with the possibilities. We'll be able to have any 16 (of 64) colours on a 320 by 192 pixel screen.

We've looked at all the colours - all 64 of them. We typed in a sample program from the manual. We tried to name the colours. The accent is on the word TRIED. We discovered that we could change the colours on the PMODE3 screen.

We changed the yellow in my SMURF to white and also gave it a different background colour. "It really looks like a SMURF now, Mum."

Quite by accident I also found that we can pick which colours we want in the LO-RES screen. Lo-res to me is still block graphics. The manual insists on calling the PMODE screens, low-resolution screens.

I was under the impression that if we were using WIDTH 32, the new commands, eg ON BRK GOTO, wouldn't work. I was pleasantly surprised to find I was mistaken.

I'm looking forward to making more discoveries and maybe even becoming a computer artist with the help of a PALETTE.

```
0 GOTO10
1 '***** RAINBOW *****
   '*** JOHANNA VAGG *****
3 SAVE"172:3":END'6
10 REM RAINBOW BY Johanna Vagg
20 ON BRK GOTO270
30 HSCREEN2
40 PALETTE0,59
50 HCOLOR6,0
60 HPRINT(2,2),"Now we really ha
ve a COLOR computer!"
70 FORR=70 TO 140 STEP 10
80 HCIRCLE(160,191),R,3,.75
90 NEXT
100 FOR T=1 TO 3
110 FOR PA=8 TO 14
120 READ C
130 PALETTE PA,C
140 NEXT
150 DATA 32,38,54,16,8,33,47
160 P=8
170 FOR Y=90 TO 140 STEP8
180 HPAINT(160,Y),P,3
190 P=P+1
200 NEXT
210 HPRINT(16,22),"Any key"
220 EXEC44539
230 NEXTT
240 DATA 37,34,54,16,9,5,61
250 DATA 32,38,55,2,1,5,12
260 RESTORE:GOTO100
270 PALETTE RGB:END
```


HELP:

LETS WRITE A PROGRAM

by Tom Lehane

THIS IS THE third "Lets Write a Program" for the HELP section of Softgold magazine. Once again we will write a small program and discuss the many functions used.

First I must clear one thing before moving on to our program building. In the first "Lets Write a Program" there was a typing error - it was really a trap to see who was awake.

The error concerns the CLEAR statement in line 10 of the REVERSE program, page 24 and 25 Dec. 1986 issue. The program lists line 10 as CLEAR 100 - it should read CLEAR 500. The text also said CLEAR 100.

When we switch on our CoCo the computer CLEAR's 200 on start up and if we type CLEAR 100 the computer will remove the CLEAR 200

and put 100 back so instead of 200 BYTES you only have 100.

This is not enough string space for large data storage.

Try it for yourself, type PRINT MEM and enter, now type CLEAR 100 and enter. PRINT MEM, you now have more memory but not enough string space for programs using large amounts of string storage.

The program we will write in this article is one that has been around since personal computers first made their appearance.

I have only used the game idea and programmed the computer to play the game. This is to say I have not copied another programmer's work word for word and called it my own, to do so is labor and the only person you are fooling is yourself.

You can use routines developed by others but give the programmer the credit and don't use copyright routines. In other words you don't have to re-design the wheel, as simple routines are open to all, like FOR/NEXT loops, INKEY\$ routines and so on.

Anyway lets write our program. The program we will write is called THINK and is known by other names as well, like REPEAT, MEMORY and so on.

The computer prints a number to the screen and then wipes it from view. You are then prompted to repeat the number - if you get

it right another number is added to the last. This continues until

you can't recall the string of numbers which in our program is 14 numerals long.

We'll start by looking at standard routines that are often repeated many times in a program. If a routine is used more than once in a program, place it in an area where the program executes the subroutine from a GOSUB statement then returns from your subroutine to the next statement following the GOSUB.

This can be at the beginning of our program or at the end. In our THINK game the subroutines are placed just after the title screen.

Our title screen has the random (RND) routine in line 80. This was discussed in February's HELP and gives an unpredictable start to our game.

The subroutines are spaced by REM statements for easy identification.

Line 160 is a simple time delay and the variable 'M' is assigned different values for shorter or longer time delays. This saves repeated FOR/NEXT loops in your program when used a number of times for delays.

Lines 190 - 210 is used through out the program as a means to wipe the numbers from view. With some of the subroutines covered we move on to the main part of our program.

Line 260 Z=RND(9): 'Z' is our variable that will be assigned different numbers throughout the duration of our game.

The numeral is stored in G\$

strings but before we can do this 'Z' needs to be changed to a

string. The basic word STR\$(changes 'Z' to a string. Line 32

0 pulls out the space that STR\$(adds when converting 'Z' to a string.

This may sound confusing considering that all we did was change 'Z' from a numeral to a string. When STR\$() converts numeric expression to a string it also adds a space in front of the string.

For example if our converted numerals using STR\$() to convert them were numbers 1 then 2 and 3 they would be entered in a string as 1 2 3 with the added space and not as 123.

Because we need to compare the length of G\$ for the games limit of 14 numbers and again for the time delay we need them as normal numerals without the added space that STR\$() adds when converting because the computer would compare the length of G\$ with the added space and numbers like 1 2 3 would be a string of six instead of the true count of three.

You could call this a bug in basic. This bug will rarely trouble you in normal programming but its a point to consider if it ever gives you problems in a program.

Line 350 puts the value of G\$ into B\$ for later use to compare it's length as the value of G\$ is changed each time it moves through to line 290.

In line 380 I have converted 'Z'

once again to a string and put it into A\$ but left it with the added space that is added by STR\$() for easy reading on the text screen. The number is then printed to the screen in line 400 PRINT@162,A\$.

Notice how the numbers are spaced by the bug in STR\$(). In line 450 we compare the length of B\$, IF LEN(B\$) < 8 THEN M=800 ELSE M=500. This is our variable

that is used in our time delay in line 160 and is send there by GOSUB 160.

Line 490 prompts the player to type the correct numerals and his/her answer is stored in C\$. A check is made in line 530 : IF VAL(C\$)=VAL(B\$) : The basic word VAL(chances C\$ and B\$ to numerals and if they equal each other then you are safe and the program returns to line 230 and continues to add numbers until it reaches it's game limit of 14.

The program could be dressed up with better screen lay out and added sound.

Well that's our program, pull it apart and follow the REM statements in the listing and comments in our text and things will become clearer.

Don't worry to much about the STR\$() statement it's small bug will rarely trouble you.

The Listing:

```

0 GOTO10
3 SAVE"208:3":END'2
10 REM * BY TOM LEHANE
20 REM * FOR HELP PAGE SOFTGOLD
30 REM *
40 CLEAR500
50 CLS:PRINT@166,"MEMORY GAME -T
HINK"
60 PRINT:PRINT"FOR HELP PAGE SOF
TGOLD MAGAZINE"
70 PRINT:PRINT TAB(7)"ANY KEY TO
START"
80 IF INKEY$="" THEN R=RND(10):G
OTO 80
90 GOTO 230
100 REM -----
110 REM ***** ROUTINE SECTION
120 REM -----
130 FOR P=1 TO 32
140 PRINT"*";:NEXT:RETURN
150 REM
160 FOR TL=1 TO M:NEXT
170 RETURN
180 REM
190 FOR WP=160 TO 191
200 PRINT@WP,CHR$(255);
210 NEXT:RETURN
220 REM
230 CLS:PRINT TAB(13)"THINK"
240 PRINT@102," REMEMBER MY NUMB
ER"
250 GOSUB 130
260 Z=RND(9)
270 REM *****
280 REM CONVERT Z TO A STRING
290 G$=STR$(Z)
300 REM *****
310 REM PULL OUT SPACE THAT STR$
ADDS WHEN CONVERTING (Z)
320 G$=RIGHT$(G$,1)
330 REM *****
340 REM PUT G$ INTO B$ FOR LATER
USE TO COMPARE LENGTH
350 B$=B$+G$

```

SIN LINE

by Justin Lipton

YOU MAY REMEMBER an article I wrote some time ago about sine waves. Here is the original program.

```

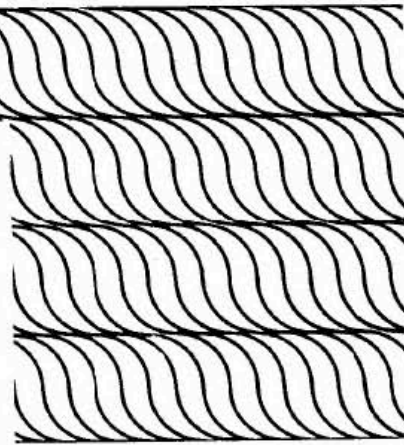
10 PMODE 4,1:SCREEN1,1:PCLS
:REM SET UP HIGH-RES SCREEN
20 FOR A=0 TO 256
:REM HORIZONTAL LOCATION ON
SCREEN
30 B=INT(SIN(A*6)*6)+100
:REM FIND SINE VALUE OF A
MULTIPLY BY 6 AND MOVE IT
DOWN 100 PIXELS

```

```

360 REM *****
370 REM CONVERT Z ONCE AGAIN TO
A STRING AND PUT INTO A$ WITH -
ADDED SPACE FOR EASY READING
380 A$=A$+STR$(Z)
390 REM *****
400 PRINT@162,A$;
410 PRINT
420 GOSUB 130
430 REM *****
440 REM CHECK LENGTH OF B$ FOR -
TIME DELAY
450 IF LEN(B$) < 8 THEN M=800 EL
SE M=500
460 GOSUB 160
470 GOSUB 190
480 PRINT@256,"TYPE YOUR ANSWER
AND PRESS ENTER"
490 INPUTC$
500 REM *****
510 REM CONVERT STRING$ TO A
520 REM NUMBER AND COMPARE
530 IF VAL(C$)=VAL(A$) THEN PRIN
T TAB(6)"correct":GOTO 560
540 REM *****
550 GOTO 590
560 IF LEN(B$)=14 THEN PRINT TAB
(10)"MASTER MIND":GOTO 630
570 M=500:GOSUB 160
580 GOTO 230
590 PRINT" SORRY YOUR ANSWER IS
WRONG"
600 PRINT TAB(4)"THE CORRECT ANS
WER"
610 PRINT TAB(4)"IS NOW DISPLAYE
D."
620 PRINT@162,A$;
630 PRINT@480," ANOTHER GAME (Y/
N)";
640 INPUTZZ$
650 IF ZZ$="Y" THEN RUN
660 CLS6:PRINT@160," SOFTGOLD 19
87 (TL)

```



```

40 PSET(A,B,5)
:REM PLOT THE POINTS
100 NEXT A
110 GOTO 110
:REM STAY ON GRAPHICS SCREEN

```

Since first writing this program I have discovered some other effects you may want to try. First try ...

```
60 LINE(A,B)-(128,0),PSET
```

Interesting Huh? Now try adding line 70 below for a picture that looks something like a clam ...

```
70 LINE(A,B+20)-(128,196),PSET
```

Let's try something else. Delete line 60 and 70 and we'll try using the 'B' (box) function of the LINE command ...

```
60 LINE(A,B)-(A+9,B+9),PSET,B
```

We now get large exaggerated thick curves. I wonder what would happen if we left the 'B' out.

```
60 LINE(A,B)-(A+9,B+9),PSET
```

We have now produced 3-dimensional looking waves. Remember one of the best ways to learn to program is to sit down and experiment with Coco's various commands.



THE CAMPING TRIP



by Craig Shine

The Listing:

```

0 GOTO10
3 SAVE"201:3":END'10
10 ' #####
20 ' ## NAME - [CAMP] ##
30 ' ## BY CRAIG SHINE ##
40 ' ## SOMERVILLE VIC ##
50 ' #####
60 ' -----
70 ' PROGRAM ALLOWS YOU TO
   STORE DATA & ACCESS DATA
   OF CAMPING EQUIPMENT
80 ' ## DISK ONLY OPERATION! ##
90 ' -----
100 ' ## PRESS [S] TO SAVE PROGR
   AM TO DISK
110 ' ## PRESS [U] TO SET UP DAT
   A FILES
120 CLS4:' START OF PROGRAM
130 '
140 '
150 VERIFYON:DRIVE0
160 CLS3
170 ' SCREEN DISPLAY DATA
180 Q$="# CAMPING TRIP #"
190 S$="-----
   -----"
200 V$="-----
   -----"
210 W$="#####
   #####"
220 ' MAIN MENU DISPLAY
230 PRINTW$;
240 PRINT@71,Q$;
250 PRINT@128,W$;
260 ' ## SWITCH FOR DIFFERENT ME
   NUS
270 IFX=1THEN380
280 IFX=2THEN590
290 IFX=3THEN1000

```

I HAVE A 16K ECB CoCo with Disk Drive and printer. I have written many programs so far but this is the first one using my printer.

Camp is designed to be run with a disk drive and a DMP105 printer.

I thought this program up when I found that a list would be handy to have when I was packing

my car to go on a trip or holiday, so I wrote this short program.

The program works this way; you enter the items in and store them onto the disk. You can also delete an item if you wish, then you can either print out a report or list the items on the screen.

When you start up the program for the first time, you must press 'U' at the main menu. This will then take you into a set up menu, but follow the instructions. This will setup the data files.

As well as set up the files, there is also 'S' - this will allow you to save the data to disk.

Eliminate output to screen

POKE359,0 eliminates all output to the screen. The cursor will move only for 'PRINT @' commands.

To restore everything to normal, type POKE 359,126.

Kevin Gowan


```

300 PRINT@195,"[1] - ENTER CAMP
ING EQP/MT";
310 PRINT@259,"[2] - VIEW EQP/MT
TO TAKE";
320 PRINT@323,"[3] - DELETE CAMP
ING EQP/MT";
330 PRINT@416,W$;
340 PRINT@487," SELECT A NUMBER
";
350 A$=INKEY$:IF A$="U"THEN1090 E
LSE IF A$="1"THEN X=1:GOTO 360 EL
SE IF A$="S"THEN SAVE"CAMP":RUN E
LSE IF A$="2"THEN580 ELSE IF A$="3
"THEN X=3:GOTO20 ELSE GOTO350
360 CLS4:GOTO160
370 ' ## ENTERING DATA TO BUFFER
380 PRINT@482,"[ ENTER ITEM TO T
AKE/ENTER 1";
390 E$=I$
400 PRINT@227,"[ ITEM 1";:PRINT@
237,:LINE INPUT"";I$:IF I$=""TH
EN X=0:R=0:GOTO130
410 CLS4:PRINT@169,"PLEASE WAIT"
;
420 OPEN"D",#1,"CAMP",25
430 R=0
440 R=R+1
450 GET#1,R
460 INPUT#1,E$,F$,G$
470 IF E$=""THEN WRITE#1,I$,D$,M$
:PUT#1,R:RUN
480 IF E$=I$THEN CLOSE#1:GOTO510
490 IFR=LOF(1)THEN CLOSE#1:GOTO5
10:' COUNT TO DATA AT END OF FIL
E
500 GOTO440
510 IF E$=I$THENPRINT@71,Q$,:SOUN
D200,5:PRINT@482,"[ ";I$;" HAS B
EEN ENTERED 1";:FORV=1TO5000:NEX
TF:GOTO160:' CHECK FOR ITEM ALLR
EADY BEEN ENTERED
520 OPEN"D",#1,"CAMP",25
530 R=R+1
540 WRITE#1,I$,D$,M$
550 PUT#1,R
560 CLOSE#1
570 GOTO20
580 X=2:GOTO160
590 '
600 ' ## VIEW ITEMS STORED
610 PRINT@227,"[1] - VIEW EQP/MT
TO TAKE";
620 PRINT@291,"[2] - PRINT OUT O
F EQP/MT";
630 PRINT@416,W$,:PRINT@487," SE
LECT A NUMBER ";
640 A$=INKEY$:IF A$=CHR$(13)THENX
=0:GOTO160 ELSE IF A$="1"THEN650
ELSE IF A$="2"THENQ=1:V=1:B=53:GO
TO650 ELSE GOTO640:REM # B= COUN
T FOR PAPER FEED
650 CLS:PRINT@0,W$,:PRINT@71,Q$;
:PRINT@96,S$;:IF A$="1" OR A$=" "
THEN690: REM SWITCH FOR SCREEN O
R PRINTER
660 REM # CHECK TO SEE IF PRINTE
R O/K
670 PRT=PEEK(65314):IF PRT= 1 OR
PRT=3 OR PRT=5 OR PRT=7 OR PRT=
9 OR PRT=11 THENPRINT@482," WARN
ING!:PRINTER NOT READY",ELSE PRI
NT@482," PLEASE WAIT:PRINTING N
OW ";:GOTO690
680 GOTO670
690 S=112

```

```

700 IFQ=1AND V=1THENPRINT#-2,CHR
$(27),CHR$(14)," ";Q
$;" ";V$;CHR$(27);CHR$(
90);CHR$(12);"##### ITEMS TO
TAKE ON TRIP! #####";:PRINT#
-2,CHR$(27);CHR$(90);CHR$(12);V$
;CHR$(27);CHR$(90);CHR$(12);
710 W=0:A=A+1
720 OPEN"D",#1,"CAMP",25
730 C=C+1
740 S=S+16
750 GET#1,C
760 INPUT#1,I$,D$,M$
770 PRINT@S,I$;
780 IFQ=1THEN790 ELSE GOTO840:'
SCREEN OR PRINT
790 PRINT#-2,CHR$(27);CHR$(14);
800 IFX=2THENPRINT#-2,CHR$(27);C
HR$(2);CHR$(141);"....";I$;
810 IFX=1THENPRINT#-2,CHR$(27);C
HR$(16);CHR$(0);CHR$(230);"....
";I$;:B=B-1:' COUNT FOR PAPER FE
ED
820 IFX=2THEN X=0
830 X=X+1
840 IFC=LOF(1)THEN890
850 IFS=432THENCLOSE#1:GOTO870
860 GOTO730
870 PRINT@448,STRING$(32,"-");:P
RINT@482," SPC/BAR TO CONT/
";
880 A$=INKEY$:IF A$=" "THENCLOSE#
1:GOTO650 ELSE GOTO880
890 SOUND200,5:PRINT@448,STRING$
(32,"-");
900 ' ## END OF PRINT SEQUENCE
910 IFQ=1THENPRINT#-2,CHR$(27);C
HR$(15)
920 IFQ=1THEN PRINT#-2,CHR$(27);
CHR$(54)
930 IFQ=1THENPRINT#-2,CHR$(27);C
HR$(15)
940 IFQ=1THENPRINT#-2,"End of li
st:"
950 IFQ=1THENPRINT#-2,CHR$(27);C
HR$(90);CHR$(24);
960 IFQ=1THENPRINT#-2,CHR$(15)"P
lace tick on dotted line if item
s o/k";CHR$(14);
970 IFQ=1THEN FORV=1TO B: PRINT#

```

```

-2,CHR$(27);CHR$(54): NEXTV
980 PRINT@481," END OF LIST - SP
C/BAR TO END";:A$=INKEY$:IF A$="
"THEN CLOSE#1:Q=0:X=0:C=0::GOTO
160 ELSE GOTO980
990 ' ## DELETE ITEMS FROM FILE
1000 PRINT@483,"ENTER ITEM TO DE
LETE/ENTER";
1010 PRINT@227,"[ ITEM 1";:PRINT
@237,:LINE INPUT"";I$:IF I$=""
THENRUN
1020 OPEN"D",#1,"CAMP",25
1030 R=R+1
1040 GET#1,R
1050 INPUT#1,X$
1060 IFX$=I$THEN WRITE#1,"":PUT#
1,R:CLOSE#1:R=0:GOTO20
1070 IFR=LOF(1)THENSOUND200,5:CL
OSE#1:R=0:GOTO483," ITEM NOT ON
FILE TRY AGAIN";:FORV=1TO3000:N
EXTD:GOTO20
1080 GOTO1030
1090 ' ## DATA FILES SET UP
1100 CLS4:PRINT@71,Q$;
1110 PRINT@162,"DATA FILE NAME:(
CAMP)";
1120 PRINT@226,"SIZE OF DATA FIL
E:[25]";
1130 DSK=PEEK(49152):IFDSK=68THE
N1140 ELSE PRINT@291,"DISK SYSTE
M NOT READY"; ELSE :FORV=1TO3000
:NEXTT:RUN
1140 PRINT@482,"SPC/BAR TO CONT:
ENTER TO END";
1150 A$=INKEY$:IF A$=CHR$(13)THEN
RUN:' END OF DATA FILE SETUP
1160 IF A$=" "THEN1180 ELSE GOTO1
150
1170 '
1180 OPEN"D",#1,"CAMP",25:CLOSE#
1
1190 KILL"CAMP/DAT"
1200 OPEN"D",#1,"CAMP",25
1210 WRITE#1,X$,X$,X$
1220 PUT#1,1
1230 CLOSE#1
1240 RUN
1250 ' END OF SYSTEM

```

CHATWIN MINOR

By Bob Horne

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GRAPHICS



Johanna Vagg
32K ECB
UTILITY

IF YOU TAKE an interest in graphics on your CoCo, and you don't have Graphicom or CoCoMax, you will benefit from the November 1986 Rainbow. This issue has a beautiful little (yes, very short, but very sweet) program called ZOOM.

With this program you can take any picture you already have; enlarge a section; reduce it; squeeze it; or stretch it.

Then there is a long program called COCODRAW, which you can use to create the original pictures. I have not used Graphicom or CoCoMax, but I think COCODRAW might be considered their baby brother (sister?).

Another program in the same issue of Rainbow is the COCOSCALER which is very handy too, however, COCODRAW has a magnify function which could be used in its place.

Whether you have these programs or not, I would like to present my own graphics manipulation program, which I will be using in conjunction with COCODRAW and especially, ZOOM.

I have called my program GRAPHIX. With this program, you can take a picture, turn it upside down, or on its side, or on its other side (by turning it upside down before turning it on its side). If you cannot see any use for these functions, then you have never tried making greeting cards, or at least not what my kids call "proper cards".

Take a piece of paper, fold it into a card.. then write and draw on it. Now unfold it. See anything upside down? Yes, you could print something, then turn the paper upside down and print the other section.. but with GRAPHIX, ZOOM and a Screen Dump which prints a large picture, you can put everything you need for a card, on the one screen.

There is such a Screen Dump in October 1986 Rainbow. On page 47, there is MLPRINT. If you have tape, you will need to

change the first number in line 260 to 8H6.

You should also change the first number in line 940 to 8H1E, (for tape or disk) because as it is written, it reads the whole screen, ie 256 pixels across, and if you have 480 (like the TRP100 and DMP200) or 960 (like the DMP110) addressable dot columns, and you try to divide those columns by 256, you'll run into trouble. The article says that the program will give an eight and a half inch wide printout.

My printer, and as far as I know, quite a number of others, only prints eight inches wide.. so.. I get eight inches on one line and half an inch on the next! If you have a DMP110, make the two changes I have mentioned, AND put your printer into ELONGATE. Elongate should not be used for the majority of Tandy printers as they have 60 dot columns per inch and the DMP110 has 120.

So when you use MLPRINT, you lose the 16 pixels on the right of the picture. To make a card then, restrict yourself to the area defined by LINE(0,0)-(239,191),B. Place your picture upside down in the top left quarter, and your message, with or without hearts and/or flowers, right side up in the bottom right quarter.

This way you will get a card which will fit into an ordinary envelope. If you try to turn a message upside down, you will need a mirror to read it. However, reversing the screen

will fix that. To write your message in the first place, you could use the hi-res letter set in the manual, or one of the other letter sets you have, or you could use COCODRAW.

Then with ZOOM, you can adjust the size and place it where you want it.. as long as your screen has a black background rather than a white one. MLPRINT also requires the black screen. If your picture or message is in the reverse colours, then just use my GRAPHIX to PHIX it!

If you want to make a bigger card, put the upside down message on the left of the screen, but not reaching down half way; then your picture can be taller.

Just begin the dump some distance down the sheet of paper. This will leave room for the handwritten part of your greeting. Newsagents sell envelopes which are the right size for an 'ordinary' sheet of printer paper folded into a card. There is another possibility.. putting the picture and greeting sideways on the paper.

To turn a picture on its side, and still have it in the same proportions, I have limited the

area to be 'ROTATED' to a square, 192*192 pixels on the left of the screen. If what you want to rotate, is not to the left, then you should OFFSET CLOADM your picture.

Experiment with OFFSET loading. Try using the numbers from 1 to 31 and see what happens.

CLOADM"PICTURE",X where X is a number from 1 to 31. For the new users, maybe I should add how to save your picture as a machine language program in the first place. RUN the BASIC program to DRAW your picture; then ...

CSAVEM"PICTURE",1536,7679,1536.

This is to save to tape, a PMODE4 picture. To load this back in, in the same position, just type CLOADM. If you would like to see it loading in, use this little program:

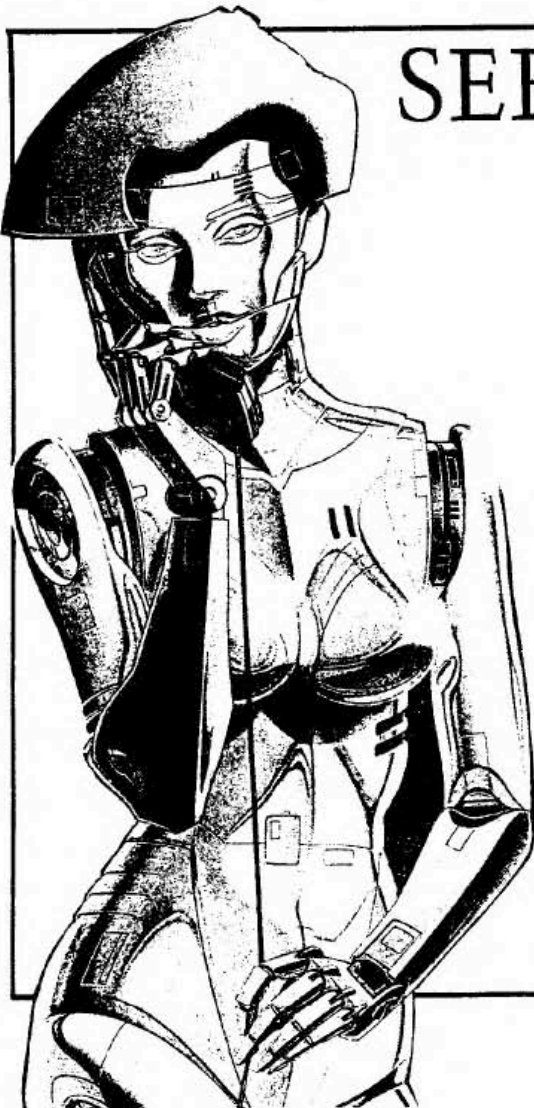
```
10 PMODE4:SCREEN1,1:PCLS
20 CLOADM
30 GOTO30
```

To load it in a slightly different way, experiment with OFFSETS.

The Listing:

```
0 GOTO20
3 SAVE"176M:3":END'8
20 '*****GRAPHIX*****
22 '***JOHANNA VAGG*****
24 'any key to continue used
    throughout
26 'PMODE4,1 USED FOR REVERSE,
    INVERSE AND UPSIDE DOWN****
    PMODE4,5 NECESSARY TO ROTATE
28 'ROTATE ONLY ROTATES A SQUARE
    IE (0,0)-(191,191)
30 'COPY ROTATED PIC TO PMODE4,1
    TO CSAVEM OR SAVEM
32 'TO CLOADM OR CSAVEM, JUST
    BREAK AND GO AGEAD. THEN RUN
    AGAIN. YOUR PIC WILL BE
    INTACT--NO PCLS USED ON RUN
40 'FOR MAXIMUM VALUE, THIS CAN
    BE COMBINED WITH ZOOM FROM
    THE NOVEMBER 1986 RAINBOW
100 PCLEAR8:P=4:DIMK(1235),A(10)
    ,B(10)
110 PMODEP:SCREEN1,1:FORT=1TO100
    0:NEXT
120 CLS2:PRINT@228,"MANIPULATE Y
    OUR GRAPHICS";
130 PRINT@488,"BY JOHANNA VAGG";
140 FORT=1TO1000:NEXT
150 CLS:PRINT@12,"options":PRINT
    :PRINT"1 REVERSE (LEFT TO RIGHT)
    ":PRINT:PRINT"2 TURN IT UPSIDE D
    OWN":PRINT:PRINT"3 INVERSE THE C
    OLOURS":PRINT:PRINT"4 ROTATE (TU
    RN ON ITS SIDE)":PRINT:PRINT"5 C
    OPY ROTATED PIC TO 1ST SCREEN":P
```

```
RINT"6 CLEAR 2ND SCREEN"
155 PRINT:PRINT"7 VIEW PICTURE"
160 INPUT:ON I GOTO170,180,190,
    200,210,220,230
165 IF I<1 OR I>7 THEN150
170 PMODEP:SCREEN1,1:FOR X=0TO12
    7:GET(X,0)-(X,191),A,G:GET(255-X
    ,0)-(255-X,191),B,G:PUT(X,0)-(X,
    191),B,PSET:PUT(255-X,0)-(255-X,
    191),A,PSET:NEXTX:SOUND200,1:EXE
    C44539:GOTO150
180 PMODEP,1:SCREEN1,1:FORY=0TO9
    5:GET(0,Y)-(255,Y),A,G:GET(0,191
    -Y)-(255,191-Y),B,G:PUT(0,Y)-(25
    5,Y),B,PSET:PUT(0,191-Y)-(255,19
    1-Y),A,PSET:NEXTY:SOUND200,1:EXE
    C44539:GOTO150
190 PMODEP:SCREEN1,1:GET(0,0)-(2
    55,191),K,G:PUT(0,0)-(255,191),K
    ,NOT:SOUND200,1:EXEC44539:GOTO15
    0
200 FORY=0TO191:PMODEP,1:GET(0,Y
    )-(255,Y),B,G:PMODEP,5:SCREEN1,1
    :PUT(191-Y,0)-(191-Y,191),B,PSET
    :NEXT:SOUND200,1:EXEC44539:GOTO1
    50
210 PMODEP:SCREEN1,1:FORX=1TO34:P
    COPYX+4TOX:NEXT:SOUND200,1:EXEC4
    4539:GOTO150
220 CLS:PRINT@230,"BLACK OR WHIT
    E (0 OR 1)":INPUTC:PMODEP,5:SCRE
    EN1,1:PCLSC:SOUND200,1:EXEC44539
    :GOTO150
230 CLS:PRINT@230,"START PAGE (1
    OR 5)":INPUTA:PMODEP,A:SCREEN1,
    1:SOUND200,1:EXEC44539:GOTO150
```



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COME TO at Bunde



Conf '87 this year is to be held at the Uniting Church's campsite in Bundeena NSW.

This is a particularly pretty area of Sydney, situated on the northern tip of the Royal National Park, in Port Hacking.

The water views are fabulous, and the bushwalks are amongst the best in Australia.

Not that you'll have anytime during conference for these things, because as usual, the conference will be jam packed with all sorts of things to see and do!

The big news this year will obviously be the growing use of OS-9 Level 2 on the CoCo 3's; and Conf '87 will be the definitive place to see this excellent system.

By that time initial users will have had time to sort the system out and create some really interesting stuff.

But it is not just OS-9 that is of interest this year.

With the release of the new T1000 EX and SX, interest in these machines has never been higher. We'll have a number of these computers at the conference, as well as their big brothers, the T3000 series, which we'll be putting through their paces.

We've had continuing interest in some of the more diverse subjects covered in the magazine at past conferences, so again this year we'll have tutorials on hardware mods and on Forth.

There'll be Basic Basic and Advanced Basic courses, and an Assembly Language tutorial as well.

Other computers will be discussed, principally the 68000 series of computers, and of course, we'll be showing Goldlink 642 on Viatel - and Videotex in general.

Conference is a place to meet old friends, to meet the people behind the names in the magazine, to learn a lot of new

information, to see the latest Tandy equipment.

We hope you'll come. We're sure you'll be glad you did. But please hurry your booking, because accommodation (which is not obligatory) and places at the conference, are both limited by the size of the centre.

The cost is increased over previous years due entirely to the fact that we are doing it in Sydney which is a good deal more expensive than the Gold Coast!

On the other hand, many of you will save by not having the additional travelling expenses associated with getting to the Gold Coast.

We aim to make the conference a family affair, and the location is a good one for people with families who are less interested in computers, but who would still like to be with dad or mum for the weekend.

The family can take a ferry trip, go for bush walks, or just laze on the beach, whilst you do your thing at the conference.

CONF '87

na N.S.W.

CONF '87

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	=====	=====
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32K ECB
EDUCATION

A Beginners' Adventure Game

by Dean Hodgson

TREASURE HUNT WAS originally written for use at school as a beginners' adventure program. It has proven very popular with children between 7 and 10 years old. Its intended audience.

