

# LET'S COMPUTE!

99p

**BE BOSS OF A NATURE PARK**