The program will work on any model Colour Computer, including those with 16K standard Colour Basic. Extended Basic is not required. Because of this, the screen displays are in the low-res text mode only.

The object of the game is to explore a series of caverns inside Magic Mountain in order to locate a treasure chest. Once the treasure is found, the game is over.

Movement through the caves is by traditional North, South, East and West. Typing the first letter then pressing Enter is sufficient.

The game maps fairly well, except in a few areas made deliberately confusing. Most children tend to memorize the way through rather than drawing a map.

A number of strange and interesting problems occur on the way.

There is a teleport chamber that can only be operated if you have found the code.

You can also find a sword that is needed when you front up to the dragon.

The treasure itself is locked in a chest and you will have to find the combination that opens it. (The teleport code and combination are generated randomly and are not the same in every game.)

EDUCATIONAL USE

Adventure programs offer the teacher a wealth of classroom

activities.

Children should play the game in small groups and can either keep a diary or make a map. Their travels can then be written up on a word processor or in some other manner and presented, perhaps in book form.

Some other activities children can do are:

- * Paint a large map
- * Make a poster showing things in the adventure -- the giant, Lightning Room, the Lake, the Dragon, the Muncher, others
- * Develop stories to explain things like:
 - Who owns the treasure? How did it get there?
 - Where to the various creatures come from?
 - Where is the Wizard?
 - Who or what is in the boat?
 - What other types of caves could be inside Magic Mountain?

THE PROGRAM

The program will operate on a 16k standard Colour Basic Colour Computer. Extended Basic isn't

needed. However, you will have to make some changes while keying in the listing.

This listing is for a disk version. "Treasure Hunt" uses some machine code to achieve visual effects. The listing titled "BORMAKER" is used to enter this code. For cassette operation the code is located at 16173. For disk it is moved down to 3584. The file created by this program is called "BORDER".

The BASIC program should be recorded on tape first as it will load in the machine code after running.

For tape use you must POKE25,6:NEW to clear out all graphics pages before CLOADing or the machine-code will clobber the program. For disk use there is no need as the code resides in the first graphics page.

Next, in the listing are several EXEC commands to call the machine code. The call addresses are, of course, different for both disk and tape. The listing shows the disk addresses. To change to tape make the following changes:

LINE	DISK ADD.	TAPE ADDRESS
1420	3753	16342
1730	3691	16280
1920	3691	16280
2112	3753	16342
2140	3584	16173
2920	3691	16280
4050	3584	16173

Be sure the number comes immediately after the EXEC statement.

Also, tape users will have to change line 4000 in the program to read:

```
4000 CLEAR 300,16173:IF
PEEK(16173)<>198 THEN
CLOADM"BORDER"
```


The Listing:

```

0 'TREASURE HUNT ADVENTURE BY DE
AN HODGSON (C)1983 PYRAMID SOFTV
ARE 2 MARY ST., GAWLER EAST, SA 51
18, 085-22-5623
1 GOTO4000
3 SAVE"138A:3":END
10 IS=""
12 PX=PEEK(136)*256+PEEK(137):CX
=PEEK(PX):BD=RND(7)+1
13 BD=BD*16+112
14 BK=1
16 DL=0
18 AS=INKEY$: IFA$<>" THENPOKEPX,
CX:GOTO22
19 IF NH=1 THEN EXEC3691
20 DL=DL+1:IFDL>3THENPOKEPX,VAL<
MID$("03101205",BK,2))+BD:ELSE18
21 BK=BK+2:IFBK>7THEN14ELSE16
22 IFA$=CHR$(8)ANDLEN(1$)>0THENP
X=PX-1:IS=LEFT$(1$,LEN(1$)-1):PR
INTAS$:GOTO16
24 IFA$=CHR$(13)ANDLEN(1$)>0THEN
M$=LEFT$(1$,1):RETURN
26 IFA$<" OR AS">"Z" THENSOUND5,
1:GOTO12
28 IS=IS+AS:PRINTAS$:SOUND220,1:
IF PX=208+1024 THENRETURN
29 GOTO12
60 FORI=352TO448STEP32:PRINT@I,"
":NEXT:RETURN
70 FORI=0TO TD:NEXT:RETURN
75 FORI=A TO B:SET(I,Y,C):NEXT:R
ETURN
76 FORI=A TO B:SET(X,I,C):NEXT:R
ETURN
80 M$="" :FORI=1TO LX:M$=M$+S$:NE
XT:RETURN
90 FORI=1TOLX:PRINTM$:NEXT:RETU
RN
95 FORI=P1 TO P2 STEP32:PRINT@I,
M$:NEXT:RETURN
100 CLS3:GOSUB60:LX=4:M$=CHR$(12
8):PRINT@141,,:GOSUB90
110 LX=10:PRINT@170,,:GOSUB90:LX
=14:PRINT@200,,:GOSUB90:LX=18:PR
INT@230,,:GOSUB90:LX=20:PRINT@26
1,,:GOSUB90:PRINT@293,,:GOSUB90:
PRINT@325,,:GOSUB90
120 PRINT@352,"YOU ARE OUTSIDE T
HE ENTRANCE TO THE CAVE."
125 PRINT"DO YOU WANT TO MOVE NO
RTH OR SOUTH?":GOSUB10
130 IF M$="N" THEN300 ELSE IF M$
="S" THEN200 ELSEGOSUB60:GOTO120
200 CLS0:X=1
210 FORI=112TO267STEP31:PRINT@I,
:FORJ=1TOX:PRINT":NEXTJ:X=X+
2:NEXTI:PRINT@304,"":
220 PRINT@352,"YOU ARE LOST IN T
HE FOREST."
230 PRINT"TRY NORTH, EAST, SOUTH
OR WEST.":GOSUB10:PRINT
240 IF M$="E" THEN100 ELSE200
300 CLS8:PRINT@32,"YOU ARE IN A
WIDE ORANGE CAVERN.THE FLOOR SLO
PES UPWARDS. YOU CAN HEAR THE
SOUND OF DRIPPING WATER TO THE
NORTH AND THERE IS AN OPENING TO
THE SOUTH.":PRINT@352,;
310 PRINT"DO YOU WANT TO GO NORT
H OR SOUTH?":GOSUB10
320 IF M$="N" THEN500ELSEIF M$="
S" THEN100
330 PRINT:GOTO310

```

```

400 CLSRND(7):X=0:Y=10
410 ON RND(3) GOTO420,430,440
420 R=RND(4):IF X+R>63 THENR=63-
X
421 FORI=X TO X+R:SET(I,Y,8):NEX
T
422 X=X+R:IF X<63 THEN410
423 GOTO450
430 R=RND(4):IF Y-R<0 THENR=Y
431 FORI=Y TO Y-R STEP-1:SET(X,I
,8):NEXT:Y=Y-R:GOTO410
440 R=RND(4):IF Y+R>21 THENR=21-
Y
441 FORI=Y TO Y+R:SET(X,I,8):NEX
T:Y=Y+R:GOTO410
450 PRINT@34,"YOU ARE IN A TWIST
Y TUNNEL.":PRINT@352,;
460 PRINT"DO YOU WANT TO GO NORT
H OR SOUTH?":GOSUB10:PRINT
470 IF M$="N" THEN700ELSEIF M$="
S" THEN300
480 GOTO460
500 CLS3:LX=192:M$=CHR$(255):GOS
UB90
510 PRINT@236,CHR$(205);CHR$(207
);CHR$(207);CHR$(206);
520 PRINT@320,"YOU ARE AT THE SO
UTHERN END OF ALARGE UNDERGROUND
LAKE. AN EMPTYBOAT FLOATS IN TH
E MIDDLE OF THELAKE, OUT OF REAC
H."
525 SOUND89,4:SOUND89,4:SOUND78,
4:SOUND78,4:SOUND89,4:SOUND89,4
530 PRINT"DO YOU WANT TO MOVE EA
ST OR WEST?":GOSUB10:PRINT
540 IF M$="E" THEN400 ELSEIFM$="
W" THEN600 ELSE530
600 CLS0:LX=4:S$=CHR$(255):GOSUB
80:PRINT@66,M$:PRINT@90,M$:
602 M$=LEFT$(M$,2)
605 P1=99:P2=291:GOSUB95:P1=123:
P2=315:GOSUB95:P1=238:P2=302:M$=
"GOSUB95:PRINT@133,,:LX=22
:M$=CHR$(163):GOSUB90
610 PRINT@0,"YOU ARE IN THE TELE
PORT CHAMBER.":
615 PRINT@271,CHR$(175);CHR$(191
);
620 GOSUB60:PRINT@320,"DO YOU WA
NT TO PRESS THE RED BUTTON OR
THE BLUE BUTTON?":PRINT"WH
ICH BUTTON?":GOSUB10:PRINT
630 T$=M$:IF M$="R" OR M$="B" TH
EN640
635 GOSUB60:SOUND1,10:GOTO620
640 LX=4:S$=CHR$(128):GOSUB80:P1
=238:P2=302:GOSUB95:PRINT@448,"E
NTER TELEPORT CODE":GOSUB10
650 IF IS=TC$ THEN660
652 PRINT:PRINT"sorry. wrong co
de."
653 PRINT"DO YOU WANT TO GO WEST
OR EAST?":GOSUB10
654 IF M$="W" THEN2600 ELSE IF M
$="E" THEN500
655 PRINT:GOTO653
660 J=1
670 FORK=5TO253STEP4:CLS(J):SOUN
DK,1:J=J+1:IFJ>8THENJ=1
680 CLS0:TD=190-K:GOSUB70:NEXTK
690 IF T$="R" THEN1300ELSE1800
700 CLS0:C=7:A=9:B=11:FORX=29TO3
4:GOSUB76:NEXT
705 Y=9:C=2:A=23:B=28:GOSUB75:A=
35:B=39:GOSUB75
707 Y=14:A=27:B=34:GOSUB75:Y=15:
A=25:B=35:GOSUB75:Y=16:A=24:B=27

```

```

:GOSUB75:A=34:B=38:GOSUB75:A=35:
B=38:Y=17:GOSUB75:A=24:B=26:GOSU
B75:A=35:B=38:GOSUB75:A=24:B=26:
GOSUB75
710 SET(23,8,2):SET(22,8,2):SET<
22,7,2>:SET(21,7,2):SET(21,6,2)
712 SET(39,9,2):SET(39,10,2):SET
(40,10,2):SET(40,11,2):SET(40,12
,2)
713 Y=20:C=8:A=19:B=29:GOSUB75:A
=20:B=28:Y=21:GOSUB75:Y=20:A=37:
B=44:GOSUB75:Y=21:A=38:B=43:GOSU
B75
715 A=29:B=34:C=3:Y=12:GOSUB75:Y
=13:GOSUB75
717 X=17:FORY=9TO3STEP-1:SET(X,Y
,6):X=X+1:NEXT
718 X=39:FORY=14TO11STEP-1:SET(X
,Y,6):X=X+1:NEXT
719 C=4:Y=18:A=24:B=26:GOSUB75:Y
=19:A=22:GOSUB75
720 Y=17:A=39:B=41:GOSUB75:Y=10:
GOSUB75:A=40:Y=19:GOSUB75
722 A=3:B=7:C=5:FORX=29TO35:GOSU
B76:NEXT
724 RESET(29,6):RESET(29,7):RESE
T(35,6):RESET(35,7):RESET(34,7):
SET(31,8,6):SET(32,8,6)
726 RESET(30,4):RESET(34,4):RESE
T(31,6):RESET(32,6)
730 PRINT@352,"YOU ARE IN A DUST
Y ROOM WITH A STATUE."
735 J=3:SOUND89,J:SOUND176,J:SOU
ND147,J:SOUND125,J:SOUND176,J:SO
UND147,J:SOUND125,J:SOUND108,J:SO
UND185,J:SOUND165,J:SOUND133,J:
SOUND89,6
740 PRINT"DO YOU WANT TO GO EAST
OR WEST?":GOSUB10
750 IF M$="E" THEN800ELSEIF M$="
W" THEN900
760 PRINT:GOTO740
800 CLS0:C=5:Y=6:A=4:B=13:GOSUB
75
805 A=7:B=19:C=5:X=4:GOSUB75:X=1
3:GOSUB76:SET(11,12,6)
810 A=21:B=46:C=4:Y=14:GOSUB75:A
=15:B=19:X=22:GOSUB76:X=45:GOSUB
76:PRINT@73,"THE WIZARD'S LAB":
815 PRINT@140,CHR$(142);:LX=6:M$
=CHR$(140):GOSUB90:PRINTCHR$(141
);:PRINT@172,CHR$(138);:LX=6:M$=
CHR$(128):GOSUB90:PRINTCHR$(133)
:PRINT@203,CHR$(131)::....."C
HR$(131);
818 TD$=CHR$(ASC(LEFT$(TC$,1))+3
2):TD$=TD$+CHR$(ASC(TD$)+1)+CHR$
(ASC(TD$)+2)
820 M$=".....teleport.....cod
e....."+TD$+".....":TD=20
830 PRINT@320,"THE ONLY WAY OUT
IS WEST. PRESS ENTER TO LE
AVE."
835 TD=100
840 FORJ=1TO LEN(M$):PRINT@173,M
ID$(M$,J,6);:GOSUB70:IF INKEY$<>
CHR$(13)THENNEXT:GOTO840
850 GOTO900
900 CLS6:PRINT@39,"IT STINKS HER
E.":
910 PRINT@320,"YOU ARE IN A VERY
SMELLY TUNNEL.":
920 PRINT"NORTH OR SOUTH?":GOS
UB10
930 IF M$="N" THEN1000 ELSEIFM$=
"S" THEN2700
940 PRINT:GOTO920

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1000 CLSO: M$=CHR$(204): FORJ=1TO3
0: PRINT@RND(287), ;: LX=RND(3): GOS
UB90: NEXT: PRINT@46, "bones";
1010 PRINT@384, "YOU ARE IN THE C
AVERN OF BONES."
1011 J=5: SOUND125, J: SOUND133, J: S
OUND133, J: SOUND133, J: SOUNDE, J: TD
=130: GOSUB70: SOUND159, J*1.5: SOUN
D133, J
1012 IF SW THEN1020 ELSEPRINT@26
5, CHR$(229); ;: PRINT@329, CHR$(229)
;: PRINT@295, CHR$(229); ;: M$=CHR$(2
39): LX=11: GOSUB90
1017 PRINT@352, "YOU HAVE JUST FO
UND A SWORD!": SW=1
1018 PRINT@416, ;
1020 PRINT"DO YOU WANT TO GO EAS
T OR WEST? ";: GOSUB10
1030 IF M$="E" THEN2400 ELSE IF
M$="W" THEN2800
1040 PRINT: GOTO1020
1100 CLSO: PRINT@10, "hall"CHR$(12
8)"of"CHR$(128)"skulls"; ;: S$=CHR$(
207): LX=7: GOSUB80
1110 P1=77: P2=173: GOSUB95: PRINT@
111, CHR$(128); ;: PRINT@113, CHR$(12
8); ;: PRINT@144, CHR$(128);
1120 S$=CHR$(201): LX=5: GOSUB80: J
1$=M$
1130 S$=CHR$(207): J2$=CHR$(197)+
S$+S$+S$+S$+CHR$(202): LX=5: GOSUB
80: J2$=CHR$(197)+M$+CHR$(202)
1135 S$=CHR$(128): LX=7: GOSUB80
1140 PRINT@352, "YOU ARE IN THE H
ALL OF SKULLS."
1141 FORK=1 TO 8: PRINT@204, M$; ;: P
RINT@207, C0$; ;: PRINT@237, M$; ;: PRIN
T@238, J1$; ;: PRINT@269, J2$; ;: TD=250
: GOSUB70: PRINT@206, J1$; ;: PRINT@23
7, J2$; ;: PRINT@269, M$; ;: TD=180: GOSU
B70: NEXTK
1145 PRINT@384, ;
1150 PRINT"DO YOU WANT TO GO EAS
T OR WEST? ";: GOSUB10: PRINT
1160 IF M$="E" THEN1600 ELSE IF
M$="W" THEN1800
1170 GOTO1150
1200 CLSO: SET(22, 9, 5): SET(24, 9, 5
)
1210 S$=CHR$(208): PRINT@4, "you'S
$are"S$in"S$a"S$dark"S$pass
age";
1220 PRINT@352, ;
1230 PRINT"DO YOU WANT TO GO NOR
TH OR SOUTH? ";: GOSUB10: PRINT
1240 IF M$="N" THEN2000 ELSE IF
M$="S" THEN1700
1250 GOTO1230
1300 REM
1301 IF DS=2 THEN2300
1310 CLSO: PRINT@72, CHR$(129)"*C
HR$(139); ;: PRINT@103, ;: M$=CHR$(14
0): LX=3: GOSUB90: PRINT" ";: PRINT@
138, " ";: PRINT@141, CHR$(131)"
";: PRINT@170, "CHR$(131)"
;: ;: ;: ;: PRINT@202, "
";: PRINT@237, " ";: PRINT@245,
" ";: LX=3: M$=CHR$(140): GOSUB90
1315 X=50: A=6: B=14: GOSUB76
1316 IF DS=1 THENPRINT@320, ;: GOT
O2200
1320 PRINT@320, "YOU ARE IN THE D
RAGON'S DEN. HE IS ASLEEP. SH
HH.... WALK SOFTLY."
1325 DS=1
1330 PRINT"DO YOU WANT TO TIPTOE
EAST OR WEST? ";: GOSUB10: IF

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M$="E" THEN1500 ELSE IF M$="W" T
HEN1200 ELSE1330
1400 CLS2: LX=16: S$=CHR$(191): GOS
UB80: PRINT@137, MID$(M$, 2, 14);
1410 P1=168: P2=296: GOSUB95: PRINT
@207, " ";
1420 S$=CHR$(159): PRINT@72, "the"
S$"treasure"S$"room"; ;: PRINT@353,
"WHAT IS THE LOCK'S COMBINATION?
";: POKE346, 169: EXEC3753
1425 I=4: SOUND159, I: SOUND133, I: S
OUND147, I: SOUND159, I: SOUND147, I*
3
1430 PRINT@207, ;: GOSUB10: IF I$=C
P$ THEN2100
1440 PRINT@389, "sorry. THAT'S NO
T IT.";
1445 PRINT@416, ;
1450 PRINT"DO YOU WANT TO GO WES
T OR EAST? ";: GOSUB10: IF M$="W
" THEN500 ELSE IF M$="E" THEN150
0
1460 PRINT: GOTO1450
1500 CLS8: C=5: Y=12: A=16: B=45: GOS
UB75: Y=13: GOSUB75
1510 FOR Y=14 TO 21: FOR X=16 TO
44 STEP4: SET(X, Y, 5): RESET(X+1, Y)
: NEXTX, Y: RESET(16, 11): RESET(17, 1
1): RESET(44, 11): RESET(45, 11)
1511 PRINT@105, "the"CHR$(255)"ma
gic"CHR$(255)"gate"; ;: PRINT@352, ;
1515 I=4: SOUND89, I: SOUND89, I: SDO
ND125, I: SOUND147, I: SOUND176, I*3:
SOUND159, I*3
1520 PRINT"WHAT IS THE PASSWORD
? ";: GOSUB10: PRINT
1530 IF I$="OPEN SESAME" THEN156
0
1540 PRINT"NO. THAT ISN'T IT."
1550 PRINT"DO YOU WANT TO GO EAS
T OR WEST? ";: GOSUB10: PRINT: IF
M$="E" THEN2900 ELSEIF M$="W" TH
EN2300 ELSE1540
1560 FOR Y=21 TO 14 STEP-1: FOR X
=16 TO44 STEP4: SET(X, Y, 8): SET(X+
1, Y, 8): NEXTX, Y
1565 PRINT"PRESS ENTER"
1566 IF INKEY$(<)CHR$(13) THEN156
6
1570 GOTO1400
1600 CLSO: PRINT@9, "fee-fie-foe-f
um"; ;: PRINT@162, "HOME"; ;: PRINT@194
, "SWEET"; ;: PRINT@226, "HOME"; ;: PRIN
T@182, "GIANT'S"; ;: PRINT@214, "CHAM
BERS"; ;: PCKE1036, 45: POKE1040, 45: P
OKE1044, 45
1602 FOR J=2 TO 5: C=4: Y=J: A=30: B
=35: GOSUB75: NEXTJ: SET(29, 4, 4): SE
T(36, 4, 4): RESET(31, 3): RESET(34, 3
): PRINT@80, "-"; ;: SET(32, 6, 4): SET(
33, 6, 4)
1604 FORJ=7TO11: FORI=28TO37: SET(
I, J, 4): NEXTI, J: PRINT@144, " ";: PR
INT@176, " ";
1606 A=17: B=27: Y=7: GOSUB75: A=38:
B=48: GOSUB75: SET(19, 6, 1): SET(46,
6, 1)
1608 FORJ=12TO16: SET(29, J, 6): SET
(30, J, 6): SET(35, J, 6): SET(36, J, 6)
: NEXTJ: SET(28, 16, 6): SET(27, 16, 6)
: SET(37, 16, 6): SET(38, 16, 6)
1610 PRINT@320, "YOU ARE IN THE G
IANT'S CHAMBER!": PRINT@397, "GET
OUT !!!";
1614 FORJ=1TO24: SET(31, 3, 4): SET(
34, 3, 4): TD=40: GOSUB70: RESET(31, 3
): RESET(34, 3): SOUND1, 1: NEXTJ: GOT

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O1800
1700 CLS1: PRINT@96, ;: FORK=1TO2: L
X=32: M$=CHR$(255): GOSUB90: M$=CHR
$(239): GOSUB90: M$=CHR$(191): GOSU
B90: M$=CHR$(175): GOSUB90: NEXT
1710 PRINT@41, "THE RAINBOW ROOM"
1730 FORK=1 TO 30: EXEC3691: TD=50
: GOSUB70: NEXTK: PRINT@352, ;
1740 PRINT"NORTH OR SOUTH? ";:
GOSUB10: PRINT
1750 IF M$="N" THEN1900 ELSE IF
M$="S" THEN1300 ELSE1740
1800 CLS5: S$=CHR$(207): PRINT@42,
"the"S$"ice"S$"caves"; ;: PRINT@136
, "(IT'S COLD HERE.)"; ;: PRINT@352,
;
1805 FORI=220 TO 89 STEP-16: SOUN
DI, 1: NEXT: SOUND89, 5
1810 PRINT"YOU CAN GO WEST OR EA
ST.": PRINT"WHICH WAY? ";: GOSUB1
0: PRINT
1820 IF M$="E" THEN1100 ELSE IF
M$="W" THEN1700
1900 CLSO: PRINT@69, "room"CHR$(12
8)"of"; ;: PRINT@135, "flames";
1910 M$=CHR$(191): PRINT@269, M$; ;
P1=206: P2=302: GOSUB95: P1=143: P2=
335: GOSUB95: P1=176: P2=336: GOSUB9
5: P1=113: P2=337: GOSUB95: P1=146: P
2=338: GOSUB95: P1=179: P2=339: GOSU
B95
1912 P1=148: P2=340: GOSUB95: P1=18
1: P2=341: GOSUB95: P1=182: P2=310: G
OSUB95: P1=215: P2=279: GOSUB95: PRI
NT@248, M$;
1915 TD=60: PRINT@352, ;
1920 FOR L=0 TO 50: EXEC3691: GOSU
B70: NEXTL
1930 PRINT@352, "WEST OR EAST? "
;: GOSUB10: PRINT
1940 IF M$="W" THEN2400 ELSE IF
M$="E" THEN1100 ELSE 1930
2000 CLS1: S$=CHR$(191): LX=3: GOSU
B80: M1$=CHR$(128)+CHR$(177)+M$: M
B$=CHR$(128)+CHR$(180)+M$: MMS=CH
R$(128)+M$
2010 PRINT@200, "magic word: open
sesame"; ;: PRINT@71, "THE MUNCHER'
S CAVE.": PX=160
2015 TD=600: GOSUB70
2020 FOR I=PX TO PX+27: PRINT@I, M
T$; ;: PRINT@I+32, MMS: CHR$(207); ;: PR
INT@I+64, MB$; ;: SOUND90, 1: PRINT@I+
36, CHR$(143); ;: SOUND30, 1: NEXTI
2030 LX=6: S$=CHR$(128): GOSUB80: P
RINT@186, M$; ;: PRINT@218, M$; ;: PRINT
@250, M$;
2035 PRINT@352, ;
2040 PRINT"NORTH OR SOUTH? ";: GO
SUB10: IF M$="N" THEN900 ELSE IF
M$="S" THEN1200 ELSE 2040
2100 DATA 108, HOORAY!, 139, YIPPEE
!!!, 167, YOU'VE DONE IT!!!, 203, YO
U FOUND, 233, THE TREASURE!, 267, TE
RRIFIC!, 301, NEAT!, 329, A REAL PRO
!!, 390, WANT TO TRY AGAIN?
2105 C=0
2110 C=C+1
2112 POKE346, 121+16*C: CLSCL-1: EXE
C3753
2115 RESTORE
2120 FORJ=1TOC: READ P, M$: PRINT@P
, M$; ;: NEXT
2130 SOUND C*30, 10: IFC<8 THEN211
0
2135 READ P, M$: PRINT@P, M$;
2140 EXEC3584

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2150 NH=1:PRINT@431,;:GOSUB10
2160 IF M$="Y" THENRUN ELSE IF M
$="N" THEN CLS:END
2170 GOTO2100
2200 PRINT"YOU ARE IN THE DRAGON
'S DEN.":PRINT:DT=0:HT=0
2201 TD=400:GOSUB70:PRINT@386,"O
H! OH!":TD=600:GOSUB70
2202 FOR J=385 TO 410:PRINTJ,"
stamp";:PRINTJ+31," stamp";:SOU
ND200,1:SOUND89,1:NEXTJ:PRINT@41
0," ";PRINT
2205 PRINT"THE DRAGON IS AWAKE!!
!"
2210 ON RND(3) GOTO2220,2230,224
0
2220 PRINT"THE DRAGON PREPARES T
O ATTACK.":GOTO2250
2230 PRINT"THE DRAGON SLASHES AT
YOU WITH LONG CLAWS.":GOTO2280
2240 IF HT<2 THEN2210
2241 IF RND(10)<5 THENPRINT"THE
DRAGON JUMPS AT YOU!":GOTO2280
2242 PRINT"THE DRAGON BREATHES A
CONE OF FIRE AT YOU. YOU ARE
BURNT TO ACRISP! YOU'RE DEAD.
SHAME ABOUT THAT. TSK-TSK.":PRINT
"WANT TO TRY AGAIN?"
2243 GOSUB10:PRINT:IF M$="Y" THE
NRUN ELSE IF M$="N" THENCLS:END
ELSEPRINT"ANSWER YES OR NO, PLEA
SE.":GOTO2243
2250 PRINT"DO YOU WANT TO RUN OR
FIGHT?":GOSUB10:PRINT:IF M$="R"
THEN2252 ELSE IF M$="F" THEN225
5 ELSE2250
2252 IF RND(10)<4 THENPRINT"YOU
ESCAPED!":TD=800:GOSUB70:GOTO12
00 ELSEPRINT"NO GOOD. THE DRAGON
BLOCKS THE WAY OUT.":GOTO2210
2255 IF SW=0 THENPRINT"BUT YOU H
AVE NO SWORD!":GOTO2210
2260 ON RND(3) GOTO2261,2262,226
3
2261 PRINT"THE DRAGON DODGES YOU
R SWORD.":GOTO2210
2262 DT=DT+1:PRINT"YOU STRIKE TH
E DRAGON!":GOTO2210
2263 IF DT<2 THEN2260
2264 IF RND(10)<5 THENPRINT"YOU
SLASH AT THE DRAGON WITH YOUR
SWORD BUT MISS!":GOTO2210
2265 PRINT"YOUR SWORD SLASHES TH
E DRAGON'S NECK AND IT FALLS TO
THE FLOOR DEAD. TERRIFIC JOB!"
:DS=2:PRINT:PRINT
2266 PRINT"DC YOU WANT TO GO EAS
T OR WEST? ";:GOSUB10:IF M$="E"

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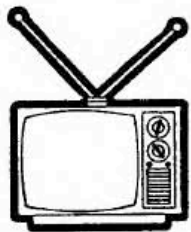
THEN1500 ELSE IF M$="W" THEN120
0 ELSE2266
2280 ON RND(3) GOTO2281,2282,228
3
2281 PRINT"YOU JUMP ASIDE!":GOTO
2250
2282 HT=HT+1:PRINT"YOU'RE HIT!
BLOOD TRICKLES DOWNYOUR ARM.":GO
TO2250
2283 HT=HT+1:PRINT"THE DRAGON KN
OCKS YOU TO THE GROUND!":GOTO
2250
2300 CLS0:PRINT@320,"YOU ARE IN
THE DRAGON'S DEN. HE'S GONE
NOW.":PRINT"DO YOU WANT TO GO E
AST OR WEST? ";
2310 GOSUB10:PRINT:IF M$="W" THE
M1200 ELSE IF M$="E" THEN1500 EL
SEPRINT"AST OR WEST? ";:GOTO231
0
2400 CLS4:M$=CHR$(191):PRINT@102
,"the"M$"awful"M$"red"M$"cave";:
SOUND43,6:SOUND155,4
2405 PRINT@352,;
2410 PRINT"NORTH OR SOUTH? ";:GO
SUB10:IF M$="N" THEN2500 ELSE IF
M$="S" THEN700 ELSE2410
2500 CLS7:PRINT@74,"THE MUSIC CA
VE.":PRINT@128,"PRESS THE KEYS
TO MAKE SOUNDS. PRESS ENTER WHE
N YOU ARE READY TO LEAVE."
2510 AS=INKEY$:IF AS="" THEN2510
ELSE I=ASC(AS)
2520 IF I=13 THEN2530
2525 SOUND1+2,1:GOTO2510
2530 PRINT@352,;
2540 PRINT"DO YOU WANT TO GO EAS
T OR WEST? ";:GOSUB10:IF M$="E"
THEN700 ELSE IF M$="W" THEN2800
ELSE2540
2600 CLS3:PRINT@102,"THE HAPPY B
LUE CAVE.":SOUND155,6:SOUND43,3
:SOUND43,3
2610 PRINT@352,;
2620 PRINT"NORTH OR SOUTH? ";:GO
SUB10:IF M$="N" THEN2800 ELSE IF
M$="S" THEN2700 ELSE2620
2700 CLS1:PRINT@102,"THE MOSSY G
REEN CAVERN.":SOUND1,15
2710 PRINT@384,;
2720 PRINT"AST OR WEST? ";:GOSU
B10:IF M$="E" THEN400 ELSE IF M$
="W" THEN2600 ELSE2720
2800 CLS0:FOR I=1 TO 50:SET(RND(
63),RND(24),2):SOUNDRND(255),1:N
EXTI
2810 PRINT@384,"YOU ARE IN A CAV
E FILLED WITH. FUNNY YELLOW ROC

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KS."
2820 PRINT@448,;
2830 PRINT"AST OR WEST? ";:GOSU
B10:IF M$="E" THEN1000 ELSE IF M
$="W" THEN300
2900 CLS0:M$=CHR$(175):FORI=16TO
171 STEP31:PRINT@I,M$;:NEXTI:LX=
3:S$=M$:GOSUB80:PRINT@203,M$;:PR
INT@174,M$;:M$=CHR$(175):FORI=17
7TO332STEP31:PRINT@I,M$;:NEXT:PR
INT@357,"the lightning room";
2920 FORI=0TO100:EXEC3691:NEXTI
2930 PRINT@384,;
2940 PRINT"NORTH OR SOUTH? ";:GO
SUB10:PRINT:IF M$="N" THEN1700 E
LSE IF M$="S" THEN1800 ELSE2940
4000 CLEAR300:IFPEEK(3584)<198T
HENLOADM" BORDER"
4010 U0=63:U1=48:U2=63:U3=155
4020 CLS:PRINT@73,"treasure hunt
":PRINT@136,"BY DEAN HODGSON";:
POKE1105,32
4030 PRINT@296,"try to find the"
;:PRINT@328,"hidden treasure";:P
OKE1323,32:POKE1326,32:POKE1331,
32:POKE1358,32
4040 PRINT@422,"PRESS enter TO S
TART";
4045 DS=0:CS=""
4046 FORI=1TO2:J=RND(10)-1:CS=C
O$+RIGHT$(STR$(J),1):NEXT
4047 I=RND(23)+64:IC$=CHR$(I)+CH
R$(I+1)+CHR$(I+2)
4050 EXEC3584
4055 SOUND89,2:SOUND125,2:SOUND1
47,2:SOUND176,4:SOUND159,2:SOUND
176,8
4059 PRINT@422,"PRESS enter TO S
TART";
4060 IF INKEY$<>CHR$(13) THEN406
0
4061 F=RND(2):F2=RND(2):IF F2=F
THEN4061 ELSE CP$=MID$(CO$,F,1)+
MID$(CO$,F2,1)
4065 SOUND220,1
4070 GOTO100
59999 STOP
60000 VERIFYON:PRINT"SAVING":SAV
E" TRESHUNT.BAS":END
61000 ' TREASURE HUNT BY DEAN HO
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86 DEAN HODGSON

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TRIVIA

by Barry Sidebottom

32K ECB + 'T.V. Trivia

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- : Mr Ed (Mr Ed)
- : The Sullivans (Sullivan).

If you want to use them all,
simply change the following
lines appropriately: 310, 420,
480, 835, 1140, 1145, 1150,
1390, 1391, 1395, 1396.

As I said originally, I am
adding new files all the time
(or when I feel like it!).

Ed's note: Due to the nature
of the files mentioned here,
these files will appear on
CoCo0z titled as "Gilligan" and
"Happyday".

Tandy ELECTRONICS

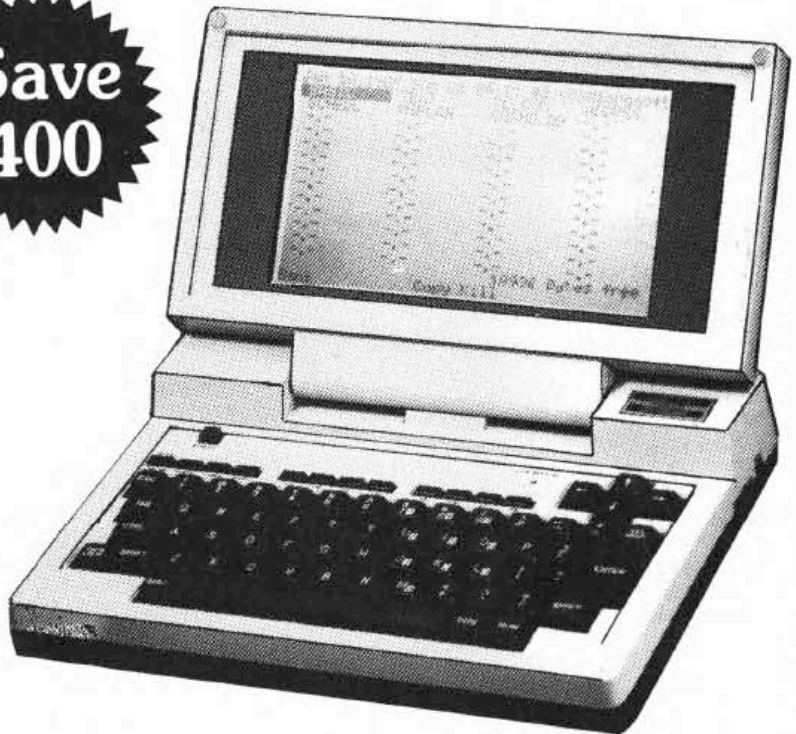
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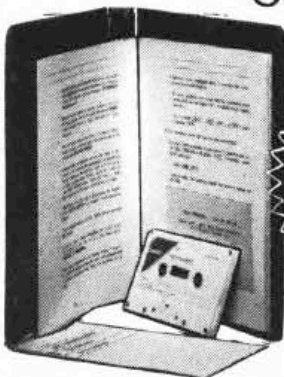
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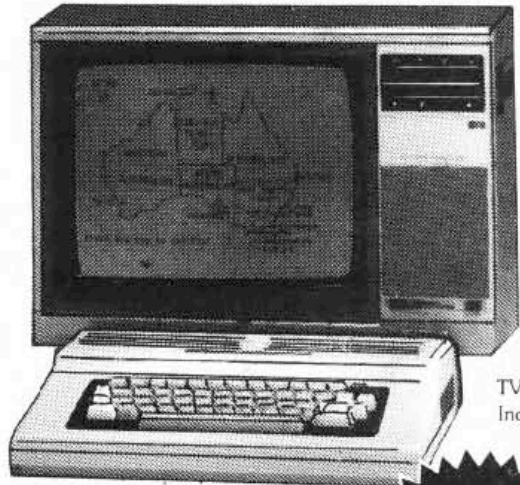
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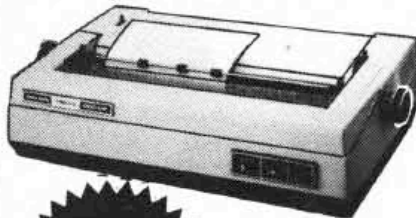
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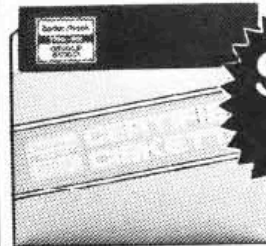
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CASSETTING ALONG

by Grahame Pollock

16K ECB/MiCo



GETTING TO KNOW your cassette recorder is a very important thing for you to do. I should say that getting to know how your cassette relates to your computer is vital for most beginners.

The beginner will often encounter some sort of difficulty with the system. This usually results from being understandably anxious to get something going between computer and cassette.

Make sure that you read all the manuals, even if you don't understand them the first time through.

I'll go through some of the problems that you might come across when you start out.

LEADERS

These are short lengths of tape that come at the beginning and end of most cassette tapes.

These "leaders" don't have any magnetic material in them. This means that you can't record on them. When you record a program at the beginning of the tape, you must wait until the leader has gone by.

If you take the following steps, you shouldn't go wrong:-

- 1.type `CSAVE"FILENAME"` but don't press the ENTER key.
- 2.press `PLAY/RECORD` on the cassette.
- 3.slowly count to 5
- 4.now press the ENTER key.
- 5.wait for the "OK" prompt to appear on the screen. This means that the program has been recorded on the tape. It is a good idea to `CSAVE` the program several times.
- 6.press stop on the cassette and rewind.
- 7.to verify that the program has been `CSAVED` properly, type `SKIPF` and press ENTER. Now play

the tape. Your original program will still be in memory. If you try to verify using `CLOAD`, you may lose your program.

8.wait for the "OK" prompt to appear on the screen.

Leaders can also cause a problem occasionally if they pick up a small amount of magnetic material from the cassette heads. This can lead to an `IO ERROR` for the first program following the leader.

If this happens, rewind and let most of the leader play through the cassette before you begin to `CLOAD`.

IO ERRORS

These occur when the computer detects a problem loading in a program from tape. This type of error can occur through a variety of causes and so there are a variety of different things that you can do to escape from them.

If you have a tape which is giving you an `IO ERROR` while `CLOADing`, then you could try the following steps:-

1. Rewind the tape and adjust the `VOLUME` on the cassette before loading again. Not all tapes will `CLOAD` in at the same volume. Most should load in at volume 5, but you may need to find the correct volume level anywhere between 3 and 10.

The need to adjust your volume level usually occurs because you are loading in a program that was recorded on someone else's cassette.

Once you DO manage to load it in, you should `CSAVE` it using YOUR cassette. You shouldn't have any more trouble with it after that!

2. Some tapes stick. `FAST FORWARD` all the way to the tape

end and then `REWIND`. This will get the tape running freely.

A really sticky tape may need to be jolted by tapping it onto the palm of your hand. Don't bash it onto the computer keyboard. The computer doesn't like it.

3. Sometimes a program that you've been using will scramble the computer's memory so that it "thinks" that the tape contains an `IO ERROR`.

In this case, turn the computer OFF and back ON before you try to `CLOAD` again.

This is called a "COLD START" and will unscramble the computer's memory. It starts with a "clean slate" so that it will load the tape properly.

4. Another sort of `IO ERROR` can occur if you are trying to load a machine language program into a section of the memory which is not available to your computer.

Check to see if it is designed to go into your computer.

Once each week, you should use a clean cotton bud to clean the heads and the roller on your cassette.

To do this, press `PLAY` with the lid open and no cassette. This may prevent many cassette problems and really save you a lot of difficulties later on.

In some extreme cases, you may also need to realign the heads on the cassette. To do this, insert a tape with the lid still open.

Full the plugs out so you can hear the sound. Press `PLAY` and use a fine screwdriver to adjust the screw visible through the slot in the top of the cassette case. The heads are aligned when the sound is the loudest.

SOUND

by Gary Furr MC-10

Type in the listing as stated but CSAVE before RUNNING it as you cannot get it back after pressing the RESET button.

RUN it. If there is an error in the DATA the program will say so, if not it will EXEC itself. After the telephone mode press "A".

Hold any key down to return to MENU.

The Listing: SOUND D#

```
10 REM *****
15 REM † SOUND DEMONSTRATION †
20 REM † GARY FURR †
25 REM † AUGUST 1985 †
30 REM *****
40 DATA 189,67,76,189,68,28,198,
128,206,64,0,255,66,128,231,0,8
45 DATA 140,66,0,30,248,57,204,
160,1,189,67,245,134,130,122,67
50 DATA 100,39,3,126,67,93,206,0
,0,189,248,97,134,138,183,67,100
55 DATA 134,22,183,67,105,126,67
,93,134,138,183,67,100,134,3,183
```

```
60 DATA 67,105,254,255,220,173,0
,39,1,57,206,255,255,189,248,97
65 DATA 206,255,255,189,248,97,
206,255,255,189,248,97,126,67,93
70 DATA 57,0,0,0,0,0,128,215,
79,0,0,0,4,6,0,122,67,180,38,9
75 DATA 189,67,209,182,67,178,
183,67,180,252,68,56,195,255,255
80 DATA 293,68,56,38,231,57,252,
67,175,5,36,4,200,217,136,1,253
85 DATA 67,175,7,132,1,184,67,
177,39,11,246,67,174,203,128,247
90 DATA 191,255,247,67,174,183,
67,177,57,54,55,79,222,3,214,8
95 DATA 223,11,136,128,183,191,
255,48,230,1,8,8,92,38,251,214
100 DATA 9,196,64,39,237,48,106,
0,38,226,79,183,191,255,56,57
105 DATA 206,64,40,255,66,128,
206,69,11,189,231,168,206,64,77
110 DATA 255,66,128,206,69,32,
189,231,168,189,69,106,0,0,0,0
115 DATA 0,0,0,0,0,0,0,0,0,206
,64,172,255,66,128,206,69,43,189
120 DATA 231,168,206,64,204,255,
66,128,206,69,56,189,231,168,206
125 DATA 64,236,255,66,128,206,
69,68,189,231,168,206,65,12,255
130 DATA 66,128,206,69,79,189,
231,168,206,65,138,255,66,128
135 DATA 206,69,90,189,231,168,
254,255,220,173,0,39,249,129,65
140 DATA 39,15,129,66,39,32,129,
67,39,59,129,68,39,81,126,67,70
145 DATA 189,67,76,206,64,203,
255,66,128,206,69,45,189,231,168
150 DATA 189,67,93,126,67,70,189
,67,76,206,64,203,255,66,128,206
155 DATA 69,58,189,231,168,134,
255,183,69,0,134,122,183,69,5
```

```
160 DATA 189,68,255,126,67,70,
189,67,75,134,124,183,69,5,206
165 DATA 64,203,255,66,128,206,
69,69,189,231,168,189,68,255
170 DATA 126,67,70,189,67,76,206
,64,203,255,66,128,206,69,90,189
175 DATA 231,168,189,67,174,126,
67,70,204,0,1,189,67,245,122,69
180 DATA 0,38,245,57,128,115,111
,117,110,100,128,100,101,109,111
185 DATA 110,115,116,114,97,116,
105,111,110,0,128,103,97,114,121
190 DATA 128,102,117,114,114,0,
128,97,128,116,101,103,101,112
195 DATA 104,111,110,101,0,120,
98,128,122,97,112,128,100,111
200 DATA 119,110,0,128,99,128,
122,97,112,128,117,112,0,0,128
205 DATA 100,128,101,110,103,105
,110,101,0,0,128,101,110,116,101
210 DATA 114,128,97,128,103,101,
116,116,101,114,0,134,128,183,67
215 DATA 174,134,215,103,67,175,
124,79,183,67,176,134,0,183,67
220 DATA 177,183,67,178,183,67,
182,134,8,183,67,178,134,4,183
225 DATA 67,180,134,0,183,67,181
,57
230 FOR D=172221017811
235 READ F=G=64F:NEXT
240 IF G<>70343THEN365
245 RESTORE
250 FOR E=172221017811
255 READ F=POKED(F,NEXT
260 EXEC17222
265 ELSE PRINT@140,"DATA ERROR":
270 PRINT@168,"YOUR TOTAL".G:
275 PRINT@199,"CORRECT TOTAL 70
343":
280 GOTO280
```

FM ERRORS

These usually occur if you give the wrong type of loading instruction for the program on tape.

You should CLOAD a BASIC program and CLOADM a machine language program. If you CLOAD and get a FM ERROR then rewind and CLOADM.

Note that you should type RUN to get a BASIC program to work and type EXEC for a machine language program.

ORGANISATION

Organisation of tapes is very important. Each person has their own system. I can only suggest one to you. I have 3 types of tapes:- USER TAPES, PROGRAM TAPES and MASTER TAPES.

The USER TAPE is the one that I use when I'm writing a program. I store the program on the USER tape and continue to modify and re-store it on that tape. Each updated version of the program is stored on opposite sides of the tape.

This means that if you make a tremendous "boo boc" then you still have the previous version on the reverse side. I usually CSAVE 3 times on this tape.

A section of the program can be used to do this for you. At the beginning of every program

you could put the following lines:-

```
2 GOTO 10
3 FOR SV=1TO3:FOR T=1 TO 3000:
NEXT T:CSAVE"FILENAME":PRINT SV:
NEXT SV:END
10 REM PROGRAM START
```

When you want to CSAVE your program on your USER tape, all you have to do is type RUN3 and press ENTER after you have started the cassette recording.

Your program will automatically be CSAVED 3 times with a nice gap between CSAVES.

Make sure that you don't try to record onto the leader. Wait for it to go through before you press ENTER.

USER tapes tend to wear out fairly quickly, so if you start to see a few IO ERRORS creeping in, then get a new USER tape quickly.

Once a program is complete and is running correctly, then store it once on the MASTER tape and once on the PROGRAM tape, making sure to verify the CSAVE using SKIPF.

That way you don't lose your program if you get an error and you can CSAVE it again.

My MASTER tapes are usually long ones (C60) so that they can hold a large number of programs. One copy of every program is stored on these tapes.

My PROGRAM tapes are usually short (C10's are good) so that I can access programs on both sides very quickly. Each PROGRAM tape contains no more than 5 programs on each side.

PROGRAM tapes should be numbered and the names of the programs should be written on each tape. A record of programs, starting counter numbers and descriptions should be kept on a separate list, preferably in a small book set aside for the purpose.

Make sure that you label your tapes clearly and keep your records straight. There's nothing worse than not being able to find the program you want because you can't remember which tape to use.

If you ARE having trouble with your cassette based system, then find someone who knows something about it and ASK. Don't just sit back and hope that the problem goes away. If you're really stuck, write down ALL the symptoms and send me a letter at the address below. Don't forget to include a stamped, self-addressed envelope so that I can reply as soon as possible.

Grahame POLLOCK,
24 Kent St,
Minto, 2566,
Australia.

SLEUTH



32K ECB

GAME by Ron McCarthy

IN SLEUTH, YOU ARE the detective put in charge of a murder. It seems that a model has been murdered!

There are three suspects; the artist, Pierre, who worked with the model. He says he was out having lunch when the model was murdered ... or so HE says.

Then there was the model's fiance, George Sweet, who is very jealous and carries the profession of being a butcher (as in meat-worker) ...

And to top it off, there was Carl Gordon, a bouncer/cleaner working for a nearby nightclub ... with fresh scratches on his face ... !

Now, you may ask yourself, who is the killer?

THAT is the aim of Sleuth!

The Listing:

```
0 GOTO10
1 REM***SLEUTH***
2 REM***BY RON MAC CARTHY***
3 SAVE"185:3":END
5 REM***JANUARY 1987***
10 CLS
15 PRINT @ 204,"SLEUTH"
20 FOR X=1 TO 500:NEXT X
25 CLS
30 PRINT"ARE YOU READY TO PLAY?
(Y/N)
35 INPUT AS
40 IF AS="" THEN 30
45 IF AS="Y" THEN 55
50 IF AS="N" THEN 25
55 CLS
60 PRINT"INSERT PLAYER'S NAME HE
RE."
65 INPUT NS
70 CLS
75 PRINT"YOU ARE DETECTIVE "NS:P
RINT"YOU HAVE BEEN CALLED TO THE
":PRINT"SCENE OF A MURDER."
80 FOR X=1 TO 2000:NEXT X
85 CLS
90 PRINT"THE BODY OF A YOUNG WOM
AN LIES":PRINT"ON THE FLOOR OF W
HAT IS AN":PRINT"ARTIST'S STUDIO
. A BEARDED MAN":PRINT"IS HERE.
THE BODY, CLOTHED ONLY":PRINT"IN
A COTTON ROBE, IS COVERED IN":P
RINT"BLOOD."
95 FOR X=1 TO 5000:NEXT X
100 CLS
110 PRINT"YOUR CHOICE OF ACTIONS
IS:-":PRINT"(A) ARREST BEARDED
MAN.":PRINT"(B) QUESTION BEARDED
MAN.":PRINT"(C) CALL FOR SCIENT
IFIC OFFICER":PRINT"(D) INVESTIG
ATE FURTHER"
115 INPUT AS
120 IF AS="" THEN 110
125 IF AS="A" THEN 144
130 IF AS="B" THEN 845
135 IF AS="C" THEN 189
140 IF AS="D" THEN 1105
144 CLS
145 PRINT"YOU CAN'T ARREST HIM Y
ET. YOU":PRINT"DON'T EVEN KNOW H
IS NAME. YOU":PRINT"DON'T WANT A
LAWSUIT ON YOUR HANDS."
150 FOR X=1 TO 2000:NEXT X
155 CLS
160 PRINT"YOUR CHOICE OF ACTIONS
IS:-":PRINT"(A) CALL SCIENTIFIC
OFFICER":PRINT"(B) QUESTION BEA
RDED MAN.":PRINT"(C) INVESTIGATE
FURTHER."
165 INPUT AS
170 IF AS="" THEN 160
175 IF AS="A" THEN 190
180 IF AS="B" THEN 845
185 IF AS="C" THEN 1105
189 CLS
190 PRINT"YOU CALL THE POLICE ST
ATION.":PRINT"YOU ARE TOLD THAT
DOC. MURPHY":PRINT"WILL LEAVE IM
MEDIATELY."
195 FOR X=1 TO 2500:NEXT X
200 CLS
205 PRINT"YOUR CHOICE OF ACTIONS
IS:-":PRINT"(A) WAIT.":PRINT"(B
) QUESTION BEARDED MAN.":PRINT"(
C) INVESTIGATE FURTHER."
210 INPUT AS
215 IF AS="" THEN 205
220 IF AS="A" THEN 234
225 IF AS="B" THEN 295
230 IF AS="C" THEN 480
234 CLS
235 PRINT"YOU DON'T HAVE A VERY
GOOD":PRINT"ATTITUDE. YOU HAVE B
EEN REMOVED":PRINT"FROM THIS CAS
E."
240 FOR X=1 TO 2000:NEXT X
245 CLS
250 PRINT @ 204,"GAME OVER"
255 FOR X=1 TO 500:NEXT X
260 CLS
265 PRINT"DO YOU WISH TO TRY AGA
IN? (Y/N)"
270 INPUT AS
275 IF AS="" THEN 265
280 IF AS="Y" THEN 30
285 IF AS="N" THEN 290
290 CLS:END
295 CLS
300 PRINT"YOU QUESTION THE BEARD
ED MAN.":PRINT"YOU LEARN:-":PRIN
T TAB(3)"HIS NAME IS PIERRE BALM
AIN.":PRINT TAB(3)"THE DEAD WOMA
N'S NAME WAS":PRINT TAB(3)"MARY
BURNS.":PRINT TAB(3)"SHE WAS MOD
ELLING FOR HIM"
305 PRINT TAB(3)"SHE WAS ENGAGED
TO GEORGE":PRINT TAB(3)"SWEET.
HE IS A BUTCHER":PRINT TAB(3)"WH
O WORKS NEARBY. HE IS":PRINT TAB
(3)"SUPPOSED TO BE VIOLENTLY":PR
INT TAB(3)"JEALOUS."
310 FOR X=1 TO 8000:NEXT X
```



```

315 CLS
320 PRINT"PIERRE CLAIMS HE LEFT
ABOUT":PRINT"MIDDAY TO BUY SOME
LUNCH.":PRINT"HE FOUND MARY DEAD
WHEN HE":PRINT"RETURNED. HE SAW
NO ONE IN THE":PRINT"VICINITY."
325 FOR X=1 TO 4000:NEXT X
330 CLS
335 PRINT"YOUR CHOICE OF ACTIONS
IS:-":PRINT"(A) CHECK PIERRE'S
STORY.":PRINT"(B) LOOK FOR GEORG
E SWEET":PRINT"(C) START A SEARC
H."
340 INPUT A$
345 IF A$="" THEN 335
350 IF A$="A" THEN 365
355 IF A$="B" THEN 420
360 IF A$="C" THEN 480
365 PRINT"YOU VISIT THE MILK BAR
WHERE":PRINT"PIERRE CLAIMS TO B
UY LUNCH.":PRINT"THE LADIES BEHI
ND THE COUNTER":PRINT"KNOW HIM,
BUT CANNOT SAY FOR":PRINT"CERTAI
N IF HE WAS THERE TODAY."
370 FOR X=1 TO 5000:NEXT X
375 CLS
380 PRINT"YOUR CHOICE OF ACTIONS
IS:-":PRINT"(A) LOOK FOR GEORGE
SWEET.":PRINT"(B) SEARCH STUDIO
AREA."
385 INPUT A$
390 IF A$="" THEN 380
395 IF A$="A" THEN 420
400 IF A$="B" THEN 405
405 PRINT"YOU RETURN TO THE STUD
IO TO":PRINT"BEGIN YOUR SEARCH."
410 GOTO 500
415 CLS
420 PRINT"YOU GO IN SEARCH OF GE
ORGE":PRINT"SWEET. YOU FIND THE
SHOP WHICH":PRINT"EMPLOYS HIM LE
SS THAN TEN MINS.":PRINT"WALK FR
OM THE STUDIO.":PRINT"YOU SEE GE
ORGE PRIVATELY IN THE":PRINT"LUN
CH ROOM."
425 PRINT"YOU LEARN:-":PRINT"GEO
RGE HAD HIS LUNCH ABOUT THE":PRI
NT"SAME TIME PIERRE LEFT. HE SAY
S":PRINT"HE BOUGHT IT NEXT DOOR
AND ATE":PRINT"IT HERE. HE HAS A
CAR PARKED":PRINT"BEHIND THE SH
OP. HE DID NOT USE":PRINT"IT AT
LUNCH TIME."
430 FOR X=1 TO 10000:NEXT X
435 CLS
440 PRINT"GEORGE'S BOSS SAYS HE
THINKS":PRINT"GEORGE HAD LUNCH H
ERE, BUT IS":PRINT"NOT CERTAIN A
S HE WAS BUSY IN":PRINT"THE SHOP
. THE LADIES NEXT DOOR":PRINT"SA
Y GEORGE ORDERS LUNCH EARLY":PRI
NT"SO DOES NOT HAVE TO WAIT. HE"
:PRINT"DID GET IT TODAY."
445 FOR X=1 TO 5000:NEXT X
450 CLS
455 PRINT"YOUR CHOICE OF ACTIONS
IS:-":PRINT"(A) SEARCH STUDIO A
ND SURROUNDS":PRINT"(B) REST"
460 INPUT A$
465 IF A$="" THEN 455
470 IF A$="A" THEN 480
475 IF A$="B" THEN 234
480 CLS
485 PRINT"YOU'RE READY TO SEARCH
FOR":PRINT"ANY CLUES YOU MIGHT
FIND. WHERE":PRINT"DO YOU WISH T

```

```

O SEARCH?":PRINT"(A) THE STUDIO.
":PRINT"(B) THE OUTSIDE."
490 INPUT A$
495 IF A$="" THEN 485
500 IF A$="A" THEN 510
505 IF A$="B" THEN 590
510 CLS
515 PRINT"YOU COMB THE STUDIO. Y
OU FIND":PRINT"A HALF FINISHED L
OVE LETTER":PRINT"FROM PIERRE TO
MARY. YOU FIND":PRINT"NOTHING E
LSE OF INTEREST.":PRINT"YOUR CHO
ICE OF ACTIONS IS:-":PRINT"(A) S
EARCH OUTSIDE":PRINT"(B) ARREST
PIERRE."
520 INPUT A$
525 IF A$="" THEN 515
530 IF A$="A" THEN 590
535 IF A$="B" THEN 540
540 CLS
545 PRINT"YOU CANNOT ARREST PIER
RE. YOU":PRINT"DO NOT HAVE ENOUGH
EVIDENCE.":PRINT"YOU DON'T WAN
T TO LOOK A FOOL.":PRINT"YOUR CH
OICE OF ACTIONS IS:-":PRINT"(A)
REST":PRINT"(B) CONTINUE SEARCHI
NG."
550 INPUT A$
555 IF A$="" THEN 545
560 IF A$="A" THEN 570
565 IF A$="B" THEN 590
570 CLS
575 PRINT"SERGEANT MOLLOY, YOUR
BOSS.":PRINT"FINDS YOU SLEEPING.
HE WAKES":PRINT"YOU WITH A KICK
TO THE RIBS.":PRINT"YOU HAVE BE
EN REMOVED FROM THE":PRINT"CASE.
"
580 FOR X=1 TO 3000:NEXT X
585 GOTO 245
590 CLS
595 PRINT"YOU SEARCH OUTSIDE. WH
ILE YOU":PRINT"ARE THERE, DOC MU
RPHY, THE":PRINT"SCIENTIFIC OFFI
CER ARRIVES.":PRINT"YOU NOTICE T
HE REAR DOOR OF THE":PRINT"DOWN
TAIRS NIGHT CLUB IS OPEN.":PRI
NT"YOU ENTER AND FIND A MAN."
600 PRINT"YOUR CHOICE OF ACTIONS
IS:-":PRINT"(A) QUESTION THE MA
N.":PRINT"(B) CONTINUE TO SEARCH
."
605 INPUT A$
610 IF A$="" THEN 595
615 IF A$="A" THEN 625
620 IF A$="B" THEN 735
625 CLS
630 PRINT"YOU QUESTION THE MAN.
YOU":PRINT"DISCOVER:-":PRINT"HIS
NAME IS CARL GORDON. HE IS":PRI
NT"THE CLEANER/BOUNCER OF THE":P
RINT"CLUB. HE SAYS HE HAS SEEN N
O":PRINT"ONE NEAR THE STUDIO TOD
AY."
635 PRINT"HE CLAIMS THE SCRATCHE
S ON HIS":PRINT"FACE OCCURRED LA
ST NIGHT DURING":PRINT"A FIGHT I
N THE CLUB."
640 FOR X=1 TO 8000:NEXT X
645 CLS
650 PRINT"YOUR CHOICE OF ACTIONS
IS:-":PRINT"(A) CHECK CARL'S ST
ORY.":PRINT"(B) CONTINUE SEARCHI
NG."
655 INPUT A$
660 IF A$="" THEN 650

```

```

665 IF A$="A" THEN 675
670 IF A$="B" THEN 735
675 PRINT"YOU CHECK WITH THE MAN
AGER OF":PRINT"THE CLUB. HE SAYS
THERE WAS A":PRINT"RUCKUS IN TH
E CLUB LAST NIGHT.":PRINT"BUT DO
ES NOT KNOW IF CARL WAS":PRINT"S
CRATCHED DURING THE FIGHT."
680 PRINT"YOUR CHOICE OF ACTIONS
IS:-":PRINT"(A) CONTINUE SEARCH
ING.":PRINT"(B) ARREST CARL."
685 INPUT A$
690 IF A$="" THEN 675
695 IF A$="A" THEN 735
700 IF A$="B" THEN 705
705 CLS
710 PRINT"YOU CANNOT ARREST CARL
. YOU DO":PRINT"NOT HAVE ENOUGH
EVIDENCE TO":PRINT"ARREST HIM FO
R SPITTING ON THE":PRINT"FOOTPA
H.":PRINT"YOUR CHOICE OF ACTIONS
IS:-":PRINT"(A) CONTINUE SEARCH
ING.":PRINT"(B) QUESTION PIERRE"
715 INPUT A$
720 IF A$="" THEN 710
725 IF A$="A" THEN 735
730 IF A$="B" THEN 295
735 CLS
740 PRINT"YOU CONTINUE TO SEARCH
BEHIND":PRINT"THE BUILDING. YOU
EVENTUALLY":PRINT"FIND A BLOOD
STAINED KNIFE IN":PRINT"A BIN NE
AR THE CLUB DOOR. IT IS":PRINT"A
CARVING KNIFE OF THE TYPE":PRIN
T"USED BY BUTCHERS."
745 FOR X=1 TO 5000:NEXT X
750 CLS
755 PRINT"YOUR CHOICE OF ACTIONS
IS:-":PRINT"(A) GIVE THE KNIFE
TO DOC MURPHY":PRINT"(B) PUT IT
BACK IN THE BIN."
760 INPUT A$
765 IF A$="" THEN 755
770 IF A$="A" THEN 815
775 IF A$="B" THEN 780
780 CLS
785 PRINT"YOU REALLY ARE GETTING
CARE-":PRINT"LESS WITH POTENTIA
L EVIDENCE.":PRINT"YOU HAVE BEEN
REMOVED FROM THE":PRINT"CASE."
790 FOR X=1 TO 2500:NEXT X
795 CLS
800 PRINT @ 204,"GAME OVER"
805 FOR X=1 TO 500:NEXT X
810 CLS:GOTO 30
815 PRINT"YOU GIVE DOC THE KNIFE
AND HE":PRINT"ASKS YOU TO WAIT
FOR A FEW":PRINT"MINUTES. HE WILL
THEN GIVE YOU":PRINT"HIS REPOR
T. YOU WAIT."
820 FOR X=1 TO 5000:NEXT X
825 CLS
830 PRINT"DOC TELLS YOU THAT MAR
Y DIED":PRINT"FROM NUMEROUS KNIF
E WOUNDS.":PRINT"SHE HAD BROKEN
FINGER NAILS ON":PRINT"HER RIGHT
HAND! THE KNIFE YOU":PRINT"GAVE
HIM IS THE MURDER WEAPON."
835 FOR X=1 TO 5000:NEXT X
840 CLS:GOTO 1440
845 CLS
850 PRINT"YOU QUESTION THE BEARD
ED MAN.":PRINT"YOU LEARN:-":PRI
NT TAB(3)"HIS NAME IS PIERRE BALM
AIN.":PRINT TAB(3)"THE DEAD WOMA
N IS MARY BURNS":PRINT TAB(3)"SH

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E WAS MODELLING FOR HIM":PRINT T
AB(3)"AND WAS ENGAGED TO A LOCAL
":PRINT TAB(3)"BUTCHER"
855 PRINT TAB(3)"HE IS SUPPOSED
TO BE":PRINT TAB(3)"VIOLENTLY JE
ALOUS.":PRINT TAB(3)"HIS NAME IS
GEORGE SWEET."
860 FOR X=1 TO 8000:NEXT X
865 CLS
870 PRINT"PIERRE CLAIMS THAT HE
WENT TO":PRINT"BUY SOME LUNCH, A
ND WHEN HE":PRINT"RETURNED, MARY
WAS DEAD. HE":PRINT"SAYS HE BUY
S LUNCH AT A NEARBY":PRINT"MILK
BAR."
875 PRINT"YOUR CHOICE OF ACTIONS
IS:-":PRINT"(A) CHECK PIERRE'S
STORY.":PRINT"(B) LOOK FOR GEORG
E SWEET.":PRINT"(C) SEARCH FOR C
LUES."
880 INPUT A$
885 IF A$="" THEN 870
890 IF A$="A" THEN 905
895 IF A$="B" THEN 940
900 IF A$="C" THEN 1105
905 CLS
910 PRINT"YOU QUESTION THE LADIE
S IN THE":PRINT"MILK BAR WHERE P
IERRE CLAIMS TO":PRINT"BUY LUNCH
. NONE OF THEM CAN":PRINT"REMEMB
ER FOR SURE IF PIERRE HAS":PRINT
"BEEN IN TODAY."
915 PRINT"YOUR CHOICE OF ACTIONS
IS:-":PRINT"(A) SEARCH AROUND T
HE STUDIO.":PRINT"(B) LOOK FOR G
EORGE SWEET."
920 INPUT A$
925 IF A$="" THEN 910
930 IF A$="A" THEN 1105
935 IF A$="B" THEN 940
940 CLS
945 PRINT"YOU GO IN SEARCH OF TH
E SHOP":PRINT"WHERE GEORGE SWEET
IS EMPLOYED.":PRINT"YOU FIND IT
IS LESS THAN TEN":PRINT"MINUTES
WALK FROM THE STUDIO.":PRINT"YO
U SEE GEORGE PRIVATELY IN THE":P
RINT"LUNCH ROOM. YOU LEARN:-"
950 PRINT TAB(3)"HE WENT FOR LUN
CH ABOUT THE":PRINT TAB(3)"SAME
TIME PIERRE CLAIMS":PRINT TAB(3)
"TO HAVE HAD HIS. HE GETS":PRINT
TAB(3)"HIS NEXT DCOR. HE HAS A"
:PRINT TAB(3)"CAR, WHICH IS PARK
ED BEHIND":PRINT TAB(3)"THE SHOP
955 FOR X=1 TO 8000:NEXT X
960 CLS
965 PRINT"HE SAYS HE HAD HIS LUN
CH HERE.":PRINT"YOUR CHOICE OF A
CTIONS IS:-":PRINT"(A) CHECK GEO
RGE'S STORY.":PRINT"(B) RETURN T
O THE STUDIO."
970 INPUT A$
975 IF A$="" THEN 965
980 IF A$="A" THEN 990
985 IF A$="B" THEN 1105

990 CLS
995 PRINT"YOU QUESTION THE LADIE
S IN THE":PRINT"SHOP NEXT DOOR.
GEORGE ORDERS":PRINT"HIS LUNCH I
N THE MORNING AND":PRINT"DOES NO
T HAVE TO WAIT AT LUNCH":PRINT"TIME. HE GOT HIS LUNCH TODAY."
1000 PRINT"GEORGE'S BOSS SAYS HE
THINKS":PRINT"GEORGE HAD LUNCH
HERE, BUT":PRINT"CAN'T BE SURE A

```

```

S HE WAS BUSY":PRINT"WITH CUSTOM
ERS."
1005 FOR X=1 TO 8000:NEXT X
1010 CLS
1015 PRINT"YOUR CHOICE OF ACTION
S IS:-":PRINT"(A) SEARCH FOR CLU
ES AT STUDIO":PRINT"(B) ARREST G
EORGE."
1020 INPUT A$
1025 IF A$="" THEN 1015
1030 IF A$="A" THEN 1105
1035 IF A$="B" THEN 1040
1040 CLS
1045 PRINT"YOU DON'T HAVE ENOUGH
EVIDENCE.":PRINT"THE LAST THING
YOU WANT IS A":PRINT"LAWSUIT ON
YOUR HANDS."
1050 PRINT"YOUR CHOICE OF ACTION
S IS:-":PRINT"(A) SEARCH STUDIO
AREA.":PRINT"(B) WAIT."
1055 INPUT A$
1060 IF A$="" THEN 1045
1065 IF A$="A" THEN 1105
1070 IF A$="B" THEN 1075
1075 PRINT"WHILE YOU WERE SLEEPING,
YOUR":PRINT"BOSS, SERGEANT M
OLLOY, WOKE YOU":PRINT"WITH A K
ICK IN THE RIBS. YOU":PRINT"HAVE
BEEN REMOVED FROM THE CASE"
1080 FOR X=1 TO 2500:NEXT X
1085 CLS
1090 PRINT @ 204,"GAME OVER"
1095 FOR X=1 TO 500:NEXT X
1100 CLS:GOTO 30
1105 CLS
1110 PRINT"YOU ARE READY TO SEAR
CH FOR":PRINT"CLUES AROUND THE S
TUDIO.":PRINT"WHERE DO YOU WISH
TO SEARCH?":PRINT"(A) OUTSIDE.":
PRINT"(B) INSIDE."
1115 INPUT A$
1120 IF A$="" THEN 1110
1125 IF A$="A" THEN 1135
1130 IF A$="B" THEN 1420
1135 CLS
1140 PRINT"YOU BEGIN TO SEARCH T
HE REAR":PRINT"YARD OF THE BUILD
ING. AS YOU":PRINT"COMB THE AREA
, YOU NOTICE THE":PRINT"OPEN REA
R DOOR OF THE GROUND":PRINT"FLOO
R NIGHT CLUB."
1145 PRINT"YOUR CHOICE OF ACTION
S IS:-":PRINT"(A) ENTER CLUB.":P
RINT"(B) CONTINUE SEARCHING YARD
."
1150 INPUT A$
1155 IF A$="" THEN 1140
1160 IF A$="A" THEN 1170
1165 IF A$="B" THEN 1355
1170 CLS
1175 PRINT"YOU ENTER THE CLUB. I
NSIDE YOU":PRINT"FIND A MAN. HE
HAS SCRATCHES":PRINT"ON HIS FACE
.":PRINT"YOUR CHOICE OF ACTIONS
IS:-":PRINT"(A) QUESTION THE MAN
.":PRINT"(B) CONTINUE SEARCHING.
"
1180 INPUT A$
1185 IF A$="" THEN 1175
1190 IF A$="A" THEN 1200
1195 IF A$="B" THEN 1355
1200 CLS
1205 PRINT"YOU QUESTION THE MAN.
":PRINT"YOU LEARN:-":PRINT TAB(3)
)"HIS NAME IS CARL GORDON.HE":PR
INT TAB(3)"IS THE CLEANER/BOUNCE
R OF":PRINT TAB(3)"THE CLUB. HE

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RECEIVED":PRINT TAB(3)"THE SCRAT
CHES FIGHTING LAST":PRINT TAB(3)
"NIGHT"
1210 PRINT TAB(3)"HE SAYS HE HAS
SEEN NO ONE":PRINT TAB(3)"NEAR
THE STUDIO THIS":PRINT TAB(3)"MO
RNING."
1215 FOR X=1 TO 8000:NEXT X
1220 CLS
1225 PRINT"YOUR CHOICE OF ACTION
S IS:-":PRINT"(A) ARREST CARL.":
PRINT"(B) CHECK CARL'S STORY.":P
RINT"(C) CONTINUE SEARCHING."
1230 INPUT A$
1235 IF A$="" THEN 1225
1240 IF A$="A" THEN 1255
1245 IF A$="B" THEN 1300
1250 IF A$="C" THEN 1355
1255 CLS
1260 PRINT"YOU DON'T REALLY WANT
TO DO":PRINT"THAT. YOU DON'T HA
VE ENOUGH":PRINT"EVIDENCE. WHY D
ON'T YOU DO":PRINT"SOMETHING ELS
E?"
1265 FOR X=1 TO 2500:NEXT X
1270 CLS
1275 PRINT"YOUR CHOICE OF ACTION
S IS:-":PRINT"(A) CHECK CARL'S S
TORY.":PRINT"(B) CONTINUE SEAR
CHING."
1280 INPUT A$
1285 IF A$="" THEN 1275
1290 IF A$="A" THEN 1300
1295 IF A$="B" THEN 1355
1300 CLS
1305 PRINT"YOU FIND THE MANAGER
OF THE":PRINT"CLUB. HE AGREES TH
ERE WAS A":PRINT"FIGHT LAST NIGH
T, BUT DOES NOT":PRINT"KNOW IF C
ARL WAS HURT."
1310 PRINT"YOUR CHOICE OF ACTION
S IS:-":PRINT"(A) CONTINUE SEAR
CHING.":PRINT"(B) REST."
1315 INPUT A$
1320 IF A$="" THEN 1310
1325 IF A$="A" THEN 1355
1330 IF A$="B" THEN 1335
1335 CLS
1340 PRINT"THIS IS NO TIME TO ST
OP. GET":PRINT"BACK TO WORK."
1345 FOR X=1 TO 1500:NEXT X
1350 GOTO 1310
1355 CLS
1360 PRINT"YOU CONTINUE TO SEAR
CH THE":PRINT"YARD. SUDDENLY YOU
FIND, A":PRINT"BLOOD STAINED KNI
FE, WRAPPED":PRINT"IN DRAWING PA
PER."
1365 PRINT"YOU CONTINUE SEARCHIN
G, BUT":PRINT"FIND NOTHING MORE
OF INTEREST.":PRINT"HAVE YOU SEA
RCHED INSIDE YET? (Y/N)"
1370 INPUT A$
1375 IF A$="" THEN 1360
1380 IF A$="Y" THEN 1440
1385 IF A$="N" THEN 1390
1390 CLS
1395 PRINT"DO YOU WISH TO? (Y/N)
"
1400 INPUT A$
1405 IF A$="" THEN 1395
1410 IF A$="Y" THEN 1420
1415 IF A$="N" THEN 1440
1420 CLS
1425 PRINT"YOU SEARCH THE STUDIO
. YOU ":PRINT"FIND A HALF COMPLE
TE LOVE ":PRINT"LETTER FROM PIER

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RE TO MARY. YOU":PRINT"FIND NOTHING ELSE OF INTEREST.":PRINT"EXCEPT FOR A PART FINISHED NUDE":PRINT"STUDY OF MARY."
1430 FOR X=1 TO 5000:NEXT X
1435 CLS
1436 PRINT"HAVE YOU SEARCHED OUTSIDE?":PRINT"DO YOU WISH TO? (Y/N)"
1437 INPUT A$
1438 IF A$="Y" THEN 1135
1439 IF A$="N" THEN 1440
1440 S=RND(3)
1445 IF S = 1 THEN 1460
1450 IF S = 2 THEN 1665
1455 IF S = 3 THEN 1760
1460 PRINT"YOU'VE FOUND THREE SUSPECTS.":PRINT"YOU NOW HAVE TO DECIDE WHO IS":PRINT"THE GUILTY ONE.":PRINT"YOUR CHOICE OF ACTION S IS:-":PRINT"(A) INVESTIGATE FURTHER.":PRINT"(B) ARREST SOMEONE."
1465 INPUT A$
1470 IF A$="" THEN 1460
1475 IF A$="A" THEN 1625
1480 IF A$="B" THEN 1485
1485 CLS
1490 PRINT"WHO DO YOU WISH TO ARREST?":PRINT"(A) PIERRE BALMAIN":PRINT"(B) GEORGE SWEET":PRINT"(C) CARL GORDON"
1495 INPUT A$
1500 IF A$="" THEN 1490
1505 IF A$="A" THEN 1520
1510 IF A$="B" THEN 1580
1515 IF A$="C" THEN 1580
1520 PRINT"YOU ARREST PIERRE. HE BREAKS":PRINT"DOWN IN TEARS AND CONFESSES."
1525 FOR X=1 TO 3000:NEXT X
1530 CLS
1535 PRINT"CONGRATULATIONS":PRINT N$:PRINT"YOU WON!!!"
1540 FOR X=1 TO 3000:NEXT X
1545 CLS
1550 PRINT"DO YOU WISH TO PLAY AGAIN?":PRINT" (Y/N)"
1555 INPUT A$
1560 IF A$="" THEN 1550
1565 IF A$="Y" THEN 30
1570 IF A$="N" THEN 1575
1575 CLS:END
1580 PRINT"WRONG!!!!":PRINT"YOU'VE CHOSEN THE WRONG PERSON":PRINT"AND ARE NOW EMBROILED IN A "":PRINT"MASSIVE LAWSUIT!"
1585 FOR X=1 TO 3000:NEXT X
1590 CLS
1595 PRINT"DO YOU WISH TO PLAY AGAIN?":PRINT" (Y/N)"
1600 INPUT A$
1605 IF A$="" THEN 1595
1610 IF A$="Y" THEN 30
1615 IF A$="N" THEN 1620
1620 CLS:END
1625 PRINT"YOU BEGIN TO SEARCH FOR ANY":PRINT"POSSIBLE LEAD. YOU EVENTUALLY":PRINT"FIND AN OLD LADY, WHO SAYS":PRINT"PIERRE ONLY LEFT THE STUDIO":PRINT"ONCE (THERE IS NO PHONE IN THE)":PRINT"STUDIO."
1630 PRINT"SHE IS A NOSY PERSON WHO":PRINT"WATCHES EVERYTHING AROUND HER.":PRINT"GEORGE CALLED O

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NCE IN HIS CAR":PRINT"AND ENTERED THE STUDIO. SHE DID":PRINT"NOT SEE CARL AT ALL TODAY."
1640 FOR X=1 TO 8000:NEXT X
1650 CLS
1655 PRINT"ALTHOUGH YOU TRY, YOU ARE NOT":PRINT"ABLE TO FIND ANY MORE LEADS."
1660 FOR X=1 TO 2000:NEXT X
1661 CLS:GOTO 1490
1665 PRINT"YOU'VE FOUND THREE SUSPECTS.":PRINT"YOU NOW HAVE TO DECIDE WHO IS":PRINT"THE GUILTY ONE.":PRINT"YOUR CHOICE OF ACTION S IS:-":PRINT"(A) INVESTIGATE FURTHER.":PRINT"(B) ARREST SOMEONE."
1670 INPUT A$
1675 IF A$="" THEN 1665
1680 IF A$="A" THEN 1744
1685 IF A$="B" THEN 1690
1690 PRINT"WHO DO YOU WISH TO ARREST?":PRINT"(A) PIERRE BALMAIN":PRINT"(B) GEORGE SWEET":PRINT"(C) CARL GORDON"
1695 INPUT A$
1700 IF A$="" THEN 1690
1705 IF A$="A" THEN 1580
1710 IF A$="B" THEN 1719
1715 IF A$="C" THEN 1580
1719 CLS
1720 PRINT"YOU ARREST GEORGE SWEET. IN HIS":PRINT"ATTEMPT TO ESCAPE, HE ATTACKED":PRINT"YOU WITH A KNIFE. YOU SPEND A":PRINT"FEW DAYS IN HOSPITAL, BUT":PRINT"SUCCCEED."
1725 FOR X=1 TO 5000:NEXT X
1730 CLS
1735 PRINT"CONGRATULATIONS!!!!":PRINT N$:PRINT"YOU WON!!!"
1740 CLS:GOTO 1535
1744 CLS
1745 PRINT"YOU SEARCH CAREFULLY FOR MORE":PRINT"LEADS. YOU FIND A YOUNG BOY":PRINT"WHO SAYS HE SAW GEORGE NEAR":PRINT"THE BINS. YOU ALSO FIND THAT":PRINT"CARL WAS NOT INJURED IN THE":PRINT"FIGHT."
1750 FOR X=1 TO 5000:NEXT X
1755 CLS:GOTO 1690
1760 PRINT"YOU'VE FOUND THREE SUSPECTS.":PRINT"YOU NOW HAVE TO DECIDE WHO IS":PRINT"THE GUILTY ONE.":PRINT"YOUR CHOICE OF ACTION S IS:-":PRINT"(A) INVESTIGATE FURTHER.":PRINT"(B) ARREST SOMEONE."
1765 INPUT A$
1770 IF A$="" THEN 1760
1775 IF A$="A" THEN 1850
1780 IF A$="B" THEN 1785
1785 CLS
1790 PRINT"WHO DO YOU WISH TO ARREST?":PRINT"(A) PIERRE BALMAIN":PRINT"(B) GEORGE SWEET":PRINT"(C) CARL GORDON"
1795 INPUT A$
1800 IF A$="" THEN 1790
1805 IF A$="A" THEN 1580
1810 IF A$="B" THEN 1580
1815 IF A$="C" THEN 1820
1820 PRINT"YOU ARREST CARL. HE TRIES TO":PRINT"BATTER YOU SENSELESS, BUT YOU":PRINT"FINALLY SUBD

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VE HIM. YOU SPEND":PRINT"A FEW DAYS IN HOSPITAL WITH":PRINT"CONCUSSION."
1825 FOR X=1 TO 5000:NEXT X
1830 CLS
1835 PRINT"CONGRATULATIONS!!!!":PRINT N$:PRINT"YOU WON!!!"
1840 FOR X=1 TO 2000:NEXT X
1845 CLS:GOTO 1550
1850 PRINT"YOU SEARCH FOR CLUES. YOU SOON":PRINT"FIND AN ELDERLY LADY WHO SAW":PRINT"CARL TALKING TO PIERRE IN THE":PRINT"YARD. PIERRE WAS LEAVING WITH":PRINT"AN EMPTY CARRY BAG."
1855 FOR X=1 TO 5000:NEXT X
1860 CLS:GOTO 1790

```



BUGS

by Charles Bartlett

HERE IS A SMALL graphics quickie I developed in my spare time. The program creates 'bugs' on the screen, flapping their wings. As time goes by, the bugs increase in number.

Enjoy it!

The Listing:

```

0 GOTO10
3 SAVE"144B:3":END
10 ' COCOBUGS DEMONSTRATION
(C) 1/1/87 CHARLE
S BARTLETT
20 POKE65497,0:PALETTE RGB:HBUFF
1,2300:ON BRK GOTO 90
30 B$="BM100,100S8C1E2RH5LURDF5R
3E5RULDG5RF2C2E4R6GL5G4C1NUC3R5F
5LH4L5C1NUC4F8LH7C1NUD2GF3GFDBL
3HE2H2NEL2F2G2FBL3EH2E2NRL2G2F2G
BL3BUEHE3NFHU2C4G7LE8C1NDC3L5G4L
E5R5C1NDC2H4L5HR6F4C1NDBR2C1RFDG
LHUEBR4RFDGLHUE":S$="V3105T255L2
55N12"
40 HSCREEN2:HCLS15:PALETTE15,31
50 PALETTE1,2:PALETTE2,31:PALETTE
E3,31:PALETTE4,31:PALETTE5,40:PA
LETTE14,61:FORQ=1 TO 200:HSET(10
2+RND(14),99+RND(7),5+RND(2)):NE
XTQ:HDRAW B$:HPAINT(101,101),14,
1:HGET(80,83)-(139,124),1
60 HCLS15:FOR Q=1 TO 20:RX=RND(2
60):RY=RND(150):HPUT(RX,RY)-(RX+
58,RY+40),1,AND
70 FOR L=1 TO 10:PALETTE2,2:GOSU
B80:PALETTE2,31:PALETTE3,2:GOSUB
80:PALETTE3,31:PALETTE4,2:GOSUB8
0:PALETTE3,2:PALETTE4,31:GOSUB80
:PALETTE3,31:GOSUB80:NEXTL,Q:GOT
O60
80 PALETTE6,RND(63):PALETTE7,RND
(63):PLAY S$:RETURN
90 POKE65496,0:PALETTE RGB:END

```


JOIN IN

16K ECB

by Catherine Threlfall

DECIDED TO DO this program because when we got the computer I was pretty confused!

Once I had finally learnt BASIC I started on a program so that people who didn't know anything about computers could do graphics and watch computer displays!

The end result is a personalised program in which you enter random numbers and get to see your own graphics and watch sound and colour displays!!

Have fun!!

The Listing:

```

0 GOTO10
1 '***** JOIN IN *****
  **** CHATHERIN THRELFALL ***
3 SAVE"187D:3":END
10 FOR X=1 TO 250
20 PRINT"*****COCO*****"
30 NEXT X
40 FOR X= 1 TO 250
50 PRINT"LET'S PLAY A GAME!"
60 NEXT X
70 PRINT"###NOW FOR SOME FUN###"
80 PRINT"WHAT IS YOUR NAME?":INP
UT A$
90 PRINT A$ ,TYPE IN A NUMBER B
ETWEEN 0 AND 185":INPUT B
100 PRINT"TYPE IN ANOTHER NUMBER
  BETWEEN 0 AND 185"
110 INPUT C
120 PRINT "ANOTHER":INPUT D
130 PRINT "ANOTHER":INPUT E
140 PRINT "AND ANOTHER BETWEEN 1
  0 AND 100":INPUT F
150 PRINT "AND ONE MORE BETWEEN
  1 AND 4":INPUT G
160 PCLS
170 PMODE G
180 SCREEN 1,1
190 CIRCLE (C,E),F
200 LINE (250,B)-(0,D),PSET
210 CIRCLE (D,D),5
220 LINE (E,F)-(B,D),PSET
230 CIRCLE (B,F),B
240 LINE (B,C)-(D,E),PSET
250 FOR X=1 TO10000 :NEXTX
260 CLS
270 PRINT @ 224,A$,LOOK AT WHAT
  YOU DID!"
280 FOR X=1 TO 3000:NEXT X
290 CLS
300 PRINT A$,WOULD YOU LIKE TO
  DO IT AGAIN??!"
310 INPUT B$

```

$64 \div 8 = 8$

$14 + 29 = 43$

$12 \times 7 = 84$

SUMS

$= 14$

24

$9 \times 11 = 99$

$41 + 45 = 86$

16K ECB + printer EDUCATION by Grahame Pollock

This program is designed to print off sums for children to do on paper.

Most children can cope with sums where they have to fill in the answer. Problems arise when one of the other numbers is missing. For example, filling in the missing number in this sum:-

$10 + () = 16$

... is a skill which must be learned with LOTS of practice.

This program will generate a wide variety of sums to give just that sort of practice.

Not only can the numbers be missing, but so can the signs.

This program is a teaching aid for a difficult mathematical concept.

The codes in line 60 give elongated print on a TP-10 or a DMP-105 printer.

The Listing:

```

0 GOTO5
2 'SUMS BY G.POLLOCK
3 SAVE"189:3":END
5 CLS
6 PRINT"MAKE SURE PRINTER IS ON"
:PRINT
10 INPUT"MISSING
  1.NUMBERS
  2.SIGNS
  3.MIXED";M
320 IF B$="YES" THEN GOTO 70
330 IF B$="NO"THEN GOTO 350
340 CLS
350 PRINT A$,WHAT IS YOUR FAVOU
  RITE THING?:INPUT C$
360 PRINT"SORRY "A$",WE DON'T HA
  VE "C$" BUT WE DO HAVE SOME PRET
  TY COLOURS!"
370 FOR X=1 TO 1500:NEXT X
380 FOR X=1 TO 750
390 CLS (RND(8))
400 NEXT X
410 PRINT"NOW ADD SOME MUSIC"

```

```

20 PRINT
30 INPUT"1.PLUS
  2.MINUS
  3.MIXED";I
35 PRINT
40 INPUT"LEVEL 1-10";L:L=L*10
45 PRINT
50 INPUT"HOW MANY SUMS";SM
60 PRINT#-2,CHR$(27)CHR$(14)
70 FOR S=1TOSM
80 A=RND(L):A$=STR$(A)
90 B=RND(L):B$=STR$(B)
100 C=A-B:C$=STR$(C)
110 IFC<0THEN90
114 M1=M:IFM=3THENM1=RND(2)
116 IFM1=2THEN160
120 F=RND(3)
130 IFF=1THENF$="( )"
140 IFF=2THENF$="( )"
150 IFF=3THENF$="( )"
160 T1=T:IFT=3THEN T1=RND(2)
170 IFT1=1THENGOSUB230
180 IFT1=2THENGOSUB240
190 IFRND(2)=2THENGOSUB250:GOTO2
  10
200 GOSUB250:PRINT#-2,A$(3);A$(5
  );A$(1);A$(4);A$(2):PRINT#-2,"":
  NEXT:END
210 PRINT#-2,A$(1);A$(4);A$(2);A
  $(5);A$(3):PRINT#-2,"":NEXT
220 END
230 B$(4)=" +":B$(5)=" =":B$(1)=
  C$:B$(2)=B$:B$(3)=A$:RETURN
240 B$(4)=" -":B$(5)=" =":B$(1)=
  A$:B$(2)=B$:B$(3)=C$:RETURN
250 FORI=1TO5:A$(1)=B$(1):NEXT:I
  F M1=2THEN B$(4)=" < )":A$(4)=B$
  (4)
255 RETURN
○
420 FOR X=1 TO 2000:NEXT X
430 FOR X=1 TO 200
440 CLS (RND(8))
450 SOUND RND (255),1
460 NEXT X
470 FRINT @ 228,"*A$",YOU'RE WO
  NDERFUL!*"
480 FOR X=1 TO 3000:NEXT X
490 CLS
500 PRINT @ 203,"*****"
510 FRINT @ 235,"*THE END*"
520 FRINT @ 267,"*****"
530 FOR X=1 TO 3000:NEXT X
○

```




G'DAY MATE!

16K ECB
EDUCATION

by Mal McLaughlan

G'DAY MATE IS AN easy but exciting game which will appeal to all children who can recognise and put letters of the alphabet with their "mates", ie A's with A's and so on. Thus there is an element of education in the game, too. If it is too easy for older ones or adults, instructions are given to make it harder.

When the spacebar is pressed, one of the four letters ("M", "A", "T" and "E") start moving across the screen towards four "paddocks", each marked with one of the same four letters. Use the spacebar, or any key, to stop the moving letter in the paddock marked with its "mate" letter.

At the end of ten goes, the score is displayed up on the screen.

Supplementary Notes

The following summary of the program shows the lines that allow speed, letters and number of turns to be changed, if desired. Letters can be changed to a persons name, or just to work through the alphabet.

Line no: Function:
10: Title Page
90: Initialization. Change 'C' value for number of goes

wanted.
120: Print purple "fences" at correct places (change CHR\$ number for other colours).
140: Prints the four letters in their respective "paddocks".
160-170: Randomizes the four letters and selects one (J\$).
180-190 & 210: Randomizes 7 possible paths for letter to take, and prints letter on that path.
200: Adds 1 number of goes.
220: Sets delay between printings or letter (thus determines the speed of travel).
230: Backspace character erases last printing.
240: Keeps movement and printing of letter in progress while POS (print position) of letter is greater than zero or until spacebar (or any key) is pressed.
260: Checks position of letter when spacebar (or any other key) is pressed. If the position does not mate up with the letter 'M' in the "M" paddock, etc) the action goes to 300 (low-pitched "Fail" sound).
If the letter is correctly stopped, action goes to 270 ("Reward" music) and another 'hit' is registered at line 280.
320: Unless 10 goes have occurred, this line returns action to 160 for another random letter to start its journey.
340: Results of game displayed on screen.

The Listing:

```

1 *****G'DAY MATE*****
*****BY MAL MCLAUCHLAN*****
*****FEB.1987*****
2 GOTO 10
3 SAVE"167B:3":END'2
4 *EDUCATIONAL AND FUN GAME FOR
ALL ECB COCO MODELS, AND FOR ALL
CHILDREN OLD ENOUGH TO RECOGNISE
LETTERS*****
10 CLS:FOR P=9 TO 21:PRINT@P,CHR
$(239);:NEXT P:FOR P=41 TO 457 S
TEP 32:PRINT@P,CHR$(239);"G'DAY
MATE!";CHR$(239):NEXT P:FOR P=48
9 TO 501:PRINT@P,CHR$(239);:NEXT
P
20 FOR DL =1 TO 2000:NEXT DL
30 CLS7:PRINT" put m,a,t & e wit
h their mates":PRINT" IN TURN, F
OUR LETTERS OF THE ALPHABET, M
,A,T AND E, MOVE ACROSS THE
GREEN FIELDS TOWARDS FOUR PADDOC
KS MARKED WITH THOSE SAME LETTER
S."
40 PRINT"YOUR JOB WILL BE TO PRE
SS THE SPACEBAR TO STOP THE M'
S WITH THEIR MATES IN THE 'M'
PADDOCK, THE A'S IN THE 'A' PADD
OCK, AND SO ON."
50 PRINT"AT THE END OF TEN GOES,
YOU WILLSEE YOUR SCORE ON THE S
CREEN."
60 PRINT" GOOD LUCK, MATE!
"
70 PRINT@485,"<spacebar to play>
";
80 IF INKEY$=CHR$(32) THEN 90 EL
SE 80
90 A=0:E=0:C=10
100 CLS

```


CHECKER PATTERN

16K ECB

by Mal McLaughlan

HERE IS Checker Pattern, a very simple but colourful way for beginners to see something a little different that they themselves have typed in.

And perhaps some of you learners can see how I made CoCo pick out just the checker patterns I wanted, and have them displayed on the screen.

```
1 *****CHECKPAIN*****
  *BY MAL MCLAUCHLAN,11 HUNTER ST
  *****BOONAH. Q.4310*****
2 GOTO 10
3 SAVE"167A:3":END'10
4 ****A SIMPLE ATTRACTIVE SCREEN
  USING "CHECKERBOARD" GRAPHIC
  BLOCKS*****
10 CLSS
20 FOR L=1024 TO 1535
30 Y=RND(7)
40 CHEK=137+Y*16
50 POKEL,CHEK
60 NEXT L
70 FOR A=1TO580:PRINTCHR$(255);:
  NEXT
80 GOTO10
```

```
110 FOR G=1 TO 4:FOR H=0 TO 15
120 PRINT@32*H+17+3*G,CHR$(239);
130 NEXT H
140 PRINT@18+3*G,MID$("MATE",G,1
);
150 NEXT G
160 G=RND(4)
170 JS=MID$("MATE",G,1)
180 H=2*RND(7)
190 PRINT@32*H;
200 B=B+1
210 PRINT " JS;
220 FOR DL=1 TO 50:NEXT
230 PRINT CHR$(8);
240 IFPOS(0)>0 AND INKEYS=""THEN
  210
250 'CHECK POSITION*****
260 IF INT((POS(0)-16)/3)<>G OR
  POS(0)=20+3*G THEN 300
270 PLAY"T2004L16CDC"
280 A=A+1
290 GOTO 320
300 PLAY"O2L4C"
310 IS=INKEY$
320 IF B<C THEN 160
330 CLS
340 PRINT A"HITS OUT OF"B
350 PRINT@198,"ANOTHER GAME? (Y/
N)"
360 IS=INKEY$:IF IS="" THEN 360
  ELSE IF IS="Y" THEN 90 ELSE IF I
  S="N" THEN 370
370 CLS8:PRINT@130,"CHANGE ME IF
  I'M TOO FAST ";:PRINT@162,"OR
  TOO SLOW! MAKE THE DL ";:PRINT
  @194,"VALUE HIGHER IN LINE 220 T
  O";:PRINT@226,"SLOW ME DOWN. YOU
  CAN ALSO ";:PRINT@258,"CHANGE T
  HE 4 LETTERS IN ";:PRINT@290,
  "LINES 140 AND 170.
380 GOTO 380
```

MUSIC TUTORIAL

16K ECB

MUSIC

by Mal McLaughlin

MANY OF THE ONE-PART music compositions we play on CoCo could be made more exciting by use of the facilities we have for changing tempo and/or volume as the piece progresses.

Most of us are content merely to set tempo for the whole piece and leave it at that.

But ECB provides other music-playing "tools", and we may as well use them!

With each of Octave (O), Volume (V), Length (L), and Tempo (T) we can use:-

'+' following 'O', 'V', etc to add 1 to the current value (eg if octave is 3 then 'O+' makes it 4).

'-' following the letter subtracts 1 from the current value.

'>' multiplies the current value by two.

'<' divides the current value by two.

You can see this by listing this short tutorial and studying it carefully. RUN it and hear the above ideas illustrated. Listen to "There's a hole in my bucket" and judge for yourself if it is better than a "straight" rendition.

The Listing:

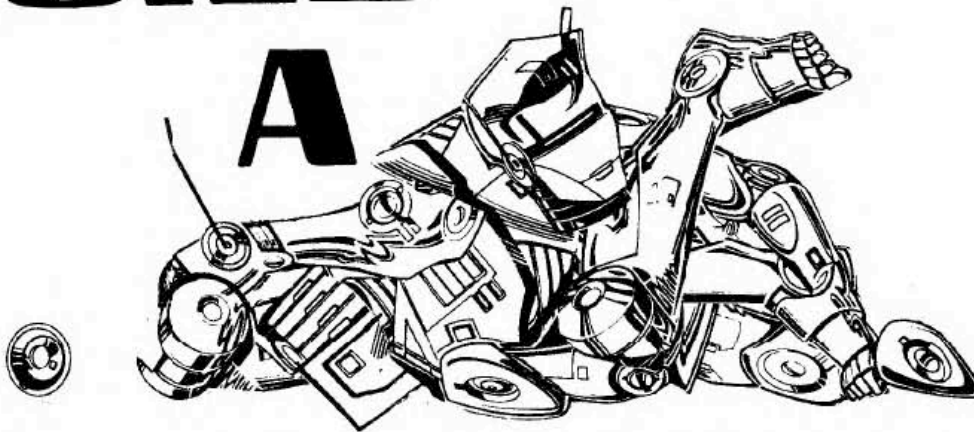
```
1 *****MUSIC TUTORIAL*****
  *BY MAL MCLAUCHLAN,11 HUNTER ST*
  *****BOONAH. Q.4310*****
2 GOTO 10
3 SAVE"167:3":END'10
4 **WRITTEN TO ENCOURAGE MUSIC-
  MINDED PROGRAMMERS TO EXPERIMENT
  WITH VARIATIONS TO SET MUSIC****
10 CLS7:PRINT@194,"music t
  utorial";:PRINT@322,"VARI
  ATIONS ON play COMMAND";
15 FOR DL=1 TO 2000:NEXT DL
20 CLS2:PRINT"NORMAL (DEFAULT) O
  CTAVE, TEMPO, AND VOLUME"
30 PLAY"O2;T2;V15"
40 PLAY"CDEFGAB"
50 PLAY"P2"
60 PRINT:PRINT"HIGHER OCTAVE WIT
  H O+"
70 PLAY"O+;CDEFGAB"
80 PLAY"P2"
90 PRINT:PRINT"TEMPO INCREASED W
  ITH T+"
100 PLAY"1+;CD;1+;E;1+;FG;1+ AB
110 PLAY"P2"
120 PRINT:PRINT"TEMPO INCREASED
  GREATLY WITH T>"
130 PLAY"1>;CDEF;1>;GAB"
140 PLAY"P2"
150 PRINT:PRINT"VOLUME DECREASED
  WITH V<"
160 PLAY"P2"
170 PLAY"O2;V30;T3"
180 PLAY"P2"
190 PLAY"V<;CDE;V<;FG;V<;AB"
200 PLAY"P2"
210 PRINT:PRINT"...AND INCREASED
  AGAIN WITH V>"
220 PLAY"V>;CDE;V>;FG;V>;AB"
230 PLAY"P2"
240 PRINT:PRINT"OCTAVE REDUCED W
  ITH O-"
250 PLAY"O-;CDEFGAB"
260 PLAY"P2"
270 PLAY"P2"
280 CLS4
290 PRINT:PRINT"AND LOTS MORE US
  ING COMBINATIONS OF +,-,>,AND< W
  ITH O,T AND V
300 PLAY"P1"
310 PRINT:PRINT"SO LET'S PEP UP
  A GOLDEN OLDIE WITH SOME VARIAT
  IONS USING THESE TECHNIQUES:-"
320 PLAY"P1;P1":PRINT:PRINT"CHAN
  GE OCTAVE AND TEMPO"
330 PLAY"O2;T2;V15":FOR RPT=1 TO
  2:PLAY"O+;T+;L8GAL4BDDEGDEGDEGL
  8GAL4BDDEGDEGF#L2G":NEXT RPT:'CH
  ANGE OCTAVE AND TEMPO
340 PRINT:PRINT"CHANGE TEMPO"
350 PLAY"14":PLAY"1+O3L8GAL4BDDE
  GDEGDEGL8GAL4BDDEG;T-;DEGF#;T<;L
  2G":'CHANGE TEMPO
360 PRINT:PRINT"CHANGE VOLUME"
370 PLAY"O3;T4;V4":PLAY"V+L8GAL4
  B;V>;DD;V+;EGD;V+;EGDE;V+;GL8GAL
  4V+EDDEGV>DEG;V+;F#L2G":'CHANGE
  VOLUME
380 PRINT:PRINT"NOW AS A FINALE,
  A MIXTURE OF VARIATIONS:-"
390 PLAY"O2;T5;V20;L8GAL4BDDEGDE
  GDEG"
400 PLAY"O+;L8G;V+;AL4BV+DDEGDET
  -GF#L2G"
410 PLAY"O+;V+;T+;L8GAL4BDDEGDEG
  DEGL8GAL4BDDEG;T-;DEGF#;T-;L2G"
420 CLS2:GOTO 420
```

70 PLAY"O+;CDEFGAB"
80 PLAY"P2"
90 PRINT:PRINT"TEMPO INCREASED W
ITH T+"
100 PLAY"1+;CD;1+;E;1+;FG;1+ AB
110 PLAY"P2"
120 PRINT:PRINT"TEMPO INCREASED
GREATLY WITH T>"
130 PLAY"1>;CDEF;1>;GAB"
140 PLAY"P2"
150 PRINT:PRINT"VOLUME DECREASED
WITH V<"
160 PLAY"P2"
170 PLAY"O2;V30;T3"
180 PLAY"P2"
190 PLAY"V<;CDE;V<;FG;V<;AB"
200 PLAY"P2"
210 PRINT:PRINT"...AND INCREASED
AGAIN WITH V>"
220 PLAY"V>;CDE;V>;FG;V>;AB"
230 PLAY"P2"
240 PRINT:PRINT"OCTAVE REDUCED W
ITH O-"
250 PLAY"O-;CDEFGAB"
260 PLAY"P2"
270 PLAY"P2"
280 CLS4
290 PRINT:PRINT"AND LOTS MORE US
ING COMBINATIONS OF +,-,>,AND< W
ITH O,T AND V
300 PLAY"P1"
310 PRINT:PRINT"SO LET'S PEP UP
A GOLDEN OLDIE WITH SOME VARIAT
IONS USING THESE TECHNIQUES:-"
320 PLAY"P1;P1":PRINT:PRINT"CHAN
GE OCTAVE AND TEMPO"
330 PLAY"O2;T2;V15":FOR RPT=1 TO
2:PLAY"O+;T+;L8GAL4BDDEGDEGDEGL
8GAL4BDDEGDEGF#L2G":NEXT RPT:'CH
ANGE OCTAVE AND TEMPO
340 PRINT:PRINT"CHANGE TEMPO"
350 PLAY"14":PLAY"1+O3L8GAL4BDDE
GDEGDEGL8GAL4BDDEG;T-;DEGF#;T<;L
2G":'CHANGE TEMPO
360 PRINT:PRINT"CHANGE VOLUME"
370 PLAY"O3;T4;V4":PLAY"V+L8GAL4
B;V>;DD;V+;EGD;V+;EGDE;V+;GL8GAL
4V+EDDEGV>DEG;V+;F#L2G":'CHANGE
VOLUME
380 PRINT:PRINT"NOW AS A FINALE,
A MIXTURE OF VARIATIONS:-"
390 PLAY"O2;T5;V20;L8GAL4BDDEGDE
GDEG"
400 PLAY"O+;L8G;V+;AL4BV+DDEGDET
-GF#L2G"
410 PLAY"O+;V+;T+;L8GAL4BDDEGDEG
DEGL8GAL4BDDEG;T-;DEGF#;T-;L2G"
420 CLS2:GOTO 420

BUILD

32K ECB
EDUCATION

A



ROBOT

by Bob Horne

THE ML ROUTINES in this program are adapted from the screen scrolling routines used by John FRAYSSE in "ROACH" and "MARATHON" - see Australian Rainbow, June 1983 and November 1983 respectively. The pokes at the end of line 50 allow the program to run on a disk system.

If you wish to change the tables which are generated, then alter lines 230 to 270. I have deliberately kept the answer input routine to 3 digits (it automatically goes to the evaluation of the answer after 3 digits have been input) to avoid having a rather large hole appear in the main body of the machine. Another thing to remember if you make alterations to the numbers generated is that if the question becomes too long, it will not fit in the question box in the centre of the screen.

The program has plenty of REMs so you should be able to follow the action quite easily.

I hope you have fun with this program - my class certainly does.

The Listing:

```
1 REM*****
2 REM* MAKE A ROBOT *
3 REM* BY BOB HORNE *
4 REM* IPSWICH, QLD *
5 REM*****
6 GOTO10
8 SAVE"80:3":END
10 CLSO: CLEAR800,32600
19 REM*****TITLE SCREEN*****
20 PRINT@105,"build"+CHR$(128)+"
a"+CHR$(128)+"robot";:PRINT@206,
"by";:PRINT@298,"bob"+STRING$(3,
128)+"horne";
30 DIMCH$(49),RO(20),CL(20),WA$(
10)
40 FORX=1TO49:READCH$(X):NEXTX
49 REM***POKE IN M.L. ROUTINES**
50 FORX=32601TO32708:READA$:POKE
X,VAL(' &H"+A$);NEXTX:DEFUSR0=326
01:DEFUSR1=32626:DEFUSR2=32679: I
F PEEK(168)=14 THENPOKE32602,30:
POKE32621,34:POKE32627,21:POKE32
674,24:POKE32680,30:POKE32704,34
59 REM*CORRECT ANSWER RESPONSES*
60 RA$(1)="RIGHT":RA$(2)="CORREC
T":RA$(3)="GREAT":RA$(4)="TERRIF
IC"
70 GOTO100
79 REM**DRAW STRINGS ON SCREEN**
80 L=LEN(W$):FORZ=1TOL:M=ASC(MID
$(W$,Z,1))-41:IF M=-9 THEN DRAW"
BR4" ELSE DRAWCH$(M)
90 DRAW"BR2":NEXTZ:RETURN
99 REM***DRAW AND GET ROBOT****
100 PMODE3,1:FCLS
110 DFAW"C3BM4,30R5U2L2R4D2LD2R
5U2L2U2NL8E2U8H2NL8E2U2R2NC2NU2L
2U2H2L8G2D2L2ND2NU2R2D2F2G2D8F2D
2L2D2"
120 LINE(8,8)-(12,12),PSET,BF
130 LINE(9,16)-(12,24),PSET,BF
140 GET(1,5)-(19,30),RO,G
150 GOSUBB10
159 REM***IF FL=1 THEN GAME HAS
BEEN PLAYED AT LEAST ONCE*****
160 IF FL=1 THEN LINE(0,131)-(25
5,155),PSET,BF:GOSUB1000:SCREE
N1,1:FORX=1TO28:A=USR1(0):NEXTX:
ELSESCREEN1,1
170 FORX=1TO27:A=USR0(0):PLAY"V3
1L6T25CDE":NEXTX
180 WA=0:RA=0:NQ=10:FORX=1TO10:W
A$(WA)="":NEXTX
189 REM***MAIN LOOP STARTS*****
190 FORZZ=1TO10
200 S=RND(-TIMER)
210 DRAW"C4S8BM64,77"
220 S=RND(4):ON S GOTO230,250,27
0,290
229 REM***ADDITION - ALTER RND()
TO SUIT***
230 A=RND(17)+3:B=RND(17)+3:CA=A
+B:A$=STR$(A):B$=STR$(B)
240 W$=RIGHT$(A$,LEN(A$)-1)+"+"
RIGHT$(B$,LEN(B$)-1):GOSUB80:W1$
=W$:GOTO310
249 REM***SUBTRACTION - ALTER
RND() TO SUIT***
250 A=RND(17)+3:B=RND(17)+3:C=A+
B:CA=C-A:A$=STR$(A):C$=STR$(C)
260 W$=RIGHT$(C$,LEN(C$)-1)+"-"
RIGHT$(A$,LEN(A$)-1):GOSUB80:W1$
=W$:GOTO310
269 REM***MULTIPLICATION*****
270 A=RND(8)+2:B=RND(8)+2:CA=A*B
:A$=STR$(A):B$=STR$(B)
280 W$=RIGHT$(A$,LEN(A$)-1)+"*"
RIGHT$(B$,LEN(B$)-1):GOSUB80:W1$
=W$:GOTO310
289 REM***DIVISION - KEEP NUMBER
BELOW 100 OR ALTER SIZE OF
QUESTION BOX***
290 A=RND(7)+2:B=RND(8)+2:C=A/B:
A$=STR$(A):C$=STR$(C):CA=C/A
300 W$=RIGHT$(C$,LEN(C$)-1)+"/"
RIGHT$(A$,LEN(A$)-1):GOSUB80:W1$
=W$
310 E=136:FORJ=1TO3:INS(J)="":NE
XTJ:INS=INKEY$
319 REM***ACCEPT UP TO 3 DIGITS
```



```

FOR ANSWER***
320 FORJ=1TO3
330 IN$=INKEY$
340 IN$(J)=INKEY$:LINE(8,42)-(8+
8,52),PSET,BF:PLAY"V31O2T255CED"
:LINE(8,42)-(8+8,52),PRESET,BF
350 IF IN$(J)=" " THEN340
360 IF IN$(J)=CHR$(8) THEN LINE(
136,38)-(174,54),PRESET,BF:GOTO3
10
370 IF IN$(J)=CHR$(13) THEN410
380 IF IN$(J)<"0" OR IN$(J)>"9"
THEN340
390 DRAW"C3BM"+STR$(125+12*J)+",
52":W$=IN$(J):GOSUB80:E=E+12
400 NEXTJ
410 IN$="":FORX=1TO3:IN$=IN$+IN$
(X):NEXTX
420 FORX=1TO36:A=USR1(0):IF X>3
AND X<33 THEN LINE(0,63)-(0,79),
PRESET:NEXTX ELSE NEXTX
430 IF VAL(IN$)=CA THEN440 ELSE4
80
439 REM*****CORRECT ANSWER*****
440 FORX=25TO0STEP-2:GET(24,12+X
)-(40,37),RO,G:PUT(7,131)-(23,15
6-X),RO,PSET:NEXTX
450 PLAY"V31O2T3L10CEGO3CF20Q2L2
0G03L2C"
460 F=RND(4):CA$=STR$(CA):W$=RA$
(F)+" "+W1$+"="+RIGHT$(CA$,LEN(
CA$)-1):FORX=2TO4:PLAY"V31T255CD
E":DRAW"C=X;BM30,191":GOSUB80:NE
XTX
470 RA=RA+1:GOTO520
479 REM*****WRONG ANSWER*****
480 FORX=25TO0STEP-2 GET(69,12+X
)-(85,37),CL,G:PUT(7,131)-(23,15
6-X),CL,PSET:NEXTX
490 WA=WA+1
500 CA$=STR$(CA):W$="SORRY "+W1
$+"="+RIGHT$(CA$,LEN(CA$)-1):FOR
X=2TO4:PLAY"V31T255CDE":DRAW"C=X
;BM30,191":GOSUB80:NEXTX:WA$(WA)
=W1$+" "+RIGHT$(CA$,LEN(CA$)-1
)
510 PLAY"V31L1003T100;1;5;9;4;2;
3;6;9;6;2;7;3;7;8;5;2;3;5;7;9;9
;8;4;2;3;5;7;7;8;7"
520 IF ZZ=10 THEN530 ELSEFORX=1T
O3:PLAY"O2T255DEC":A=USR2(0):NEX
TX:FORX=1TO28:A=USR1(0):NEXTX
530 LINE(136,38)-(174,54),PRESET
,BF:LINE(0,179)-(255,191),PRESET
,BF
540 NEXTZZ
550 PLAY"V30T8O3L4AF16L2AL4GFL4C
L3CL4FB-AP4FG04L4DC03AB-AAGL3B-L
6AL2F"
559 REM*****SCORE CARD*****
560 CLS:PRINT@139,"YOUR SCORE";
570 PRINT@160,STRING$(32,45);
580 PRINT@224,"NUMBER RIGHT:"RA;
590 PRINT@288,"THERE WERE"NQ"QUE
STIONS";
600 PRINT@352,"PERCENT:":INT(RA/
NQ*100):PRINT@384,STRING$(32,45)
;
610 PRINT@482,"PRESS <ENTER> TO
CONTINUE.":IN$=INKEY$
620 IN$=INKEY$:IF IN$<>CHR$(13)
THEN620
630 IF WA=0 THEN780
639 REM*REVIEW MISSED PROBLEMS*
640 CLS:IF WA=1 THEN M$="IS THE
ONE" ELSE M$="ARE THE ONES"
650 PRINT"HERE "+M$+" YOU MISSED

```

```

"
660 IF WA=1 THENPRINT"WRITE IT D
OWN AND LEARN IT." ELSEPRINT"WRI
TE THESE DOWN AND LEARN THEM.";
670 PRINT:FORX=1TO WA
680 FORX=1TO LEN(WA$(X)):M$=MID$
(WA$(X),Y,1)
690 IF M$="+" THENPRINT" PLUS
"; ELSE IF M$="-" THEN PRINT"
MINUS "; ELSE IF M$="*" THENPRIN
T" TIMES "; ELSE IF M$="/" THEN
NPRINT" DIV. BY "; ELSEPRINTM$;
700 NEXTY
710 PRINT:PRINT
720 IF X=5 AND WA>5THEN730 ELSE7
60
730 PRINT@482,"PRESS <ENTER> TO
CONTINUE.":IN$=INKEY$
740 IN$=INKEY$:IF IN$<>CHR$(13)
THEN740
750 FORTI=3TO14:PRINT@TI*32,STRIN
G$(32,32);NEXTTI:PRINT@482,STR
ING$(26,32);PRINT@96,"";
760 NEXTX:PRINT@482,"PRESS <ENTE
R> TO CONTINUE.":IN$=INKEY$
770 IN$=INKEY$:IF IN$<>CHR$(13)
THEN770
780 CLS:PRINT@202,"next player";
:PRINT@258,"PRESS <ENTER> TO PLA
Y AGAIN.":IN$=INKEY$
790 IF INKEY$<>CHR$(13) THEN790
800 WA=0:FL=1:GOTO160
809 REM*****GRAPHICS SET-UP*****
810 PCLS
820 FORX=9TO231STEP24:DRAW"S4C2B
M"+STR$(X)+",156R14D8L14J8":PAIN
T(X+5,160),2,2:NEXTX:REM***STAND
830 DRAW"C4BM0,102D24F4R23E4U4R1
25E4U12E4R16D16R66E4U80L118G4D64
L129":REM***MACHINE
840 PAINT(180,60),4,4:REM*****
PAINT MACHINE*****
850 DRAW"C2BM184,66R6U22R4U34L4U
8RL8RD8L4D34R4D22":PAINT(186,50)
,2,2
860 COLOR1:CIRCLE(145,65),6:CIRC
LE(170,90),5:CIRCLE(170,90),10:C
IRCLE(210,80),5:CIRCLE(210,80),1
5:CIRCLE(210,80),20:CIRCLE(135,8
5),5:REM***PULLEYS***
870 LINE(240,40)-(240,100),PSET:
FORX=40TO100STEP5:LINE(240,X)-(2
48,X),PSET:NEXTX
880 LINE(148,61)-(177,83),PSET:L
INE(138,65)-(164,95),PSET:LINE(1
68,88)-(200,65),PSET:LINE(168,93
)-(205,98),PSET
890 LINE(135,37)-(175,55),PRESET
,BF:REM*****ANSWER GOES HERE*****
900 FORX=205TO220STEP15:CIRCLE(X
,40),5,2:PAINT(X,40),2,2:NEXTX:
REM***MORE MACHINE***
910 LINE(190,102)-(230,110),PRES
ET,BF:REM***MORE MACHINE*****
920 FORX=16TO58STEP42:DRAW"C2BM"
+STR$(X)+",6NF4R32NG4D38NH4L32NE
4U38F4R24D30L24U30":NEXTX:REM***
PICTURE FRAMES***
930 PUT(23,12)-(41,37),RO,PSET:D
RAW"C3BM25,50F5E10":DRAW"C4BM73,
37H2U2EU2RU2EU2R4U2R2D2FD3RD2FD3
G2L10":PAINT(73,33),4,4:REM*****
THINGS IN PICTURES***
940 DRAW"BM73,50H5F10BU10G10":DR
AW"C3BM196,25R15FD30FR25":DRAW"B
M178,25L38GD8":REM***TICK AND
CROSS***

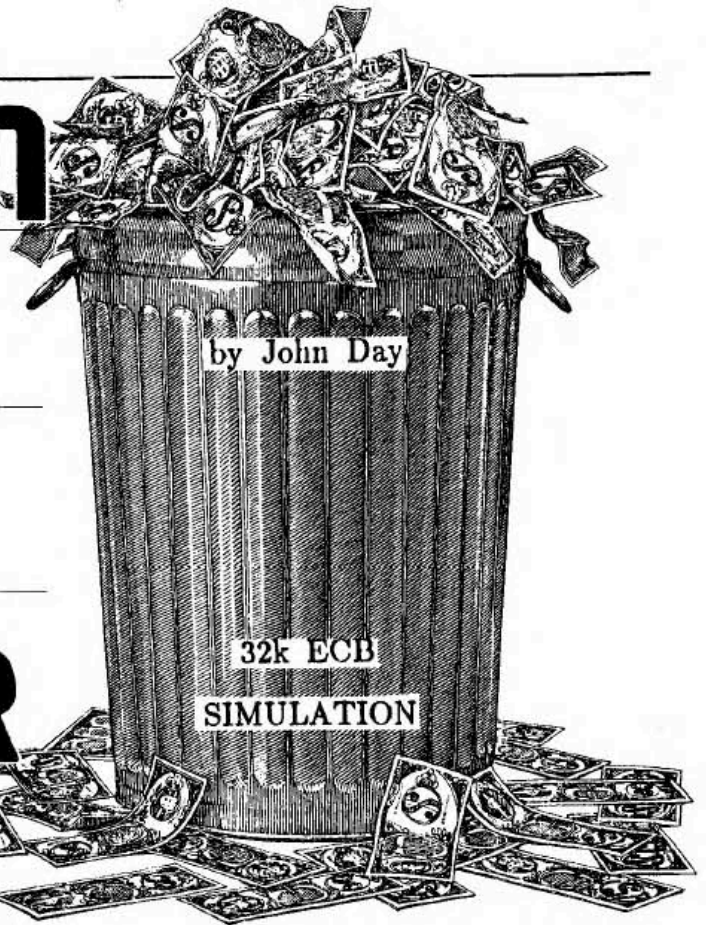
```

```

950 FORX=4TO132STEP12:CIRCLE(X,8
8),5,4:FAINT(X,88),4,4:NEXTX:FOR
X=4TO251STEP12:CIRCLE(X,170),5,4
:PAINT(X,170),4,4:NEXTX:COLOR2:L
INE(57,60)-(126,82),PSET,BF:REM
***CONVEYER BELTS AND SUM BOX***
960 LINE(60,63)-(123,79),PRESET,
BF:DRAW"C7":LINE(0,169)-(255,171
),PSET,BF:LINE(0,87)-(126,89),PS
ET,BF:REM***PART OF ANSWER BOX**
AND***CONVEYOR BELT***
970 FORX=2TO132STEP24:LINE(X,88)
-(X+4,101),PSET,BF:NEXTX:LINE(0,
83)-(126,83),PSET:FORX=2TO251STE
P48:LINE(X,170)-(X+4,178),PSET,B
F:NEXTX:LINE(0,165)-(255,165),PS
ET:REM***SUPPORT POSTS***
980 DRAW"C8":LINE(0,178)-(255,17
8),PSET
990 DRAW"C7":FORX=6TO108STEP24:D
RAW"BM"+STR$(X)+",88M+20,+12DM-2
0,-12BD11M+20,-12DM-20,+12":NEX
T X:REM***BRACES BETWEEN POSTS***
999 REM*****DIRECTIONS*****
1000 CLS:PRINT@105,"BUILD A ROB
OT":PRINT@224,"REMEMBER TO PRES
S <ENTER> AFTER YOU FINISH TYPIN
G YOUR ANSWER. ":PRINT@352,"IF
YOU MAKE A MISTAKE PRESS THE ";
1010 PRINT@384,"BACKSPACE KEY
AND START AGAIN.":PRINT@483,"PR
ESS <ENTER> NOW TO START.":IN$=
INKEY$
1020 IN$=INKEY$:IF IN$<>CHR$(13)
THEN1020 ELSE RETURN
1029 REM*****DRAW STRINGS FOR
CHARACTERS***
1030 DATABUE2NH2NE2F2BD,BU3R2NU2
NR2D2BDBR2,,BU3BRR2BD3BR,,BR2BUU
BUNL2NE2BUUBD5BR2
1040 DATABRHU4ERFD4GNLBR2,R2U6NG
D6R2,BU5ER2FDGL2GD2R4,BU5ER2FDGN
LDFGL2NHR3,BR3UG6GR4BD3,BUFR2EU
2HL3U2R4BD6,BU3R3FDGL2HU4ER2BD6B
R,BU6R4DG3D2BR3,BRHUER2EUHL2GDFR
2FDGNL2BR,BRR2EU4HL2GDFR3BD3
1050 DATA,,BRBU2NR2BU2R2BD4BR,,
,U5ER2FD2NL4D3,RU6NLR2FDGNL2FDG
NL3BR,BR4BU5HL2GD4FR2EBD,RU6NLR2
FD4GNL2BR,U6NR4D3NR3D3R4
1060 DATAU3NR3U3R4BD6,BU4ER3BD4
NLD2L3HR3,U3NU3R4NU3D3,R2U6NL2N
R2D6R2,BUNUFR2ENU5BD,U3NU3RNE3F3
,NU6R4,U6F2DUE2D6,U6F4NU4D2,BRHU
4ER2FD4GNL2BR
1070 DATAU6R3FDGL3D3BR4,BRHU4ER2
FD4GNL2BUHF2,U6R3FDGL3RF3,BUFR2E
UHL2HUER2FBD5,BU6R4L2D6BR2,BUNU5
FR2ENU5BD,BU6D4F2E2U4BD6,NU5E2UD
F2NU6,JE4NUG2H2NUF4D,BU6DF2E2NUG
2D3BR2,BU6R4DG4DR4
1079 REM***SCROLL LEFT DATA***
1080 DATA8E,16,60,A6,84,10,8E,00
,1F,E6,01,E7,80,31,3F,26,F8,A7,8
0,8C,1A,80,2F,EB,39
1089 REM*SCROLL RIGHT IN CENTRE*
1090 DATA8E,0D,6F,C6,0F,A6,84,46
,46,46,84,C0,34,02,A6,84,44,44,3
4,02,A6,1F,46,46,46,84,C0,AA,E0,
A7,84,30,1F,5A,26,EA,A6,84,44,44
,AA,E0,A7,84,30,88,2F,8C,10,60,2
F,CF,39
1099 REM***SCROLL RIGHT DATA***
1100 DATA8E,16,7F,A6,84,10,8E,00
,1F,E6,1F,E7,84,30,1F,31,3F,26,F
6,A7,84,30,88,3F,8C,1A,AF,2F,E6,
39

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AUSTRALIAN STOCK MARKET SIMULATOR



AS I WORK through my files, I find new things to do, old programs I have worked on and put aside, and occasionally, some MC-10 programs I have not altered to run on Co-Co.

"AUSTOCK" is one of these latter. I had forgotten that I had that particular tape until I saw a friend playing it, and "borrowed back" a copy of it.

Feeding it into the CoCo was no problem, but the tokens are all different, and I had to alter EVERY LINE to the correct tokens. Even so, it took less than half the time it would have typing it in again, even in the amended form.

The original program, copyright of which I have acknowledged in the first few lines of the program, and in the tradition of fairness I ask you all to include, had a rather slow and cumbersome initial screen, so I altered it altogether.

The original program was also rather slow and a bit boring, so I souped it up a bit - (quick-lift cams, polished ports, and that kind of stuff), and put in a goal, which the original didn't have, ten million dollars. You start off with a hundred thousand dollars and must earn your way to 10 million dollars.

I think you'll get a kick out of playing the Big Australians, some of which aren't even on the Stock Exchange, and reacting to the purely local conditions.

To compare this with the original, look it up in Oz Rainbow, August 1984.

The Listing:

```
0 GOTO10
3 SAVE'180A:3":END'1
10 '-STOCKMARKET SIMULATOR-:
20 ' BY GARY WICK, MADISON
30 ' WISCONSON - TAKEN FROM
40 ' HOT CO-CO JUNE, 1984 AND
50 ' ADAPTED FOR AUSTRALIAN
60 ' CONDITIONS AND ALL TANDY
70 ' COLOUR COMPUTERS OVER 15K
   BY JOHN DAY, NOV. 1986
80 CLS: CLEAR500
90 FORX=0T063:SET(X,0,8):SET(X,3
1,8):NEXT
100 FORY=0T031:SET(0,Y,8):SET(63
,Y,8):NEXT
110 PRINT@173,"the";
120 PRINT@233,"stockmarket";
130 PRINT@301,"game";
140 FORD=1T01500:NEXT
150 PRINT@173,STRING$(3,128);:'F
OR MC-10 PRINT THREE SPACES
160 PRINT@233,STRING$(12,128);:'
FOR MC-10 PRINT 12 SPACES
170 PRINT@301,STRING$(4,128);:'F
OR MC-10 PRINT FOUR SPACES
180 PRINT@98,"WOULD YOU LIKE INS
TRUCTIONS?";
190 PRINT@141,"";:INPUT A$:IF A$
<>"Y"THEN630
200 C$="":Z=1
210 CLS:FORX=0T0511:PRINT@X,"$";
:NEXT
220 FORX=0T063:SET(X,0,3):SET(X,
C1,3):NEXT
230 FORY=0T031:SET(0,Y,3):SET(63
,Y,3):NEXT
240 SOUND240,1:PRINT@33," THE OB
JECT OF THE GAME IS TO ";
250 GOSUB4180
260 SOUND240,1:PRINT@97,"MAKE AS
MUCH MONEY AS YOU CAN";
270 GOSUB4180
280 SOUND240,1:PRINT@162,"BY BU
YING AND SELLING STOCK";
290 GOSUB4180
300 SOUND140,1:PRINT@420,"PRESS
<SPACE> TO CONTINUE";
310 IF INKEYS=""THEN310
320 FORX=0T063:SET(X,0,2):SET(X,
31,2):NEXT
330 FORY=0T031:SET(0,Y,2):SET(63
,Y,2):NEXT
340 SOUND240,1:PRINT@33,"THE STO
CK PRICES ARE AFFECTED ";
350 GOSUB4180
360 SOUND240,1:PRINT@97,"BY REAL
LIFE SITUATIONS WHICH ";
370 GOSUB4180
380 SOUND240,1:PRINT@162,"ARE CR
EATED BY THE COMPUTER.";
390 FOR D=1T0500:NEXT:SOUND140,1
400 IF INKEYS=""THEN400
410 FOR X=0T063:SET(X,0,4):SET(X
,31,4):NEXT
420 FOR Y=0T031:SET(0,Y,4):SET(6
3,Y,4):NEXT
430 SOUND240,1:PRINT@33," THE
ALL-ORDINARYIES INDEX ";
440 FOR D=1T0500:NEXT
450 SOUND240,1:PRINT@97," CHAN
GES WITH EVERY TURN. ";
460 FOR D=1T0500:NEXT
470 SOUND240,1:PRINT@161," THE
GAME ENDS WHEN YOU ARE ";
480 SOUND240,1:PRINT@193,"A MILL
IONAIRE...OR BANKRUPT!!";
490 SOUND140,1:IF INKEYS=""THEN4
90
500 CLS:FOR X=0T063:SET(X,0,8):S
ET(X,31,8):NEXT
510 FOR Y=0T031:SET(0,Y,8):SET(6
3,Y,8):NEXT
520 PRINT@65," GOOD LUCK AND GO
OD EARNINGS";
530 PRINT@161," BUT WAICH OU
T FOR THE";
540 PRINT@420,"PRESS <SPACE> WHE
N READY";
```



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550 PRINT@234,"bear market";
560 IF INKEYS<>" " THEN GOTO 610
570 FOR D=1 TO 200: NEXT
580 PRINT@234,"BEAR MARKET";
590 FOR D=1 TO 200: NEXT
600 GOTO 550
610 CLS
620 ':-INITIALIZES VALUES AND
    STRINGS
630 XX=149
640 AD=0
650 DW=800
660 X=14
670 DA=0
680 AC=100000
690 DIM S$(X),SY$(X):DIM BV(X),S
    O(X),CV(X)
700 FOR T=1 TO X
710 DATAAN-RAIL,JOHN SHEARER,ACI
    PLASTICS,CSR,BSSO-BHP,ALLIED MI
    LLS,GMH,AVA,F.H.FAULDING,SANTOS,
    MYER,ANSETT,BHP STEEL
720 DATAJ.C.WILLIAMSON
730 READ S$(T)
740 NEXT
750 FOR T=1 TO X
760 DATA40,40,25,30,27,44,57,89,
    17,15,30,30,18,55
770 READ BV(T)
780 NEXT
790 FOR T=1 TO X
800 DATANT,JS,AC,CS,SO,AL,GM,AW,
    FH,SA,MY,AN,BH,WM
810 READ SY$(T)
820 NEXT
830 FOR T=1 TO X
840 DATA0,0,0,0,0,0,0,0,0,0,0,
    0,0
850 READ SO(T)
860 NEXT
870 FOR T=1 TO X
880 READ CV(T)
890 DATA40,40,25,30,27,44,57,89,
    17,15,30,30,18,55
900 NEXT
910 CLS
950 INPUT" WOULD YOU LIKE TO SEE
    YOUR PORTFOLIO (Y/N)";P$
970 '
1000 IF P$="Y" THEN 1320
1010 CLS
1020 FOR S=100 TO 200 STEP 10
1040 NEXT
1050 INPUT" WOULD YOU LIKE TO BUY
    STOCK";Y$
1060 IF Y$<>"Y" THEN 1420
1070 CLS2
1110 PRINTTAB(12)"BUYING"
1120 FOR T=1 TO X
1130 PRINTS$(T)TAB(20)SY$(T)TAB(
    24)"$CV(T)
1140 NEXT
1150 INPUT"STOCK SYMBOL PLEASE";
    E$
1160 FOR I=1 TO X
1170 IF E$=SY$(I) THEN 1210
1180 NEXT
1190 CLS
1200 GOTO 1050
1210 CLS3
1250 PRINT"HOW MANY SHARES OF
    "$$(I);:INPUT V
1260 AC=AC-V*(CV(I))-30
1270 IF AC<1 THEN 1670
1280 SO(I)=SO(I)+V
1290 V=0
1300 CLS
1310 GOTO 970
1320 CLS
1360 PRINT"CASH"TAB(22)"$AC
1370 FOR T=1 TO X
1380 IF SO(T)<1 THEN 1400
1390 PRINT S$(T),SO(T)TAB(22)"$
    CV(T)
1400 NEXT
1410 GOTO 1050
1420 CLS6
1460 INPUT" WOULD YOU LIKE TO SEE
    YOUR PORTFOLIO";P$
1470 IF P$="Y" THEN 1870
1480 INPUT" WOULD YOU LIKE TO SEL
    L STOCK";Y$
1490 IF Y$<>"Y" THEN 1960
1500 CLS
1510 PRINTTAB(11)"SELLING"
1520 FOR T=1 TO X
1530 PRINTS$(T)TAB(20)SY$(T)TAB(
    24)"$CV(T)
1540 NEXT
1550 INPUT"STOCK SYMBOL PLEASE";
    E$
1560 FOR I=1 TO X
1570 IF E$=SY$(I) THEN 1610
1580 NEXT
1590 CLS5
1600 GOTO 1480
1610 CLS5
1620 PRINT"HOW MANY SHARES OF
    "$$(I);:INPUT V
1630 AC=AC+V*(CV(I))-40
1640 SO(I)=SO(I)-V
1650 IF SO(I)<0 THEN 1770
1660 GOTO 1420
1670 CLS4
1680 PRINT"NOT ENOUGH CASH TO BU
    Y!";
1690 FOR D=1 TO 500: NEXT
1710 PRINT@64,"THIS SALE IS CANC
    ELLED, AND YOU HAVE BEEN FIN
    ED $500 FOR OVERSPENDING!!"
1715 FOR S=1 TO 20: SOUND1,1: SOUND1
    0,1: NEXT
1720 AC=AC+V*(CV(I))-500
1730 GOTO 910
1770 CLS8
1780 PRINT" YOU SOLD STOCK YOU D
    ON'T OWN!!"
1790 FOR D=1 TO 500: NEXT
1800 PRINT:PRINT" IT'S ILLEGAL
    TO DO THAT!!"
1810 FOR D=1 TO 500: NEXT
1820 PRINT@160,"YOU GO TO PRISON
    FOR FIVE YEARS!"
1830 FOR D=1 TO 500: NEXT
1840 PRINT@288," YOU LOSE YOUR
    ASSETS, YOUR FRIENDS, AND
    THE GAME!!"
1850 SOUND64,8: SOUND64,6: SOUND64
    ,2: SOUND64,8: SOUND95,6: SOUND87,2
    : SOUND87,4: SOUND64,4: SOUND64,6: S
    OUND38,2: SOUND64,12
1860 GOTO 1860
1870 CLS5
1880 PRINT"CASH"TAB(22)"$AC
1890 FOR T=1 TO X
1900 IF SO(T)<1 THEN 1920
1910 PRINT S$(T),SO(T)TAB(22)"$
    CV(T)
1920 NEXT
1930 PRINT" WOULD YOU LIKE TO SEL
    L STOCK?":INPUTY$
1940 IF Y$="Y" THEN 1500
1950 CLS6
1960 IF DD=1 THEN 2020
1970 DIM A$(XX),CA(XX),C(XX)
1980 FOR T=1 TO XX
1990 READ A$(T),CA(T),C(T)
2000 NEXT
2010 DD=1
2020 CLS6
2030 FOR T=1 TO 3
2040 N=RND(XX):IF N=0 THEN N=1
2050 PRINT A$(N)
2060 CV(CA(N))=CV(CA(N))+C(N)
2070 NEXT
2080 '
2090 A=RND(-TIMER):A=RND(3)
2100 IF A=2 THEN 2260
2110 IF A=1 THEN 2330
2120 PRINT" MIXED MARKET";
2130 SOUND150,3
2140 M=RND(2)
2150 IF M=1 THEN 2210
2160 DW=DW+5
2170 FOR T=1 TO X
2180 CV(T)=CV(T)+5
2190 NEXT
2200 GOTO 2390
2210 FOR T=2 TO X STEP 2
2220 CV(T)=CV(T)-5:IF CV(T)<5 THE
    NCV(T)=5
2230 NEXT
2240 DW=DW-5
2250 GOTO 2390
2260 PRINT" BULL MARKET";
2270 SOUND200,5
2280 D=RND(3):DW=DW+5+D
2290 FOR T=1 TO X
2300 CV(T)=CV(T)+2
2310 NEXT
2320 GOTO 2390
2330 PRINT" BEAR MARKET";
2340 SOUND50,5
2350 D=RND(4):DW=DW-4-D
2360 FOR T=1 TO X
2370 CV(T)=CV(T)-5:IF CV(T)<5 THEN
    CV(T)=5
2380 NEXT
2390 PRINT@355,"all ordinaries A
    T...":PRINT@377,DW:PRINT@448,"
    PRESS ANY KEY TO CONTINUE";
2395 EXEC44539
2400 IF AC<10000000 THEN 2480
2410 FOR X=1 TO 15:CLS RND(8):PRIN
    T@192," END OF GAME ":S
    OUND X*15,1
2430 NEXT
2440 CLS2:PRINT@96," FINAL A
    SSETS AMOUNT TO: -$
    A
    D
2450 PRINT:PRINT" $"A
    D
2460 PRINT" IN ONLY "DA" DAYS OF
    TRADING!"
2470 END
2480 FOR T=1 TO X
2490 IF CV(T)<1 THEN CV(T)=1
2500 NEXT
2510 I$=KEY$
2520 AD=0
2530 FOR T=1 TO X
2540 AD=AD+(SO(T)*CV(T))
2550 NEXT
2560 AD=AD+AC
2570 DA=DA+1:IF DA>100 THEN 2410
2580 CLS5
2590 PRINT@130,"YOUR ASSETS ARE
    $"AD;
2600 PRINT@390,DA"DAYS OF TRADIN
    G.";
2610 EXEC44539
2620 GOTO 910
2630 DATAROAD FREIGHT DOWN,1,-4
2640 DATADOCTORS DENOUNCE ASPIRI
    N,9,-5

```


2650 DATAWORLD SUGAR SHORTAGE, 4, 8
 2660 DATASTEEL IMPORTS UP, 13, -7
 2670 DATANEW PLAY A SUCCESS, 14, 8
 2680 DATATHEATRE TICKET SALES UP, 14, 6
 2690 DATA747 CRASHES-KILLS 200, 12, -10
 2700 DATACAR SALES INCREASE, 7, 5
 2710 DATAFARMERS SPENDING LESS, 2, -7
 2720 DATACHINA BUYS TRACTORS, 2, 8
 2730 DATADENTISTS DENOUNCE SUGAR, 4, -5
 2740 DATAWORLD SUGAR GLUT, 4, -9
 2750 DATAMEXICO WINS LPG SALE TO CHINA, 10, -10
 2760 DATAELECTRICITY USE UP, 10, 7
 2770 DATARETAIL SALES DOWN, 11, -5
 2780 DATAMARINE RADIO SALES UP, 8, 6
 2790 DATAVEHICLE BUILDERS ON STRIKE, 7, -7
 2800 DATATNT BUYS 'SUPERTRUCKS', 1, 5
 2810 DATAMORE FREIGHT BY ROAD, 1, 4
 2820 DATANEW DRUG IS BANNED, 3, -8
 2830 DATAGOVERNMENT OK'S PCB USE, 3, 7
 2840 DATAALCOHOL FUEL FAILS, 3, -10
 2850 DATASTEEL EXPORTS DOWN, 13, -7
 2860 DATASTEEL EXPORTS UP, 13, 5
 2870 DATACAR IMPORTS UP, 7, -5
 2880 DATACAR SALES SLUMP, 7, -7
 2890 DATAOPEC CUTS PRICES, 5, -8
 2900 DATACAR TRAVEL UP, 5, 5
 2910 DATACHRISTMAS SALES UP, 11, 8
 2920 DATACHEMICAL POISON IN BREAD, 6, -7
 2930 DATADOG FOOD SALES UP, 6, 5
 2940 DATAUTILITY RATE INCREASE DENIED, 10, -5
 2950 DATAAIR TRAVEL INCREASES, 12, 8
 2960 DATAAWA EARNINGS UP, 8, 7
 2970 DATADROUGHT BROKEN IN ALL STATES, 2, 5
 2980 DATACHINA BUYS LPG, 10, 10
 2990 DATAKUWAIT WANTS FARM MACHINERY, 2, 10
 3000 DATASPACE PROGRAM NEEDS COMPUTERS, 8, 7
 3010 DATAWILLIAMSONS STAGE 'EVIT A', 14, 10
 3020 DATAMOVIE ATTENDANCE DOWN, 14, -7
 3030 DATAFROZEN FOOD SALES UP, 6, 4
 3040 DATASAUDIS LOWER OIL PRICE, 5, -8
 3050 DATASAUDIS RAISE OIL PRICE, 5, 8
 3060 DATAJAPAN LIMITS CAR IMPORTS, 7, -10
 3070 DATA CUBA SUFFERS DROUGHT, 4, 10
 3080 DATANEW INDUSTRIES NEED POWER, 10, 7
 3090 DATAVIDEO PLAYER SALES UP, 14, 8
 3100 DATAWILLIAMSON EARNINGS UP, 14, 8
 3110 DATAACI INVENTS NON-POLLUTANT SOAP, 3, 7
 3120 DATANEW PLASTIC DANGEROUS, 3, -5
 3130 DATAFAULDING INVENTS NEW MEDICINE, 9, 9
 3140 DATADOCTORS DENOUNCE NEW DRUG, 9, -9
 3150 DATANEW DRUG CRIPPLES INFANT, 9, -13
 3160 DATAOVER COUNTER DRUG SALES UP, 9, 6
 3170 DATAGEN. MILLS BIDS FOR ALLIED MILLS, 6, 10
 3180 DATAALLIED MILLS WON'T SELL, 6, -10
 3190 DATAWHEAT SALES UP, 2, 5
 3200 DATAKELLOG BUYS LOCALLY, 4, 8
 3210 DATASUGAR SALE TO RUSSIA, 4, 12
 3220 DATACOMPUTER SALES UP, 8, 6
 3230 DATAFOREIGN VCR SALES UP, 8, -6
 3240 DATAOIL SHORTAGE CLAIMED, 5, 10
 3250 DATANEW MUSICAL RESOUNDING FLOP, 14, -8
 3260 DATAWEATHER REDUCES THEATRE SALES, 14, -5
 3270 DATANEW TV SERIES VIEWING UP, 14, 5
 3280 DATAWILLIAMSON BIDS FOR ABC, 14, 10
 3290 DATAGOV'T WON'T SELL ABC, 14, -5
 3300 DATAPIPELINE TO BE BUILT, 13, 8
 3310 DATACOOPER BASIN RUNNING LOW, 10, -6
 3320 DATASMALL MOOMBA WELL DRIES UP, 10, -6
 3330 DATASA NEGOTIATES CHEAPER GAS, 10, -5
 3340 DATAACI SUED FOR FAULTY PLASTIC, 3, -10
 3350 DATAINDONESIA WANTS ALCOHOL FUEL, 3, 5
 3360 DATAACI INVENTS NEW PLASTIC, 3, 12
 3370 DATARETAIL HOLIDAY SALES OF F, 11, -5
 3380 DATAANSETT MUST PAY BACK TAXES, 12, -5
 3390 DATAANSETT INTRODUCES LOWER RATES, 12, 5
 3400 DATANAVY NEEDS NEW SHIPS, 13, 5
 3410 DATAAWA SALES INCREASE, 8, 8
 3420 DATAGMH OFFERS REBATE, 7, 2
 3430 DATAGMH OFFERS REBATE, 7, 0
 3440 DATA CONSUMER SPENDING DOWN, 11, -5
 3450 DATAPLAGUE OF CANE TOADS IN QLD, 4, -8
 3460 DATANEW BREAKFAST CEREAL SUCCESS, 6, 7
 3470 DATAPLASTICS EXPLOSION KILLS 13, 3, -10
 3480 DATAFAULDING EARNINGS DOWN, 2, -5
 3490 DATAFAULDING EARNINGS UP, 9, 5
 3500 DATANEW WILLIAMSON SOAPIE SUCCESS, 14, 10
 3510 DATASTEEL WORKERS STRIKE, 13, -5
 3520 DATAANSETT INCREASES FARES, 12, 5
 3530 DATAMYER EARNINGS UP, 11, 5
 3540 DATASANTOS NEEDS \$100M LOAN, 10, -5
 3550 DATAFAULDING BUYS DHA, 9, 10
 3560 DATAAWA BUILDS NEW RADAR SYSTEM, 8, 5
 3570 DATAGMH ANNOUNCES REBATE, 7, 0
 3580 DATAALLIED MILLS EARNINGS STABLE, 6, 5
 3590 DATAESSC LOWERS PRICES, 5, -5
 3600 DATASUGARLESS FOOD SALES UP, 4, -8
 3610 DATAACI INVENTS NEW GLASS, 3, 12
 3620 DATAFARMERS RAISING PRICES, 2, 5
 3630 DATARAIL FREIGHT INCREASES, 1, -5
 3640 DATATNT MAY SELL OUT, 1, -10
 3650 DATASHEARER SEEKS TARIFF PROTECTION, 2, -10
 3660 DATAACI MAY BUY OUT PILKINGTON, 3, 0
 3670 DATASUGAR STOCKPILE INCREASES, 4, -8
 3680 DATAHOLIDAY ROAD TRAVEL UP, 5, 5
 3690 DATAFAMILIES EAT AT HOME LESS, 6, -5
 3700 DATACAR SALES HIT SLUMP, 7, -9
 3710 DATACAR SALES SLIDE FURTHER, 7, -10
 3720 DATACAR IMPORTS SLIGHTLY DOWN, 7, 6
 3730 DATAAWA EARNINGS HIT NEW HIGH, 8, 10
 3740 DATAAWA IMPROVES RADAR, 8, 5
 3750 DATAJAPANESE RADAR INSTALLED IN QLD, 8, -5
 3760 DATATYLENOL SCARE EXISTS, 9, -8
 3770 DATAGAS PRICES INCREASE, 10, 8
 3780 DATA CLOTHING SALES INCREASE, 11, 1
 3790 DATARETAIL SALES UP 30%, 11, 10
 3800 DATAPRICE WAR DECREASES AIRFARES, 12, 0
 3810 DATAINDUSTRIAL CONSTRUCTION UP, 13, 8
 3820 DATAPOOR MOVIE ATTENDANCE, 14, -8
 3830 DATATV SALES DOWN, 8, -8
 3840 DATAJAPANESE TV SALES UP, 8, -8
 3850 DATAIMPORTED CB RADIO SALES UP, 8, -5
 3860 DATA NEW WILLIAMSON TV SHOW FLOPS, 14, -1
 3870 DATALARGE BLOCK OF AWA SOLD, 8, -20
 3880 DATATRANSPORT WORKERS STRIKE, 1, -6
 3890 DATADROUGHT LOWERS WHEAT YIELD, 6, 8
 3900 DATABANK LOANS TO FARMERS DROP, 2, -8
 3910 DATAACI MUST CLEAN DUMP SITE, 3, -5
 3920 DATAINDIA BUYS SUGAR, 4, 8
 3930 DATA CUBA WINS JAPANESE SUGAR SALE, 4, -5
 3940 DATAOPEC OIL PRICES DROP, 5, -8

continued next page

ALPHA LEAP

MC-10

by Chris Deacon

In this game Chris gives us a mixed up Alphabet on one line with a completed alphabet above it. The object is to move all the letters into the correct places to complete the alphabet. When this is done the game is completed. Chris states that his best number of moves is 211. See if you can beat that!

The Listing ALPHALP:

```
0 REM          ALPHA LEAP BY
1 REM          CHRIS DEACON
1 REM          -----
10 CLS: DIM A(27)
15 GOSUB 720: PRINT@192,""
20 PRINT@66,"@": FOR I=1 TO 26
30 A(I)=I+64: PRINTCHR$(A(I)): NEXT
  A(27)=32
35 REM*****
39 REM MOSES/DARFORD SHUFFLE
40 FOR Z=1 TO 27: L=RND(27): K=A(L)
50 A(L)=A(Z): A(Z)=K: NEXT
60 GOSUB 100: GOT0200
68 REM*****
100 PRINT@130,"": FOR I=1 TO 27:
  PRINTCHR$(A(I)): NEXT: RETURN
190 REM*****
200 PRINT@201,"FROM": INPUT F$
210 PRINT@211,"TO": INPUT T$
215 IF F$<"@ OR F$>"2" OR T$<"@
```

```
" OR T$>"Z" THEN GOSUB 700: GOT0200
220 F=ASC(F$)-63: T=ASC(T$)-63
240 M=ABS(F-T): IF M<1 AND M<2
  OR A(T)>32 THEN GOSUB 700: GOT0200
260 A(T)=A(F): A(F)=32
265 CT=CT+1: PRINT@11,"MOVE": CT:
270 REM*****
300 GOSUB 100: FOR X=1 TO 26
310 IF A(X)>X+64 THEN 200
320 NEXT
325 REM*****
330 PRINT@195,"YOU SOLVED IT IN"
  : CT: MOVES": PRINT@267,"WELL DON
  E": PRINT@448,"": END
700 PRINT@265,"INVALID MOVE":
710 FOR DE=1 TO 600: NEXT DE: PRIN
  T@265,"": RETURN
715 REM*****
720 CLS: X=4: Y=11: A$(1)="1111":
  A$(2)="10001": A$(3)="10000": A$(4
  )="11110"
730 B$(1)="1221222": B$(2)="13343
  31": B$(3)="2221222": B$(4)="33333
  31": B$(5)="1221333": GOT0790
740 FOR I=1 TO LEN(B$)
745 B=VAL(MID$(B$,I,1))
750 FOR T=1 TO 7
755 U=VAL(MID$(B$(B),T,1))
760 FOR R=1 TO 5
765 V=VAL(MID$(A$(U),R,1))
770 IF V=1 THEN RESET(X,Y)
775 X=X+1: NEXT Y: Y=Y+1: X=X-5
780 NEXT Y: Y=11: X=X+6: NEXT: RETURN
790 B$="14531": GOSUB 740
795 B$="4215": X=X+3: GOSUB 740
798 FOR DE=1 TO 3000: NEXT DE: X=0
800 REM*****
810 CLS: PRINT@10,"ALPHA LEAP": PR
  INT
```

```
820 PRINT"ALPHA LEAP WILL PRESEN
  T YOU WITH": PRINT" A SHUFFLED AL
  PHABET WHICH YOU"
830 PRINT" MUST UNSHUFFLE BY SLID
  ING INTO": PRINT" THE EMPTY SPACE
  OR BY JUMPING"
840 PRINT" ONE LETTER INTO THE EM
  PTY SPACE"
850 PRINT" TO MOVE LOOK AT THE LE
  TTER YOU": PRINT" WANT TO MOVE THE
  N TYPE IN THE"
860 PRINT" LETTER ABOVE IT THEN P
  RESS ENTER":
870 PRINT" THEN TYPE IN THE LETTE
  R ABOVE": PRINT" THE SPACE WHERE Y
  OU WANT IT TO"
880 PRINT" LAND THEN PRESS ENTER.
  IT SHOULD": PRINT" END UP LOOKING
  LIKE THIS"
890 PRINT" PRESS ENTER TO CONTINU
  E": INPUT@#
900 CLS: FOR I=64 TO 90: PRINT@66
  +X,CHR$(I): PRINT@130+X,CHR$(I+1
  ): X=X+1: NEXT: PRINT@156,"": PRI
  NT@192,""
910 PRINT" THE PROGRAM WILL END W
  HEN IT IS": PRINT" IN ALPHABETICAL
  LY ORDER AND THE"
920 PRINT" SPACE IS AT THE END GO
  OD LUCK": PRINT: PRINT
930 PRINT@390,"PRESS ENTER TO ST
  ART": INPUT@#: CLS: RETURN
935 REM*****AUTHORS NOTE*****
940 REM MY BEST SO FAR 211 MOVES
```

AUSTRALIAN STOCK MARKET SIMULATOR

continued from previous page

```
3950 DATAGMH RECALLS '84 CAMIRA,
  7,-10
3960 DATASMAIL CAR SALES UP,7,8
3970 DATAJAPANESE RADAR INSTALLE
  D AT NEW AIRPORT,8,-5
3980 DATAFAULDING DISCOVERS 'AID
  S' VACCINE,9,10
3990 DATANEW 'AIDS' VACCINE MAY
  CAUSE CANCER,9,-12
4000 DATAFAULDING INVENTS INDUST
  RIAL SUPER GLUE,9,12
4010 DATAENVIRONMENTALISTS BLOCK
  NEW GAS PIPELINE,10,-5
4020 DATAPOWER RATES UP 10%,10,8
4030 DATAJET CRASH AT MASCOT KIL
```

```
LS 200,12,-10
4040 DATA5000 STEEL WORKERS LAID
  OFF,13,5
4050 DATATWO MORE STEEL PLANTS C
  LOSE,13,-9
4060 DATASTEEL EXPORTS UP,8,8
4070 DATAJAPAN BUYS PROCESSED ST
  EEL,8,5
4080 DATAWILLIAMSONS SUED FOR CO
  PYRIGHT BREACH,14,-10
4090 DATAMYER BUYS SUBURBAN CENT
  RE,11,5
4100 DATAAWA LOSES PATENT INFRIN
  GEMENT SUIT,8,-12
4110 DATAAFRICA NEEDS NEW TRACTO
  RS,2,8
4120 DATACHEWING GUM SALES UP,6,
  5
```

```
4130 DATANEW NATURAL CEREAL SALE
  S UP,6,5
4140 DATA COLOURED CANDY CEREAL S
  ALES UP,6,5
4150 DATANEW CEREAL CONTAINS CON
  TAINANTS,6,-5
4160 DATABIG SUGAR SALE TO EEC,4
  ,8
4170 DATABIG CAR SALES DOWN,7,-7
4180 FOR D=1 TO 500: NEXT: RETURN
```


IDEA OF A FRACTION

32K ECB
EDUCATION

by Bob Horne

IDEA OF A FRACTION is the first of a series that I intend to develop on common fractions.

The main aim of the program is to reinforce visually the work previously done on equivalent fractions (i.e. fractions which have a different denominator, but have the same value, such as one-half and two fourths) This part was written first and the other sections added as I saw the need arising in the classroom.

The program therefore is suitable for mid and upper primary. I do not claim it to be THE definitive program on this type of work but do claim after testing, using the program and re-testing that it has been successful in my class.

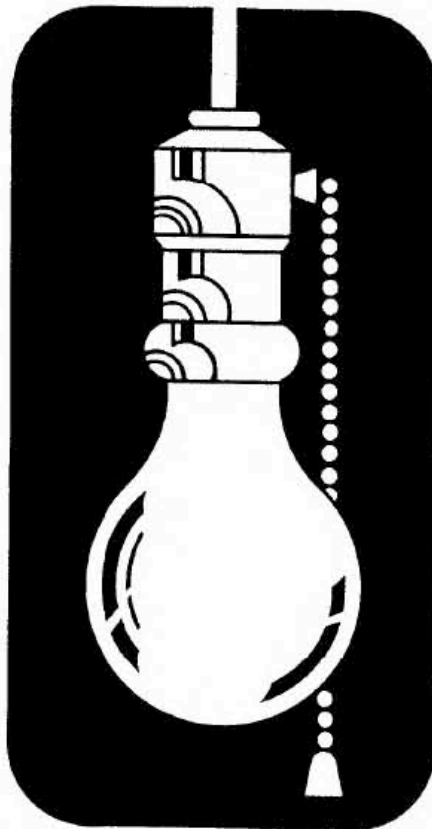
The M.L. portion of the program is direct from "Chatwin Manor" so if you have that program on tape or disk, you can take the DATA statements from it and RENUMBER it to suit.

The Listing:

```

0 GOTO10
1 REM*****
2 REM*   IDEA OF A FRACTION   *
3 REM*   COMMON AND IMPROPER *
4 REM*   FRACTIONS           *
5 REM*   SIMPLE + AND - SUMS *
6 REM*   EQUIVALENT FRACTIONS *
7 REM*   BY BOB HORNE       *
8 REM*****
9 SAVE"80A:3":END
10 CLSRND(8):PRINT@264,"JUST ONE
MOMENT.":PRINT@328,"NOW POKING
M.L.":
20 Z=0: CLEAR400,31200:FORX=31201
TO32451: READA:Z=Z+A:POKEY,A:NEXT
X:IF Z<52759 THENCLS:SOUND200,1
0:PRINT@256,"DATA ERROR. PLEASE
CHECK.":END
30 CLSRND(8):PRINT@235,"FRACTION
S.":PRINT@297,"BY BOB HORNE.":
:FORX=32452TO32481:READA:POKEY,

```



```

VAL("&H"+A$):NEXTX:IF PEEK(188)=
14. THENPOKE32453,30:POKE32477,37
:POKE32478,224
40 DEFUSR0=31201:P$="L20T20P20":
RE$(1)="WELL DONE!":RE$(2)="GREA
T!":RE$(3)="GOOD WORK!":RE$(4)="
EXCELLENT!":RE$(5)="TERRIFIC!":D
IMAR(6),RA(10),SB(7)
50 PMODE4,1:COLOR0,5:PCLS:DRAW"B
M4.ONG3MF3D9":GET(0,0)-(8,10),AR
,G:PCLS0:L=32
60 DRAW"C5":CIRCLE(12,10),3,,1,.
25,.75:CIRCLE(31,11),2,,1,.75,.2
5:DRAW"BM13,13R18BM30,9L3UL4DL5U
2NL5H2LNF2NL6R4UL10":PAINT(12,10
)
70 GET(9,4)-(34,14),SB,G:A=RND(-
TIMER):PCLS:DRAW"C0":LINE(0,132)
-(255,191),PSET,BF:FORNU=1TO10:G
OSUB450:NEXTNU:PRINT@363,"STAND
BY.":FORNU=11TO20:GOSUB450:NEX

```

```

TNU:GOTO470
79 REM*****INPUT A NUMBER*****
80 IN$=INKEY$
90 IN$=INKEY$:IF IN$="" THEN100
ELSE130
100 EXEC32452:LINE(X+2,Y)-(X+6,Y
+6),PSET,BF:PLAYP$:EXEC32452:L
INE(X+2,Y)-(X+6,Y+6),PSET,BF:PLA
YP$:CO=CO+2
110 IF CO=32 THENCO=0
120 GOTO90
130 IF ASC(IN$)<49 OR ASC(IN$)>5
7 THEN80
140 C$=IN$:GOSUB190:RETURN
149 REM***SORRY WRONG ANSWER***
150 X1=X:Y1=Y:X=X+16:C$="SORRY":
LINE(X-2,Y-2)-(X+42,Y+10),PSET,B
F:DRAW"C5":GOSUB190:GOSUB400:DRA
W"C0":LINE(X-2,Y-2)-(X+42,Y+10),
PSET,BF:X=X1:Y=Y1:RETURN
159 REM**<ENTER> FOR NEXT PAGE**
160 Y=180:LINE(0,Y)-(255,Y+12),P
SET,BF:DRAW"C5":X=48:Y=Y+3:C$="P
RESS ENTER TO GO ON":GOSUB190:IN
$=INKEY$
170 IN$=INKEY$:IF IN$<>CHR$(13)
THEN170
180 DRAW"C0":RETURN
189 REM***PRINT TO SCREEN***
190 POKE220,X:POKE221,Y:IF LEN(C
$)<=L THEN A$=C$:GOTO240
200 FOR=L TO1STEP-1:IF MID$(C$,
T,1)=" " THEN220
210 NEXTT
220 A$=LEFT$(C$,T):GOSUB250:C$=R
IGHT$(C$,LEN(C$)-T):GOTO190
230 RETURN
240 B$=USR0(A$):RETURN
250 B$=USR0(A$):Y=Y+10:RETURN
259 REM**FEACTION AS RECTANGLE**
260 B=RND(8)+1:A=RND(B-1)
270 C=60-((B-2)*5):FORZ=1TO B:L
INE((Z-1)*C+10,0)-(Z*C+10,40),PSE
T,B:NEXTZ
280 FORZ=1TO A:PAINT(Z*C+5,10):N
EXTZ
290 FORZ=1TO A-1:LINE(Z*C+10,0)-
(Z*C+10,40),PSET:NEXTZ:RETURN
299 REM***FRACTION AS CIRCLE***
ADAPTED FROM "THE OLD FASHIONED
CLOCK"****AUST. RAINBOW*****
300 B=RND(6)+1:A=RND(B-1):REM***
IF A>B THEN300
310 G=23:R=23
320 ST=360/B:CIRCLE(F,G),23
330 FORD=1TO B:A1-(225+D*ST)/57.

```



```

29577951
340 Q(D)=INT(R*COS(A1)+F+.5):W(D)
)=INT(R*SIN(A1)+G+.5)
350 LINE(F,G)-(Q(D),W(D)),PSET:W
EXTD
360 FORD=0TO A-1:A1=(230+D*ST)/5
7.29577951
370 Q=INT((R-5)*COS(A1)+F+.5):W=
INT((R-5)*SIN(A1)+G+.5)
380 PAINT(Q,W):NEXTD
390 FORD=1TO A-1:LINE(F,G)-(Q(D)
,W(D)),PRESET:NEXTD:RETURN
399 REM*****A DELAY*****
400 FORZ=1TO1000:NEXTZ:RETURN
409 REM***PRINT A FRACTION****
410 A1$=STR$(A):B1$=STR$(B):A1$=
RIGHT$(A1$,LEN(A1$)-1):B1$=RIGHT
$(B1$,LEN(B1$)-1)
420 X=X1:Y=Y1:C$=A1$:GOSUB190:LI
NE(X+1,Y+9)-(X+6,Y+9),PSET:Y=Y+1
1:C$=B1$:GOSUB190
430 Y=Y-6:RETURN
439 REM**PUT A SHIP ON SCREEN**
440 IF NU=1 THENB=138+RND(41):GO
SUB400:PUT(6,B)-(31,B+10),SB,PSE
T:RETURN ELSEFORZ=1TO 32-CO:EXEC
32452:NEXTZ
450 A=(NU-1)*11.5+6:B=138+RND(41)
):FORZ=B-1 TO B+11:IF PPOINT(A-1
,Z)>0 THENZ=B+11:NEXTZ:GOTO450
ELSE NEXTZ
460 PUT(A,B)-(A+25,B+10),SB,OR:R
ETURN
469 REM*****CHOOSE A TYPE*****
470 L=32:DRAW"CO":SCREEN1,1:X=0:
Y=10:C$="1. IDEA OF A FRACTION."
:GOSUB190:Y=25:C$="2. COMMON AND
IMPROPER":GOSUB190:X=24:Y=35:C$
="FRACTIONS.":GOSUB190
480 X=0:Y=50:C$="3. ADDITION AND
SUBTRACTION":GOSUB190:X=24:Y=60:
C$="TO ONE. (SAME DENOMINATOR)":
GOSUB190:X=0:Y=75:C$="4. EQUIVAL
ENT FRACTIONS.":GOSUB190:LINE(0,
105)-(255,117),PSET,BF:Y=108:DR
AW"C5"
490 X=42:C$="CHOOSE A NUMBER (1
- 4)":GOSUB190:IN$=INKEY$
500 IN$=INKEY$:IF IN$="" THENEXE
C32452:GOTO500 ELSE IF ASC(IN$)<
49 OR ASC(IN$)>52 THENEXE32452:
GOTO500
510 TY=VAL(IN$)
520 IF TY=1 THEN C1$="IDEA OF A
FRACTION" ELSE IF TY=2 THEN C1$=
"COMMON AND IMPROPER FRACTIONS"
530 IF TY=3 THEN C1$="ADDITION A
ND SUBTRACTION TO 1" ELSE IF TY=
4 THENC1$="EQUIVALENT FRACTIONS"
540 GOSUB5000:GOSUB400:PCLS:ON T
Y GOSUB1000,2000,3000,4000
550 X=48:Y=80:C$="NEXT PLAYER'S
TURN.":GOSUB190:X=24:Y=110:C$="N
EXT PLAYER PRESS <ENTER>":GOSUB
190:IN$=INKEY$
560 IN$=INKEY$:IF IN$<>CHR$(13)
THEN EXEC32452:GOTO560
570 LINE(48,80)-(232,95),PRESET,
BF:LINE(24,110)-(224,130),PRESET
,BF:GOTO470
999 REM***IDEA OF A FRACTION****
1000 F=128:A=3:B=7:GOSUB270:X=0:
Y=60:C$=" THE LARGE RECTANGLE AB
OVE REPRESENTS ONE UNIT.":GOSUB1
90:GOSUB400
1010 Y=Y+15:C$="THIS LARGE RECTA
NGLE IS DIVIDED INTO 7 SMALLER R
ECTANGLES.":GOSUB190:GOSUB400

```

```

1020 Y=Y+15:C$="EACH SMALL RECTA
NGLE, THEN, IS":GOSUB190:Y=Y+15:
C$="ONE-SEVENTH (":GOSUB190:X1=1
04:Y1=Y-5:A=1:B=7:GOSUB410
1030 X=112:C$="":GOSUB190:GOSUB
400
1040 X=0:Y=Y+15:C$="3 OF THESE S
MALLER RECTANGLES ARE BLACK. THE
DIAGRAM REPRESENTS THREE-SEVENT
HS (":GOSUB190
1050 X1=216:Y1=Y-5:A=3:B=7:GOSUB
410:X=224:C$="":GOSUB190:GOSUB4
00
1060 GOSUB160
1070 PCLS:A=3:B=7:GOSUB310:X=0:Y
=70:C$="THIS CIRCLE REPRESENTS O
NE UNIT. THE CIRCLE IS DIVIDED I
NTO SEVEN PARTS. THREE OF THESE
PARTS ARE BLACK. THE FRACTION OF
THE CIRCLE WHICH IS BLACK IS TH
REE-SEVENTHS.":GOSUB190
1080 GOSUB400
1090 Y=Y+15:X=122:C$="(":GOSUB19
0:X1=128:Y1=Y-5:GOSUB410:X=136:C
$="":GOSUB190
1100 GOSUB160:PCLS:X1=0:Y1=20:GO
SUB410
1110 GOSUB400:X=24:Y=Y-4:C$="THE
'3' IS THE NUMERATOR":GOSUB190:
GOSUB400:X=24:Y=Y+10:C$="THE '7'
IS THE DENOMINATOR":GOSUB190
1120 GOSUB400
1130 X=0:Y=Y+20:C$="THIS FRACTIO
N IS CALLED A PROPER FRACTION OR
COMMON FRACTION BECAUSE THE NUM
ERATOR IS SMALLER THAN THE DENOM
INATOR.":GOSUB190:GOSUB400
1140 GOSUB160:PCLS:LINE(0,132)-(
255,191),PSET,BF:NU=0
1150 CO=0:NU=NU+1
1160 ON RND(2) GOSUB300,250:X=0:
Y=50:C$="WHAT FRACTION OF THIS D
IAGRAM IS BLACK?":GOSUB190:LINE(
0,70)-(255,72),PSET,BF
1170 IF NU>6 THEN1230 ELSEY=Y+15
:C$="HOW MANY PARTS ARE BLACK?":
GOSUB190:X=LEN(C$)*8
1180 GOSUB80
1190 IF VAL(IN$)<>A THEN GOSUB15
0:GOTO1180
1200 X=24:Y=Y+10:C$="TOTAL NUMBE
R OF PARTS?":GOSUB190:X=LEN(C$)*
8+24
1210 GOSUB80
1220 IF VAL(IN$)<>B THEN GOSUB15
0:GOTO1210
1230 LINE(0,Y+10)-(255,Y+12),PSE
T,BF:IF NU>10 THEN X=128:Y=Y+20:
LINE(X,Y+10)-(X+10,Y+10),PSET:GO
TO1250
1240 X=16:Y=Y+15:C$="NUMERATOR=
":GOSUB190:X=LEN(C$)*8+16
1250 GOSUB80
1260 IF VAL(IN$)<>A THEN GOSUB15
0:GOTO1250
1270 LINE(X,Y+10)-(X+10,Y+10),PS
ET
1280 IF NU>10 THEN X=128:Y=Y+14:
GOTO1300
1290 X=0:Y=Y+14:C$="DENOMINATOR=
":GOSUB190:X=LEN(C$)*8
1300 GOSUB80
1310 IF VAL(IN$)<>B THEN GOSUB15
0:GOTO1300
1320 X=160:Y=Y-10:C$="RES(RND(5))
:LINE(X-2,Y-2)-(X+LEN(C$)*8+2,Y+
10),PSET,BF:DRAW"C5":GOSUB190:DR
AW"CO"

```

```

1330 GOSUB440:LINE(X-2,Y-2)-(X+L
EN(C$)*8+2,Y+10).PRESET,BF:LINE(
0,0)-(255,Y+18),PRESET,BF:IF NU<
20 THEN1150 ELSERETURN
1999 REM**COMMON AND IMPROPER**
2000 F=128:A=7:B=7:GOSUB270:X=0:
Y=60:C$=" THIS DIAGRAM REPRESENT
S ONE UNIT. EACH SMALL RECTANGLE
IS ONE-SEVENTH. SEVEN SMALL REC
TANGLES ARE BLACK. SO, SEVEN-SEV
ENTHS OF THE LARGE RECTANGLE IS
BLACK.":GOSUB190
2010 GOSUB400:GOSUB160:LINE(0,60
)-(255,120),PRESET,BF:LINE(0,180
)-(255,191),PRESET,BF
2020 X1=0:Y1=70:A=7:B=7:GOSUB410
:X=8:Y=76:C$="1":GOSUB190
2030 X1=128:A=9:B=7:GOSUB410
2040 X=0:Y=Y+30:C$=" THESE FRACT
IONS ARE CALLED IMPROPER FRACTIO
NS. AN IMPROPER FRACTION IS ONE
WHERE THE NUMERATOR IS EQUAL TO
OR GREATER THAN THE DENOMINATOR.
":GOSUB190
2050 GOSUB400:GOSUB160:PCLS:LINE
(0,132)-(255,191),PSET,BF:NU=0
2060 L=32:X=24:Y=7:C$=" IMPROPER
FRACTIONS":GOSUB190:DRAW"BM175,1
OR20NH3G3"
2070 A=6:B=6:X1=208:Y1=2:GOSUB41
0:X=224:Y=Y+5:C$="":GOSUB190:X
1=240:A=9:B=7:GOSUB410:LINE(0,0)
-(255,78),PSET,B:LINE(0,22)-(255
,25),PSET,BF
2080 X=8:Y=27:C$="WHICH OF THESE
IS IMPROPER?":GOSUB190:LINE(0,3
6)-(255,38),PSET,BF
2090 CO=0:IM=RND(4):NU=NU+1
2100 FORZ=1TO4
2110 A=RND(9):B=RND(8)+1
2120 IF Z=IM AND A<B THEN2110 EL
SE IF Z<>IM AND A>B THEN2110
2130 A(Z)=A:B(Z)=B
2140 NEXTZ
2150 FORZ=1TO4:A=A(Z):B=B(Z):X1=
(Z-1)*64+32:Y1=40:GOSUB410:NEXTZ
2160 IF NU<>1 THEN2180
2170 L=31:LINE(0,78)-(255,90),PS
ET,BF:X=8:Y=92:C$="USE THE RIGHT
AND LEFT ARROW KEYS TO MOVE THE
POINTER.":GOSUB190:Y=Y+10:C$="P
RESS <ENTER> WHEN THE POINTER IS
IN THE RIGHT POSITION.":GOSUB19
0:LINE(0,90)-(255,132),PSET,B
2180 X=32:IN$=INKEY$
2190 PUT(X,65)-(X+8,75),AR,PSET
2200 IN$=INKEY$:IF IN$="" THENEXE
C32452:CO=CO+1:GOTO2200
2210 IF IN$=CHR$(13) THEN2260
2220 LINE(X,65)-(X+8,75).PRESET,
BF
2230 IF IN$=CHR$(8) AND X>32 THE
N X=X-64
2240 IF IN$=CHR$(9) AND X<204 TH
EN X=X+64
2250 PUT(X,65)-(X+8,75),AR,PSET:
GOTO2200
2260 L=30:W=(X-32)/64+1:IF W=IM
THEN2290 ELSE X1=X:X=8:Y=80:DR
AW"C5":C$="THAT IS A COMMON FRACTI
ON.":GOSUB190
2270 GOSUB400:X=32:LINE(1,79)-(2
54,89),PRESET,BF:DRAW"CO":C$="PR
ESS <ENTER> TO GO ON.":GOSUB190:
IN$=INKEY$
2280 IN$=INKEY$:IF IN$<>CHR$(13)
THENEXE32452:CO=CO+1:GOTO2280
ELSE LINE(0,79)-(255,89),PSET,BF

```



```

: X=X1: GOTO2190
2290 FORZ=1TO11: GET(X-2, 39)-(X+1
0, 60), RA, G: PLAYP$: PUT(X-2, 39)-(X
+10, 60), RA, PRESET: PLAYP$: NEXTZ: X
=72: Y=81: C$=RE$(RND(5)): LINE(X, Y
-2)-(X+LEN(C$)*8, Y+9), PSET, BF: DR
AW"C5": GOSUB190: DRAW"C0"
2300 IF CO=>32 THEN CO=CO-32: GOT
O2300
2310 GOSUB440: LINE(1, 79)-(254, 89
), PSET, BF: IF NU=20 THEN LINE(0, 0
)-(255, 130), PRESET, BF: RETURN ELS
E LINE(1, 39)-(254, 77), PRESET, BF:
GOTO2090
2999 REM***** + AND - TO 1 *****
3000 F=128: A=5: B=8: GOSUB270: X1=0
: Y1=60: GOSUB410: X=8: C$=" OF THE
RECTANGLE IS BLACK.": GOSUB190: GO
SUB400
3010 X1=0: Y1=80: A=3: B=8: GOSUB410
: X=8: C$=" OF THE RECTANGLE IS WH
ITE.": GOSUB190: GOSUB400
3020 X=0: Y=105: C$="REMEMBER, EIG
HT-EIGHTS EQUALS ONE. SO, WE CAN
SAY NOW": GOSUB190: GOSUB400
3030 X1=40: Y1=130: A=5: B=8: GOSUB4
10: X=48: C$="": GOSUB190: X1=56: A=
3: B=8: GOSUB410: X=64: C$="1": GOSU
B190: GOSUB400
3040 X=112: C$="AND": GOSUB190: X1=
168: A=3: B=8: GOSUB410: X=176: C$="
": GOSUB190: X1=184: A=5: B=8: GOSUB4
10: X=192: C$="1": GOSUB190: GOSUB4
00
3050 X=40: Y=160: C$="1-": GOSUB190
: X1=56: Y1=155: A=5: B=8: GOSUB410: X
=64: C$="": GOSUB190: X1=72: A=3: B=
8: GOSUB410: GOSUB400
3060 X=112: C$="AND": GOSUB190: X=1
68: Y=160: C$="1-": GOSUB190: X1=184
: Y1=155: A=3: B=8: GOSUB410: X=192: C
$="": GOSUB190: X1=200: A=5: GOSUB4
10: GOSUB400
3070 GOSUB160: PCLS5: LINE(0, 132)-
(255, 191), PSET, BF: NU=0
3080 CO=0: NU=NU+1: ON RND(2) GOSU
B300, 260
3090 IF NU>15 THEN3160
3100 X=0: Y=50: C$="WHAT FRACTION
IS BLACK?": GOSUB190: LINE(193, 55)
-(199, 55), PSET
3110 X=192: Y=45: GOSUB80: IF VAL(I
N$)<>A THEN GOSUB150: GOTO3110
3120 X=192: Y=57: GOSUB80: IF VAL(I
N$)<>B THEN GOSUB150: GOTO3120
3130 LINE(0, 65)-(255, 68), PSET, BF
: X=0: Y=75: C$="WHAT FRACTION IS W
HITE?": GOSUB190: LINE(193, 80)-(19
9, 80), PSET
3140 X=192: Y=71: GOSUB80: IF VAL(I
N$)<>B-A THEN GOSUB150: GOTO3140
3150 X=192: Y=82: GOSUB80: IF VAL(I
N$)<>B THEN GOSUB150: GOTO3150
3160 LINE(0, 92)-(255, 95), PSET, BF
: IF NU<6 THEN3170 ELSE IF NU>6
AND NU<11 THEN3180 ELSE IF NU>1
1 AND NU<16 THEN3200 ELSE IF NU=
>16 THEN ON RND(3) GOTO3170, 3180
, 3200
3170 X1=80: Y1=108: GOSUB410: X=96:
C$="": GOSUB190: X2=110: GOTO3190
3180 X=96: Y=113: C$="": GOSUB190:
X1=112: Y1=108: GOSUB410: X2=78
3190 X=128: C$="1": GOSUB190: A=B
-A: GOTO3220
3200 X=80: Y=113: C$="1 -": GOSUB19
0: X1=112: Y1=108: GOSUB410: X2=142:
A=B-A
3210 X=128: C$="": GOSUB190
3220 Y=116: LINE(X2, Y-12)-(X2+12,
Y+13), PSET, B: LINE(X2+2, Y)-(X2+10
, Y), PSET: X=X2+2: Y=Y-10
3230 GOSUB80: IF VAL(IN$)<>A THEN
X3=X: X=160: GOSUB150: X=X3: GOTO32
30
3240 Y=Y+14
3250 GOSUB80: IF VAL(IN$)<>B THEN
X3=X: X=160: GOSUB150: X=X3: GOTO32
50
3260 X=168: C$=RE$(RND(5)): LINE(X
-2, Y-2)-(X+LEN(C$)*8+2, Y+10), PSE
T, BF: DRAW"C5": GOSUB190: GOSUB440:
LINE(X-2, Y-2)-(X+LEN(C$)*8+2, Y+1
0), PSET, BF: LINE(0, 0)-(255, 131), P
SET, BF: DRAW"C0"
3270 IF NU<20 THEN3080 ELSE RETUR
N
3999 REM**EQUIVALENT FRACTIONS**
4000 F=85: A=1: B=3: GOSUB310: F=170
: A=2: B=6: GOSUB310
4010 L=32: X=0: Y=62: C$=" THESE TV
O DIAGRAMS SHOW TWO DIFFERENT FR
ACTIONS YET THE SAME AREA OF EAC
H IS IN BLACK.": GOSUB190: GOSUB40
0
4020 Y=100: C$="THE CIRCLE ON THE
LEFT SHOWS": GOSUB190: A=1: B=3: X1
=240: Y1=95: GOSUB410: GOSUB400
4030 X=0: Y=130: C$="THE CIRCLE ON
THE RIGHT SHOWS": GOSUB190: A=2: B
=6: Y1=125: GOSUB410: GOSUB400
4040 GOSUB160: LINE(0, 62)-(255, 14
5), PRESET, BF: LINE(0, 180)-(255, 19
1), PRESET, BF
4050 X1=80: Y1=62: A=1: B=3: GOSUB41
0: X1=160: A=2: B=6: GOSUB410
4060 X1=80: Y1=90: A=1: B=3: GOSUB41
0: X=90: Y=95: C$="": GOSUB190: LINE
(112, 99)-(136, 99), PSET: X=112: Y=9
0: C$="1X2": GOSUB190: X=112: Y=102:
C$="3X2": GOSUB190
4070 X=144: Y=95: C$="": GOSUB190:
A=2: B=6: X1=160: Y1=90: GOSUB410: GO
SUB400
4080 X=0: Y=120: C$="NOTICE HOW TH
E NUMERATOR AND DENOMINATOR OF TH
E ORIGINAL FRACTION HAVE BEEN M
ULTIPLIED BY THE SAME NUMBER TO
MAKE AN EQUIVALENT FRACTION.": GO
SUB190: GOSUB400
4090 GOSUB160: LINE(0, 85)-(255, 19
1), PRESET, BF
4100 X=0: Y=100: C$="THIS CAN ALSO
BE DONE IN REVERSE.": GOSUB190: G
OSUB160: LINE(0, 100)-(255, 120), PR
ESET, BF: LINE(0, 180)-(255, 191), PR
ESET, BF
4110 DRAW"C0": X1=80: Y1=90: A=2: B=
6: GOSUB410: X=96: C$="": GOSUB190:
LINE(112, 99)-(136, 99), PSET: X=112
: Y=90: C$="2 2": GOSUB190: LINE(122
, 94)-(126, 94), PSET: PSET(124, 92):
PSET(124, 96)
4120 X=112: Y=102: C$="6 2": GOSUB1
90: LINE(122, 106)-(126, 106), PSET:
PSET(124, 104): PSET(124, 108): X=14
4: Y=95: C$="": GOSUB190: A=1: B=3: X
1=160: Y1=90: GOSUB410: GOSUB400
4130 X=0: Y=120: C$="THIS IS CALLE
D 'REDUCING TO LOWEST TERMS'.": G
OSUB190: GOSUB400: GOSUB160
4140 PCLS5: LINE(0, 132)-(255, 191)
, PSET, BF: NU=0
4150 CO=0: F=85: NU=NU+1
4160 A=RND(4): B=RND(4): IF A>=B O
R A=2 AND B=4 OR B=B3 THEN4160 E
LSE GOSUB310: A3=A: B3=B
4170 B=RND(3)+1: IF B*B3>9 THEN41
70 ELSE F=170: B2=B: B4=B3*B: A=A3*B
: A4=A: B=B4: GOSUB310: LINE(33, 50)-
(224, 118), PSET, B: LINE(33, 50)-(22
4, 53), PSET, BF
4180 B2$=STR$(B2): B2$=RIGHT$(B2$
, LEN(B2$)-1)
4190 IF NU<8 THEN4200 ELSE IF NU
>7 AND NU<15 THEN4290 ELSE ON RN
D(2) GOTO4200, 4290
4200 A=A3: B=B3: X1=112: Y1=80: GOSU
B410: X=120: C$="": GOSUB190: LINE(
X+10, Y+4)-(X+16, Y+4), PSET
4210 RN=RND(2): ON RN GOTO4220, 42
50
4220 C1$="NUMERATOR": Y=Y+6: X=X+8
: B$=STR$(B4): B$=RIGHT$(B$, LEN(B$
)-1): C$=B$: GOSUB190
4230 X=128: Y=80: GOSUB80
4240 IF VAL(IN$)=A4 THEN4350 ELS
EY=Y+11: GOTO4280
4250 C1$="DENOMINATOR": Y=Y-5: X=X
+8: B$=STR$(A4): B$=RIGHT$(B$, LEN(
B$)-1): C$=B$: GOSUB190
4260 X=128: Y=91: GOSUB80
4270 IF VAL(IN$)=B4 THEN4350
4280 X=8: Y=120: C$="MULTIPLY THE
"+C1$+" BY "+B2$+"": GOSUB190: GO
SUB400: LINE(0, 120)-(255, 130), PRE
SET, BF: ON RN GOTO4230, 4260
4290 X=40: Y=58: C$="REDUCE TO LOW
EST TERMS": GOSUB190: A=A4: B=B4: I1
=112: Y1=80: GOSUB410: X=120: C$="
": GOSUB190: LINE(X+10, Y+4)-(X+16, Y
+4), PSET
4300 C1$="DIVIDE BY "+B2$+"."
4310 X=128: Y=80: GOSUB80
4320 IF VAL(IN$)<>A3 THEN X=0: Y=
120: C$=C1$: GOSUB190: GOSUB400: LIN
E(0, 120)-(LEN(C$)*8+8, 130), PRESE
T, BF: GOTO4310
4330 X=128: Y=91: GOSUB80
4340 IF VAL(IN$)<>B3 THEN X=8: Y=
120: C$=C1$: GOSUB190: GOSUB400: LIN
E(0, 120)-(LEN(C$)*8+8, 130), PRESE
T, BF: GOTO4330
4350 Y=105: C$=RE$(RND(5)): X=(16-
INT(LEN(C$)/2))*8: GOSUB190: GOSUB
440: LINE(34, 0)-(223, 49), PRESET, B
F: IF NU<20 THEN LINE(34, 54)-(223,
117), PRESET, BF: GOTO4150 ELSE LIN
E(30, 50)-(230, 120), PRESET, BF: RET
URN
4999 REM**MOVE CHOICE ON SCREEN*
5000 PCLS: DRAW"C0": C2$="": T$="":
U$="": LT=LEN(C1$): L1=INT(LT/2): L
2=LT-L1: C2$=STRING$(LT, 32)
5010 FORZ=1TO LT STEP2: T1$=MID$(
C1$, Z, 1)+CHR$(32): T$=T$+T1$: NEXT
Z: FORZ=2 TO LT STEP2: T2$=CHR$(32
)+MID$(C1$, Z, 1): U$=U$+T2$: NEXTZ:
X1=(16-L1)*8
5020 X=X1: Y1=40: Y2=140
5030 FORZ=1TO5
5040 X=X1: Y=Y1: C$=T$: GOSUB190
5050 Y=Y2: C$=U$: GOSUB190
5060 Y=Y1: C$=C2$: GOSUB190: C$=C2$
: Y=Y2: GOSUB190
5070 Y1=Y1+10: Y2=Y2-10
5080 NEXTZ
5090 Y=Y-10: C$=C1$: GOSUB190
5100 RETURN
5999 REM*****DATA FOR M.L.*****

```

continued on page 54

THE

LOAN

CALCULATOR



by Brian Grey
32K ECB

THE IDEA FOR this program came quite easily and unexpectedly. About two months ago one of the young tradesmen at work was telling me about his first payment on his housing loan. It appeared from what he was saying that he was not aware of the large amount of interest he would have to pay on his sizeable loan. So I set to work making the program "loan calculator".

The program will ask for all the variables and then send to the screen and print the remaining principle after the quarterly repayment has been made.

The summary at the end of the print out tells total number of repayments, interest paid and day of last payment.

You now have the option of re-doing the exercise with extra payments on top of the quarterly repayments.

The Listing:

```
0 GOTO10
1 '***** LOAN *****
  ***** BRIAN GREY *****
3 SAVE"11:3":END
10 POKE150,18
15 CLS
20 FORX=1024TO1054 STEP 2
22 POKEX,36:NEXT
24 FORX=1087TO1503STEP 64
26 POKEX,36:NEXT
28 FORX=1504TO1535 STEP2
30 POKEX,36:NEXT
32 FORX=1056TO1472 STEP64
34 POKEX,36:NEXT
36 PRINT@200,"THE HOUSE LOAN"
38 PRINT@400,"BY BRIAN GRAY"
40 PRINT@452,"DO YOU NEED INSTRU
CTIONS"
42 IS=INKEYS:IFIS=""THEN42
```

```
44 IF IS=""Y"THEN990
106 CLS
110 PRINT#-2,CHR$(35);
122 PRINT@230,"WHAT IS THE PRINC
IPAL OF THE LOAN"
132 INPUT A
134 CLS
152 GOSUB622
162 PRINT@227,"WHAT IS THE INTER
EST RATE"
172 INPUT B
174 CLS
192 GOSUB622
200 PRINT@226,"WHAT YEAR DID THE
LOAN START"
205 INPUT Y
206 CLS
207 GOSUB622
209 PRINT@227,"HOW MUCH ARE YOUR
PAYMENTS"
211 INPUT P
212 CLS
213 GOSUB622
215 PRINT"ARE YOUR PAYMENTS,"
216 PRINT" (1) Y
EARLY (2) Q
217 PRINT" (3) M
UARTLT"
219 PRINT"
ONTHLY
220 INPUT R
221 CLS
222 GOSUB622
223 ON R GOTO 224,225,226
224 W=P/12*3:GOTO227
225 W=P:GOTO227
226 W=P*3
227 PRINT@226,"DO YOU WISH TO PA
Y EXTRA ON YOUR PAYM
ENTS"
228 INPUTA$
230 IF A$=""NO" THEN GOTO 260
233 CLS
234 Q=0:T=0:Z=0:U=0:M=0:l=0:S=0:
A=0
235 PRINT@226," HOW MUCH EXTRA D
O YOU WISH TO PAY"
240 INPUT M
```

```
248 CLS
249 GOSUB622
250 A=F
251 Y=J
252 PRINT#-2,CHR$(10)
260 CLS
265 PRINT"THE FOLLOWING FIGURES
INDICATE WHAT IS LEFT OF THE PR
INCIPAL AFTER THE PAYMENT HAS
BEEN MADE"
326 PRINT#-2,"YOUR PRINCIPAL IS"
A "DOLLARS"
328 PRINT#-2,"YOUR INTEREST RATE
IS"B"PERCENT"
342 ON R GOTO 352,362,372
352 C=4:PRINT#-2,"YOUR PAYMENTS
ARE"P"DOLLARS PER YEAR":GOTO374
362 C=4:PRINT#-2,"YOUR PAYMENTS
ARE"P"DOLLARS PER QUARTER":GOTO3
74
372 C=4:PRINT#-2,"YOUR PAYMENTS
ARE"P"DOLLARS PER MONTH":GOTO374
374 IF M=0GOTO 382
376 PRINT#-2,"YOU ARE PAYING"M"D
OLLARS EXTRA PER PAYMENT"
382 PRINT#-2,CHR$(10)
392 PRINT#-2,"THE FOLLOWING FIGU
RES INDICATE THE REMAINING PRINC
IPAL AFTER THAT PAYMENT"
402 PRINT#-2,"HAS BEEN MADE"
412 PRINT#-2,CHR$(10)
414 PRINT#-2,"YEAR"TAB(15)"1ST Q
TR";TAB(30)"2ND QTR";TAB(45)"3RD
QTR";TAB(60)"4TH QTR"
417 J=Y
419 F=A
420 X=0
422 X=(A/100)*B
432 X=X/C
442 Q=Q+X
444 IFM>0GOTO452
446 V=Q
452 T=T+1
462 Z=W-X
472 A=A-Z-M
480 A=INT(A)
482 PRINTA
484 IF S=0 THEN GOSUB 700
```



```

486 S=S+15
488 PRINT#-2,TAB(S)A;
490 IF S=60THEN S=0
492 IF A>W+M THEN GOTO 420
512 PRINT#-2,CHR$(10)
522 PRINT"YOU MADE" T"PAYMENTS"
532 PRINT#-2,"YOU MADE" T"PAYMENT
S"
542 GOSUB622
552 PRINT"YOU PAYED" Q"DOLLARS IN
INTEREST"
562 PRINT#-2,"YOU PAYED" Q"DOLLAR
S IN INTEREST"
572 GOSUB622
574 IF M=0 GOTO 582
576 U=T*M
577 I=V-Q
578 PRINT"YOU PAYED" U"DOLLARS EX
TRA TO SAVE" I"IN INTEREST"
580 PRINT#-2,"YOU PAYED" U"DOLLAR
S EXTRA TO SAVE" I"IN INTEREST"
582 S=T/C
592 PRINT"IT TOOK" S"YEAR TO PAY
OF YOUR DEBT"
602 PRINT#-2,"IT TOOK" S"YEARS TO
PAY OF YOUR DEBT"
603 PRINT
604 PRINT"DO YOU WISH TO MAKE AN
OTHER CALCULATION"
605 PRINT
606 INPUT L$
607 PRINT#-2,CHR$(10)
608 IF L$="YES" THEN GOTO233
610 PRINT"GOOD BYE AND GOOD SAVI
NG"
612 END
622 FOR X=0TO300: NEXT
632 PRINT
642 RETURN
700 PRINT#-2
705 PRINT#-2,Y;
710 Y=Y+1
720 RETURN
990 CLS
1000 PRINT@,"THIS IS A PROGRAM
TO HELP IN THEPLANNING OF THE RE
PAYMENTS OF A HOUSE LOAN"
1020 PRINT"
THE PRINCIPAL OF THIS
PROGRAM ISTO SHOW YOU HOW MUCH
YOU CAN SAVE BY PAYING EXTRA
EACH PAYMENT.
1030 PRINT"
FIRST RUN THE PROGRAM
WITHOUT EXTRA PAYMENTS THEN W
ITH A RANGE OF EXTRA PAYMENTS"
1040 PRINT"
<INKEY>"
1050 I$=INKEY$: IF I$=""GOTO1050
1060 CLS
1070 PRINT@,"THE PROGRAM WILL A
CCEPT MONTHLY, QUARTERLY AND YEAR
LY REPAYMENTS. BUT THE RESULTS AR
E PRODUCED FOR QUARTERLY REPAYME
NTS FOR SIMPLICITY"
1080 PRINT
1090 PRINT" A PRINTER WILL PRO
DUCE THE RESULTS ON 2400 BAUD
RATE. THE PROGRAM WILL RUN OK W
ITHOUT A PRINTER BUT WILL BE A
BIT SLOW"
2000 PRINT
2010 PRINT" <INKEY>"
2020 I$=INKEY$: IF I$=""THEN 2020
2030 GOTO106

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continued from page 52

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6000 DATA 77,38,1,57,52,118,111,
141,1,85,150,220,68,68,68,214
6010 DATA 182,193,4,39,44,68,151
,190,193,1,34,5,150,221,68,151
6020 DATA 192,84,37,21,204,0,176
,237,141,1,29,134,240,167,141
6030 DATA 1,25,134,16,167,141,1,
13,32,39,8,190,108,141,1,12
6040 DATA 32,2,151,190,150,162,1
29,1,39,4,150,221,151,192,204
6050 DATA 1,96,237,141,0,244,134
,224,167,141,0,240,134,32,167
6060 DATA 141,0,228,238,2,214,19
2,61,219,190,137,0,211,186,31
6070 DATA 1,111,141,0,213,166,24
8,2,161,141,0,206,38,2,53,246
6080 DATA 109,141,0,198,52,16,39
,26,230,97,231,141,0,187,228
6090 DATA 141,0,188,225,141,0,17
9,38,10,53,16,236,141,0,174
6100 DATA 48,139,52,16,111,141,0
,165,230,192,193,127,38,6,134
6110 DATA 8,167,141,0,153,192,32
,134,9,61,235,141,0,144,137
6120 DATA 0,49,141,0,198,49,171,
109,141,0,132,39,11,166,141
6130 DATA 0,126,230,141,0,119,61
,48,139,109,141,0,119,38,36
6140 DATA 166,160,13,178,38,1,67
,156,183,37,4,53,16,32,149,167
6150 DATA 132,166,141,0,92,129,8
,39,63,230,141,0,81,58,108,141
6160 DATA 0,79,32,220,166,164,68
,68,68,68,141,74,52,4,166,160
6170 DATA 132,15,48,1,141,64,48,
31,53,2,156,183,37,5,53,16,22
6180 DATA 255,97,237,132,166,141
,0,40,129,8,39,11,230,141,0
6190 DATA 29,58,108,141,0,27,32,
162,108,141,0,20,53,16,109,141
6200 DATA 0,19,38,5,48,1,22,255,
50,48,2,22,255,45,16,30,15,8
6210 DATA 0,176,240,0,52,64,51,1
41,0,17,230,198,228,132,52,4
6220 DATA 139,16,230,198,150,178
,61,234,96,53,194,255,252,243
6230 DATA 240,207,204,195,192,63
,60,51,48,15,12,3,0,0,1,4,5
6240 DATA 16,17,20,21,64,65,68,6
9,80,81,84,85,0,0,0,0,0,0
6250 DATA 0,0,8,8,8,8,8,0,0,0,0,
20,20,20,0,0,0,0,0,20,20,54
6260 DATA 0,54,20,20,0,0,8,30,32
,28,2,60,8,0,8,18,2,4,8,16,32
6270 DATA 36,0,0,16,40,40,16,42,
36,26,0,0,8,8,16,0,0,0,0,0
6280 DATA 4,8,16,16,16,8,4,0,0,1
6,8,4,4,4,8,16,0,0,8,42,28,28
6290 DATA 42,8,0,0,0,0,8,8,62,8,
8,0,0,0,0,0,0,0,8,16,0,0,0
6300 DATA 0,0,62,0,0,0,0,0,0,0,0
,0,0,0,8,0,0,2,2,4,8,16,32,32
6310 DATA 0,0,28,34,38,42,50,34,
28,0,0,8,24,8,8,8,8,28,0,0,28
6320 DATA 34,2,26,32,32,62,0,0,2
8,34,2,12,2,34,28,0,0,4,12,20
6330 DATA 36,62,4,4,0,0,62,32,60
,2,2,34,28,0,0,28,32,32,60,34
6340 DATA 34,28,0,0,62,2,4,8,16,
32,32,0,0,28,34,34,28,34,34
6350 DATA 28,0,0,28,34,34,30,2,2
,28,0,0,0,0,8,0,8,0,0,0,0,0
6360 DATA 0,8,0,8,8,16,0,0,4,8,1
6,32,16,8,4,0,0,0,0,62,0,62

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6370 DATA 0,0,0,0,16,8,4,2,4,8,1
6,0,0,28,34,4,8,0,0,8,0,0,28
6380 DATA 34,2,26,42,58,12,0,0,8
,20,34,34,62,34,34,0,0,60,18
6390 DATA 18,28,18,18,60,0,0,28,
34,32,32,32,34,28,0,0,60,18
6400 DATA 18,18,18,18,60,0,0,62,
32,32,60,32,32,62,0,0,62,32
6410 DATA 32,60,32,32,32,0,0,30,
32,32,38,34,34,28,0,0,34,34
6420 DATA 34,62,34,34,34,0,0,28,
8,8,8,8,8,28,0,0,2,2,2,2,34
6430 DATA 28,0,0,34,36,40,48,40,
36,34,0,0,32,32,32,32,32,32
6440 DATA 62,0,0,34,54,42,34,34,
34,34,0,0,34,50,34,34,34,34
6450 DATA 34,0,0,28,34,34,34,34,
34,28,0,0,60,34,34,60,32,32
6460 DATA 32,0,0,28,34,34,34,42,
36,26,0,0,60,34,34,60,40,36
6470 DATA 34,0,0,28,34,16,8,4,34
,28,0,0,62,8,8,8,8,8,8,0,0,34
6480 DATA 34,34,34,34,34,28,0,0,
34,34,34,20,20,8,8,0,0,34,34
6490 DATA 34,34,42,54,34,0,0,34,
34,20,8,20,34,34,0,0,34,34,20
6500 DATA 20,8,8,8,0,0,62,2,4,6,
16,32,62,0,0,0,62,52,20,20
6510 DATA 20,0,0,12,18,34,62,34,
36,24,0,0,16,8,8,12,20,34,34
6520 DATA 0,0,8,28,42,8,8,8,8,0,
0,8,8,8,8,42,28,8,0,0,8,20,20
6530 DATA 8,0,0,0,0,0,0,0,24,4,2
8,36,26,0,0,32,32,44,50,34,34
6540 DATA 60,0,0,0,0,30,32,32,32
,30,0,0,2,2,26,38,34,34,30,0
6550 DATA 0,0,28,34,62,32,30,0
,0,12,18,16,56,16,16,16,0,0
6560 DATA 0,0,2,28,34,34,30,2,28
,32,32,44,50,34,34,34,0,0,8
6570 DATA 0,24,8,8,8,8,0,0,2,0,
6,2,2,2,2,18,12,32,32,36,40
6580 DATA 48,40,36,0,0,24,8,8,8,
8,8,28,0,0,0,20,42,42,42,34
6590 DATA 0,0,0,44,18,18,18,18
,0,0,0,28,34,34,34,28,0,0
6600 DATA 0,0,44,50,34,34,60,32,
32,0,0,26,38,34,34,30,2,2,0
6610 DATA 0,38,24,16,16,16,0,0,0
,0,30,32,28,2,60,0,0,16,60,16
6620 DATA 16,16,18,12,0,0,0,0,36
,36,36,36,26,0,0,0,0,34,34,20
6630 DATA 20,8,0,0,0,0,34,42,42,
42,20,0,0,0,0,34,20,8,34,34,25
6640 DATA 0,0,0,34,34,34,38,25
,2,12,0,0,62,4,8,16,62,0,0,24
6650 DATA 4,8,28,0,0,0,0,0,0,0,0
,0,0,16,40,40,16,0,0,0,0,16
6660 DATA 48,16,56,0,0,0,0,0,48,
8,16,56,0,0,0,0,0,0,0,255
6669 REM*DATA FOR SCREEN SCROLL*
6670 DATABASE,16,DF,A6,84,10,8E,00
,1F,E6,1F,E7,84,30,1F,31,3F,26,F
6,A7,84,30,88,3F,8C,1D,FF,2F,E6,
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SATISFYING PROGRAMMING

by John Kellett

One of the major pleasures of computing, apart from getting something working, is to make the computer do useful things that nobody has made it do before. Many times other programmers have said to me, "That can't be done," or, "That can't be done in only that much code." It is even better when they say, "How can that be done so quickly?" Then you know you have discovered something worthwhile.

The best example of clever programming I have ever seen was done by a first generation programmer, back in the 1950's. He said, during a lecture on computing, "I want you to try and write the program for this. There is a variable called X, and we know it contains either 13 or 7. If it contains 13 I want you to change it to 7, and if it contains 7 then change it to 13. Now the hard part-- I want you to do it in one instruction (or statement)." I was willing to swear that it could not be done, working with the MC10 set of statements for example, which does not have the IF...THEN...ELSE statement. I expect most of you can do it in two instructions, but if you manage it in one before reading the answer at the end of this article, then you should definitely take up programming for a living.

Just a word of warning, if you are trying the above programming problem. The obvious code: 10 IF X=13 THEN X=7 followed by 20 IF X=7 THEN X=13 does not work, because X will be changed back to 7 and then changed back to 13, which you don't want to happen. It can be done in one statement, and a very simple one.

It can happen during a program that you want a string variable, which someone has typed in, to be a set length, say eight characters long. If

they have typed less, you want to fill it out with blanks on the left. If they have typed more, you want to cut the string back to exactly eight characters. You need this when you are storing records, for example, and you have only eight characters to spare in the record, or you have a tight screen layout, and you want to keep this variable down to eight characters. I hope the best way to do this for a string variable called A\$ is

```
A$ = RIGHT$( " " + A$, 8)
```

This covers the case where A\$ is a null string, i.e. one with no characters at all in it.

Another piece of code I have found useful on the MC10 is the direct driving of the video chip, this may be done by POKing a value in 32768. I found out about this from the October 1983 issue of Australian MICO, pages 15 and 17. You would think, from the MC10 manual that letters on the MC10 can only have green as the background. If you try POKE 32768,64 you get an alternative colour, which reverts to green if you issue the SOUND statement. This is because the address 32768 also controls the sound, so you will need to POKE 32768 with a 64 again to get away from the green background.

While I am on the subject of sound, it is interesting to see from page 142 of MICO EXPOSED that the sound bit, which is bit 7 of the address referred to above, 32768, is just toggled or flipped to make the sound. The words "toggle" or "flip" in computing mean changing from one state to another, and then back again, like a toggle switch in a car. This means that if you change bit 7 in 32768, you can create sound effects, in addition to the sounds you can

get from the SOUND statement.

Let me finish by giving the solution to that 7 and 13 problem. The one statement which solves it is... X = 20 - X.

As you can see, this changes a 7 to a 13, and a 13 to a 7. You can easily use this to toggle between any two numbers you want.

I hope these few examples show something of the satisfaction to be found in programming, which sometimes let you get more out of your machine than you would expect.

(NOTE. This is one of a few articles which were discovered in the archives dating back to the days of Greg Wilson and which we have considered to be worth printing--- or reprinting if they have previously been recorded. J.)



○

DIRECTORY

TANDY 1000 or IBM Compatible

by Barry Cawley

This program produces a file listing of two sub-directories, so that if like me you have a disk or sub-directory that is for word processing and from there 2 sub-directories for your files (i.e. one for business and one for personal), by inserting your word processor disk (or changing to your word processor subdirectory) and then typing in FILES you can then see the contents of both directories on

the screen at the same time.

It shows the name of the file, the extension, the size (to the nearest K) and the date on which it was created or updated.

With the source code I have commented it as much as possible to allow new users of Pascal to get an idea of what is going on.

I have also added a "flowchart" of how the program will run at run time to give you a better idea of how Pascal

works.

For those of you who are much wiser, I know that the flowchart is not a true flowchart using the correct symbols etc, but then it is not meant to be. It is to used as a guide for new users and programmers.

So bearing all this in mind have fun and try out Pascal, which is a language that is taking the computer world by storm.

All the best Barry

```
procedure Directory;
begin
  k:=0;
  FillChar(DTA,SizeOf(DTA),0);
  FillChar(Mask,SizeOf(Mask),0);
  FillChar(NamR,SizeOf(NamR),0);
  Mask[1]:=chr(0);
  Clrscr;
  write(' Options for Files to print : '); (Inform user he has options)
  readln(Mask); (read users options)
  if Mask=' ' then (if user entered nothing)
    Mask:='*.* ' ; (Default listing)
  ClrScr; (Clear screen)
  TextColor(2); (Change Colour)
  Write(' Directory list for ',Mask,' '); (Write heading)
  TextColor(4); (Change Colour)
  Regds.AX := $1A00; (Get First Matching Directory entry)
  Regds.DS := Seg(DTA);
  Regds.DX := Ofs(DTA);
  MSDos(Regds);
  Error := 0;
  Regds.AX := $4E00;
  Regds.DS := Seg(Mask);
  Regds.DX := Ofs(Mask);
  Regds.CX := 22;
  MSDos(Regds);
  Error := Regds.AX and $FF;
  s := 1;
  if (Error = 0) then
    repeat
      NamR[s] := Chr(Mem[Seg(DTA):Ofs(DTA)+29+s]); (start loop)
      s := s + 1; (Translate entry)
      until not (NamR[s-1] in [' ','.', '~']) or (s>20); (increment s)
      NamR[0] := Chr(s-1); (end loop)
    k:=k+1; fname[k]:=namr; (Increment K and put first entry)
  while (Error = 0) do begin (into variable required)
    Error := 0; (Get next matching Directory entry)
    Regds.AX := $4F00; (and all other matching entries)
    Regds.CX := 22;
    MSDos(Regds);
    Error := Regds.AX and $FF;
    s := 1;
    repeat
      NamR[s] := Chr(Mem[Seg(DTA):Ofs(DTA)+29+s]);
      s := s + 1;
      until not (NamR[s-1] in [' ','.', '~']) or (s > 20);
      NamR[0] := Chr(s-1);
      if (Error = 0)
```



```

    then ;
    k:=k+1;
    fname[k]:=NamR           (Same as for first entry)
end;
t:=0;
writeln (' ',k-1,' Files'); (Inform user how many entries)
TextColor(2);              (change colour)
writeln('-----')
    TextColor(4);          (change colour)
end;                        (end loop for matching entries)
k:=k-1;                    (decrement K by 1)
end;                        (end procedure)

```

```

begin                        (Begin main program)
Directory;                 (do procedure directory)
for m:=1 to k do begin     (Write the filenames found by directory)
write (fname[m]:13,' ');
end;
writeln;                  (write a blank line)
TextColor(2);             (change colour)
writeln('-----');
TextColor(4);             (Change colour)
y:=whereY;                (get screen Y location)
window(20,y,60,24);      (make a window from that line down)
Clrscr;                   (Clear the window)
for m:=1 to k do begin    (Start loop to write in window all matching files)
scratch:=fname[m];       (make variable scratch = next file)
printfile;               (Do procedure printfile)
end;                      (end of loop)
window(1,1,80,25);       (restore original screen)
end.                      (end main program) ( the directory routines in this Program
are taken from the program
PC_DISK which was placed in the public domain)

```

(\$C+)

```

Const
yes_no      : set of char = ['Y','y','N','n'];

```

```

Type
regpack     = record
              ax,bx,cx,dx,bp,si,di,ds,es,flags: integer;
            end;
mem_ptr     = ^pointer_type;
pointer_type = array [1..2] of integer;
fname_type  = string[11];

```

```

Var
R           : regpack;
pointer,dta : mem_ptr;
filez      : string[32]; (string input for dir scan)
volume     : String[14];
loop,x,e,drv,t1,t2,a,b,c,xxxx,test : integer;
found      : Boolean;
ch,default_drive : char;
dta_area   : array [1..130] of byte;
fcb        : array [-7..36] of char;
f_space    : real;
date_type  : Char;

```

```

(----- Procedures -----)
procedure set_fcb; forward;

```

```

procedure keycontinue;
var
ch : char;
x : integer;

```



```

begin
  write (' Tap any key for more ');
  read (kbd,ch);
  for x := 1 to 22 do write (chr(8));
  clrscr;
end;

procedure set_dta;
begin
  (-- Set DTA address --)
  pointer := addr(dta_area);
  r.ds := seg(pointer^);
  r.dx := ofs(pointer^);
  r.ax := $1A shl 8;
  MsDos(R);
end;

procedure get_dta;
begin
  (-- Get DTA address in ES:BX --)
  r.ax := 0;
  r.es := 0;
  r.bx := 0;
  r.ax := $2F shl 8;
  MsDos(R);
  dta := ptr(r.es,r.bx);
end;

procedure set_fcb;
begin
  (-- Set up an unopened FCB --)
  for x := -7 to 36 do fcb[x] := #0;
  fcb[-7] := #255;
  fcb[-1] := #0;
  filez := 'x.*' + #0;
  pointer := addr(filez[1]);
  r.ds := seg(pointer^);
  r.si := ofs(pointer^);
  pointer := addr(fcb[0]);
  r.es := seg(pointer^);
  r.di := ofs(pointer^);
  r.ax := $29 shl 8;
  msdos(R);
  set_dta;
  get_dta;
end;

procedure msdos12;
begin
  set_dta;
  pointer := addr(fcb[-7]);
  r.ds := seg(pointer^);
  r.dx := ofs(pointer^);
  r.ax := $12 shl 8;
  msdos(R);
end;

procedure msdos11(x : integer);
begin
  set_fcb;
  fcb[-7] := #255;
  fcb[-1] := chr(x);
  pointer := addr(fcb[-7]);
  r.ds := seg(pointer^);
  r.dx := ofs(pointer^);
  r.ax := $11 shl 8;
  msdos(R);
end;

procedure show_dta(x1,y1 : integer);
var
  t1,t2,d1,d2,hour,minutes,seconds,dd,mm,yy : integer;
  bytes : real;
begin
  volume:='|';
  for loop := 6 to 15 do
    volume:=volume+chr(mem[x1:y1+loop]);
  volume:=volume+'|';
  for loop := 16 to 18 do
    Volume:=volume+chr(mem[x1:y1+loop]);
  write(Volume);
  t1 := mem[x1:y1+30];
  t2 := mem[x1:y1+31];
  d1 := mem[x1:y1+32];
  d2 := mem[x1:y1+33];
  bytes := mem[x1:y1+37]*256.0;
  bytes := bytes + mem[x1:y1+36];
  bytes := bytes + mem[x1:y1+38] * 65536.0;
  if bytes=0 then begin
    textcolor(31);
    write('EMPTY');
    textcolor(15);
  end
  else
  begin
    bytes := bytes/1024;
    write ('|',bytes:3:0,'K');
  end
end;

procedure dir2;
var
  x : integer;
  bytes : real;
begin
  textcolor(15);
  xxxx := 0;
  x:=0;
  set_fcb;
  msdos11(3);
  if (r.ax and 255) = 0 then
  begin
    while (r.ax and 255) = 0 do (attribute bit ? )
      begin
        xxxx := xxxx + 1;
        x:=x+1;
        show_dta (seg(dta^),ofs(dta^));
        if xxxx/4=int(xxxx/4) then writeln('|');
        msdos12;
      end
    end
  else
    writeln ('Disk is Empty!');
  end;
begin
  test:=0;
  chdir('\word\buss');
  Clrscr;
  TextColor(15); textbackground(1);
  (change this to any)
  (sub-directory that)
  (you wish to read)
end;

```



```

gotoxy(1,1);Writeln('');
Writeln('Directory of BUSS files');
Writeln('');
');
Writeln('Name |Ext|Size| Name |Ext|Size| Name |Ext|Size| Name |Ext|S
ize|');
Writeln('');
');
dir2;

while xxxx/4<>int(xxxx/4) do begin
write(' | | '); xxxx:=xxxx+1;
test:=1;
end;
if test=1 then Writeln('');
Writeln('');
test:=0;

chdir('\word\files'); (change this to any sub-directory that)
(you wish to read)

TextColor(15); textbackground(4);
Writeln;
Writeln('Directory of FILES files');
Writeln('');
Writeln('Name |Ext|Size| Name |Ext|Size| Name |Ext|Size| Name |Ext|Size|');
Writeln('');
dir2;
while xxxx/4<>int(xxxx/4) do begin
write(' | | '); xxxx:=xxxx+1;
test:=1;
end;
if test=1 then Writeln('');
Writeln('');
chdir('\word'); (change this to any subdirectory required)
end. Files Barry Cawley

```



**MARTHA's
Trading Post**

Some of you computer derros have accumulated so much junk in the past few years, you are becoming a menace to society and a health hazard to your cat. This is your chance to get rid of those unwanted bits of equipment. Place your ad here and I'll leave it on till your steam operated modem or whatever gets sold, or I get sick of the sight of your ad.

Martha

Wanted: A 3D program which rotates a defined object through 3 planes. Must be ML or fast Basic for CoCo 64K Disk ECB.

Colin Gawn 089 52 9537

Wanted: Multipac interface. John Poxon 07 208 7820

For Sale: Color Computer 2, 64K. CCR 81 Tape recorder, all books including programs and graphics books. 2 Joysticks. Color Scriptsit word processor, Dungeons of Daggorath on ROM. Taped programs from Rainbow & CoCo. \$400.00

John Hockley 02 684 1184

For Sale: One PC-2 Pocket Computer (Sharp PC-1500 compatible). One PC-2 Dual cassette interface/printer/plotter. One 4K memory expansion pak. 10 software packages, all originals. One artificial leather carry case. Pens & paper for the printer. All necessary manuals & cables inc "Getting Started". \$300.00

Brett Hooker 07 395 1794

For Sale: CGP 115 Graphic Plotter. Less than 60 hours work with manual, spare paper & pens & all hardware. \$220.00

Rory Doyle 03 758 2671

For Sale: Tandy accoustic modem with power supply, \$50.00. Tandy CGP 115 Color graphics plotter just overhauled with pens, paper and manual, \$150.00. Genuine Tandy hard disk controller. Needs OS-9 Version 2, \$200. OS-9 with version 2.00 upgrade, IS EDIT, TRS Copy & all manuals, \$75.00

Brian Coombes 03 551 7462

For Sale: Tandy Color Computer 2, 64K ECB, perfect condition, in original box. \$299.00

Neil Evans 03 584 7295

IN BRIEF

Here's What's Happening

InterTAN News

Quite a few changes here at InterTan this month, especially with Ken leaving us to go to Goldsoft, so I'll keep my first input to this column brief.

First of all I'll congratulate Teresa, Ken's old secretary who has been promoted to supervisor of the Rebuy Section.

Teresa has a pretty busy life at present, and we really appreciate her help! Instead of just one boss - she now has three!

On the product front, several of our imminent releases have been held up.

The OS-9 Level 2 package that I know many of you have been waiting so patiently for, will be released at last this month.

Importing anything into this country, can sometimes be a trial!

The little DMP 105 printer is finally available too.

We did think that it might become available in April, but it was held up in Quality Control for a little longer than expected.

It is a great printer and I have the orders from our customers to prove that they agree!

Easy Access by Daca

Easy Access is a menu system for those who do not understand MS DOS.

There are a number of additional functions supported by Easy Access. These include automatic monitoring of hard disc usage, and a simple security system to keep operators away from sensitive areas of the system.

Easy Access uses pull down menus and has a full windowing presentation.

Contact Daca, care of Wendy Archer, 03 690 4799.

I hear that Graham is covering elsewhere the recent IBM releases, so I'll just add this - the releases were completely as we predicted, and to a certain extent, our T1000 SX already meets the Model 30 head on - especially in the value/performance stakes.

No doubt you'll see more from Tandy on this issue in the near future!

I've taken phone calls from a number of customers recently asking about printers.

For top quality printing in a business environment, I really have to point to the DMP 2200.

I know this printer is expensive, but when you consider what it can do for a business in terms of savings in time and money - it saves you having to purchase a daisy wheel printer for letters for example - this printer is very difficult to pass up.

Well, that's my first InterTan News - I'm sure I can get used to this one day!

I'm looking forward to meeting with you all in August at Conf'87, so till then, or till next magazine, happy computing!

Wilfred Eggert

New IBM Models Released

IBM has announced its PC/2 range of microcomputers, consisting of the Models 80, 60, 50 and 30.

The top of the line Models 80, 60 and 50 are heavy stuff indeed - the 80 runs at 16 or 20 Mhz whilst the 60 & the 50 run at 10 Mhz! (This compares with the old Tandy 1000 which runs at 4.77 Mhz or the CoCo 3 which runs at 2 Mhz.)

The IBM Model 30 will interest some home users and many business users.

It runs at 8Mhz, has 540K of RAM, three expansion slots and 3.5 inch 720K drives.

An optional 20 Mbyte hard drive is available and the system comes standard with AT quality graphics.

A Model 30 with colour screen will cost about \$6000 depending on options.

New IBM Operating System

To compliment the new range of computers, IBM announced a new operating system called OS/2.

This system will be capable of handling memories higher than 640K and of handling windows, but nothing else is known at this stage except that it will be quite some time before it is released!

A nice way to tie up the software market place!

Clone Suppliers React

We asked one supplier what effect the release of the Model 30 would have on him, and he said that he felt that the low end would not be effected at all.

IBM are selling out their range of older models at reduced prices, but in most cases, the reduced prices are higher than Tandy's standard prices, and certainly well above the current prices of clones.

He predicted Model 30 clones in 3 - 6 months but he felt that the Model 30 wasn't anything that couldn't be created for less on existing clones.

Desktop Publishing

Desktop Publishing has been something that has developed from a small beginning on the Apple Macintosh to a major enterprise on the many IBM systems around today.

Being in the publishing business, we have followed with obvious interest the development of the new systems.

Currently, because we don't typeset, we are able to produce magazines at lower costs than other publications, but as more new software hits the market, and as our needs change, we'll be continuing to keep an eye on what's happening with a view to becoming involved at some stage.

Some observations however!
The first is that unless you are printing things continuously, it would be difficult to cost justify a fully blown system.

Next, whilst they will tell you that the IBM PC and the Tandy 1000 will operate the software, you really need an AT or clone.

The systems are very heavy users of the CPU, and you need something which is fast!

Next, there are different software packages for different jobs.

The Ventura package, available from Xerox, appears to be more of an "in house" reporting system, than a fully blown page preparation system, such as we for example, might use.

The Pagemaker Software on the other hand is a publisher's tool, not really a tool for in house use.

Finally, no matter which way one goes, you won't get much change from \$25,000 - so one needs to plan carefully!

Touch Screen

A touch screen is now available for IBM PC type computers with screens ranging in size from 9" to 15".

With a response time of 7 ms, most existing software can be adapted relatively easily.

For more information, contact Monex, 1 Wickham St., Brisbane. 4000.

Solid Modeling - Something for the Future!

The Hewlett-Packard company has long been associated with innovation.

Often their products have pointed a direction for others to follow and the latest release from them is no exception.

The HP ME Series 30 is a solid modeling design and drafting system which uses user created designs to create a 3 dimensional model quickly on screen.

I won't go into this package at great length, because it is a quite expensive system with a very extensive range of system commands, but it is suffice to say that the effect is stunning, and that I'm sure in time we'll see emulations for at least the IBM range, if not for the 68000 computers.

QAGTC Discussion

Evening

Following on the recent article in this magazine regarding gifted and talented children, we have had a number of enquiries.

Anyone interested may like to attend a meeting to be held on Tuesday 26th May from 4.30 - 10pm, of the Queensland Association for Gifted and Talented Children.

The meeting will take place in the Gateway Inn, Anne St., Brisbane.

You will need to register by May 12th by phoning Marie Hollingworth on 07 379 8313 or Erika Pavlovk on 07 245 4931.

Featured will be three mini presentations:

- * What is a talented child?
- * How do we cater for them?
- * Possibilities for the future.

There will be a Smorgasbord dinner, as well as further speakers later in the evening.

In all, a most involving evening if you can make it.

Microsoft on the Warpath!

The continuing fight against software pirates got hotter this month as Microsoft announced plans to clean up pirates of its MS DOS in Taiwan, the UK and Australia.

In mid April, persons who have been importing and selling the Falcon range of copied Microsoft products were given one week to register with Microsoft in Australia, before legal proceedings were started.

This get-tough attitude is very much in evidence in many areas of computing at present, and suppliers can not expect the same laxness shown in the past.

This is especially so in the CoCo world, where the Falsoft organisation has shown a distinct willingness to pursue anyone copying their Rainbow on Tape / Disk products.

Don't be caught with copies - it's really not worth it!

There is no such thing as permission to place in a club library, items of software which are commercial in nature

Writer's Proofreader

This is a powerful proofreading system which includes a standard 60000 word dictionary, a thesaurus, a homonym checker, word counting, professional dictionary and a two reading level analyser.

The system needs a word processor, and any WP package which saves its files in ASC II can be used - eg Deskmate.

We hope to have a copy of this product for review in the near future, so we'll report further then.

Writer's Proofreader is available from Thorn EMI Computer Software.

The new Intelligent Onboard Modem from Tandy.

We've been looking at this modem this month and hope to have a fuller report for you next month.

However at \$699.00 with Vtex 2 software, this modem represents good value for money, and is a very convenient way to keep your modem out of harm's way.

The modem has auto answer, auto dial, auto disconnect. It supports 300 baud full duplex and 1200/75 for videotex, and is available from you local Tandy store.

Don't Underestimate Tandy!

In 1986, Tandy in the US sold 272,000 PC DOS machines, along with 276,000 proprietary machines (CoCo, Model 4's etc), and 120,000 pocket portables.

This total of 668,000 machines makes Tandy No. 1 supplier in a dead heat with Apple Computer Inc on a unit basis. (IBM is still No. 1 in \$ value of shipments.)

Furthermore, Tandy having sold 272,000 PC-DOS clones, ranks as No. 1 clone manufacturer through retail channels in the US, ahead of all others!

WHAT'S ON THE BEST OF CoCoOz

Best of CoCoOz #1. EDUCATION

ROADQUIZ ROB WEBB
 SHARE MARKET ALEPH DELTA
 HANGMAN ALEPH DELTA
 AUSTQUIZ P. THOMAS
 ALPHABET RON WEBB
 SFELLING TUTOR IAN LOBLEY
 TANK ADDITION DEAN HODGSON
 FRACTION TUTOR ROBBIE DALZELL
 TABLES BARRIE GERRAND
 ICOSA BOB WALTERS
 KIDSTUFF JOHANNA VAGG
 TAXMAN TONY PARFITT
 FLAGQUIZ ROB WEBB

Best of CoCoOz #2 part 1 16K GAMES

PYTHON W. ARMSTRONG
 COCOMIND STEVE COLEMAN
 PCKERMCH GRAHAM & MATTHEWS
 OILSLICK JEREMY GANS
 SPEEDMATHS DEAN HODGSON
 COMETEOR BOB THOMSON
 BATTACK JEREMY GANS
 SKIING JOSHUA GANS
 PROBDICE BOB DELBOURGO
 RALLY TONY PARFITT
 CHECKERS J & J GANS
 FOURDRAW JOHANNA VAGG

Best of CoCoOz #2 part 2 32K GAMES

TREASURE DAVIDSON & GANS
 SHOOTING GALLERY TOM DYKEMA
 MASTERMIND GRAHAM JORDAN
 GARDEN OF EDEN DAVE BLUHORN
 ANESTHESIA MIKE MARTYN
 YAHTZEE KEVIN GOWAN
 OREGON TRAIL DEAN HODGSON
 BATILESHIP CHRIS SIMPSON
 ADVENTURE + STUART RAYNER
 ANDROMEDIA MAX BETTRIDGE
 LANDATTACK ALDO DEBERNADIS

Best of CoCoOz #3 UTILITIES

SCREEN PRINT TOM DYKEMA
 RAMTEST TOM DYKEMA
 PRINT SORT PAUL HUMPHRIES
 BEAUTY BOB THOMPSON
 DATAGEN ROBIN BROWN
 PCOPY BRIAN DOUGAN
 FASTEXT OZ-VIZ
 MONITOR + BRIAN FERGUSON
 COPYDIR THOMAS SZULCHA
 LABELLER FRED BISSELING
 SPEED CONTROL PAUL HUMPHRIES
 2BC WARREN VARNE
 CREAT-A-TITLE BRIAN FERGUSON
 DISKFILE BRIAN DOUGAN
 BIG REMARKS BOB THOMSON
 LABELLER GORDON BENTZEN
 DIR MORRIS SINGER
 HI ALEX. HARTMANN

Best of CoCoOz #4 Business

HI ALBX. HARTMANN
 (disk; Disk Directory Manager)
 PERSMAN PAUL HUMPHREYS
 (Personal Finance Management)
 BANKSTAT BARRY HATTAM
 (Annual & Store Statement)
 CC5 GRAHAM MORPHEIT
 (tape; Sales Invoicing)
 INSURE ROY VANDERSTEEB
 (Analyse Home Contents)
 COCOFILE BRIAN DOUGAN
 (tape; database)
 DPMS PAUL HUMPHREYS
 (disk; Disk Program Management Sys)
 DATABASE PAUL HUMPHREYS
 (tape; THB tape database)
 RESTACC DUNG LY
 (tape; Restaurant Accounts)
 SPDSHEET GRAHAM MORPHEIT
 (disk; 22 column spreadsheet)
 PRSPDSHT GRAHAM MORPHEIT
 (disk; prints out "SPDSHEET")
 ACS3 GREG WILSON
 (disk; Multi disk database)

Best of CoCoOz #5 ADVENTURES

ADV 32K S. RAYNER
 QUEST TONY PARFITT
 LABYRINTH JAMES REDMOND
 ADV + SEAN LOVE
 CRYSTAL C & K SPRINGETT
 PRISON TIM ALTON
 OPALTON IAN CLARKE
 WIZARD DARRELL BERRY
 TREASURE C. DAVIDSON
 LOST ALEX. HARTMANN

Best of CoCoOz #6 PRESCHOOL

ALPHABET STUART DAVSON
 HATDANCE JOHANNA VAGG
 AUSTSONG McDERMOTT FAMILY
 ADVANCE McDERMOTT FAMILY
 WALTZING McDERMOTT FAMILY
 TIMEKANG McDERMOTT FAMILY
 BAND McDERMOTT FAMILY
 KIDSTUFF JOHANNA VAGG
 MATCHER ?
 LETTERS JACK FINNEN
 BABYSIT JOHANNA VAGG
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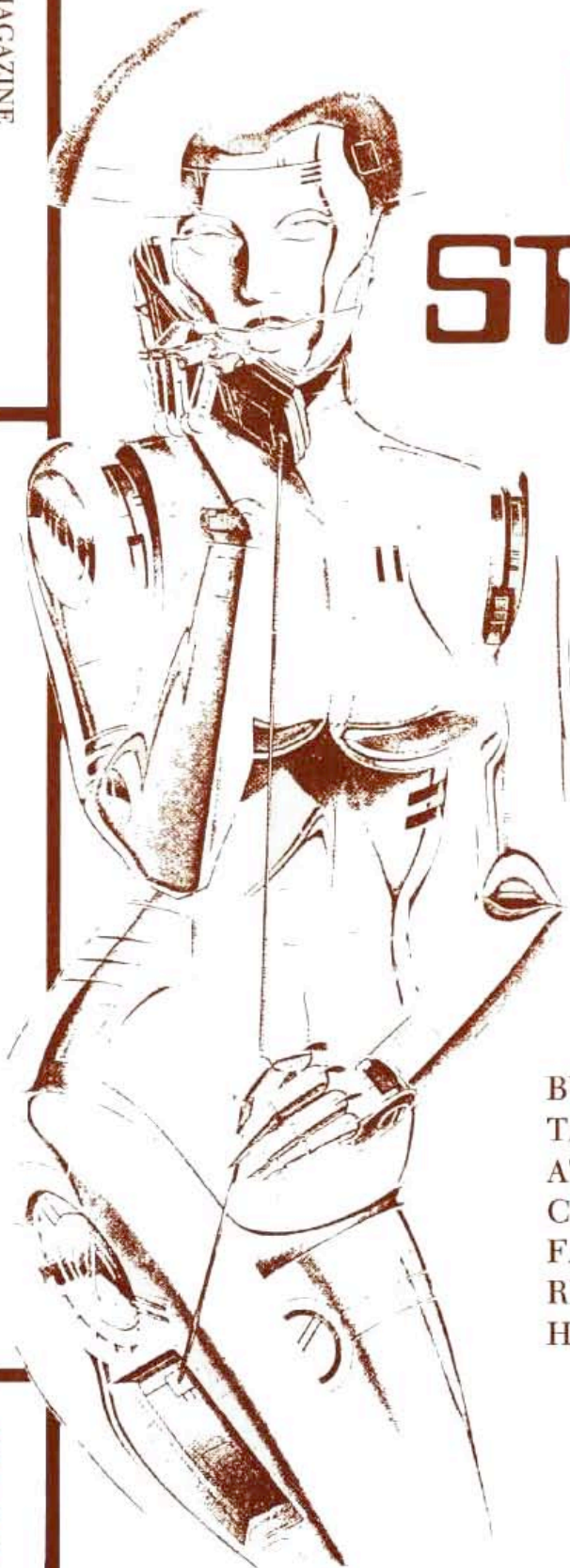
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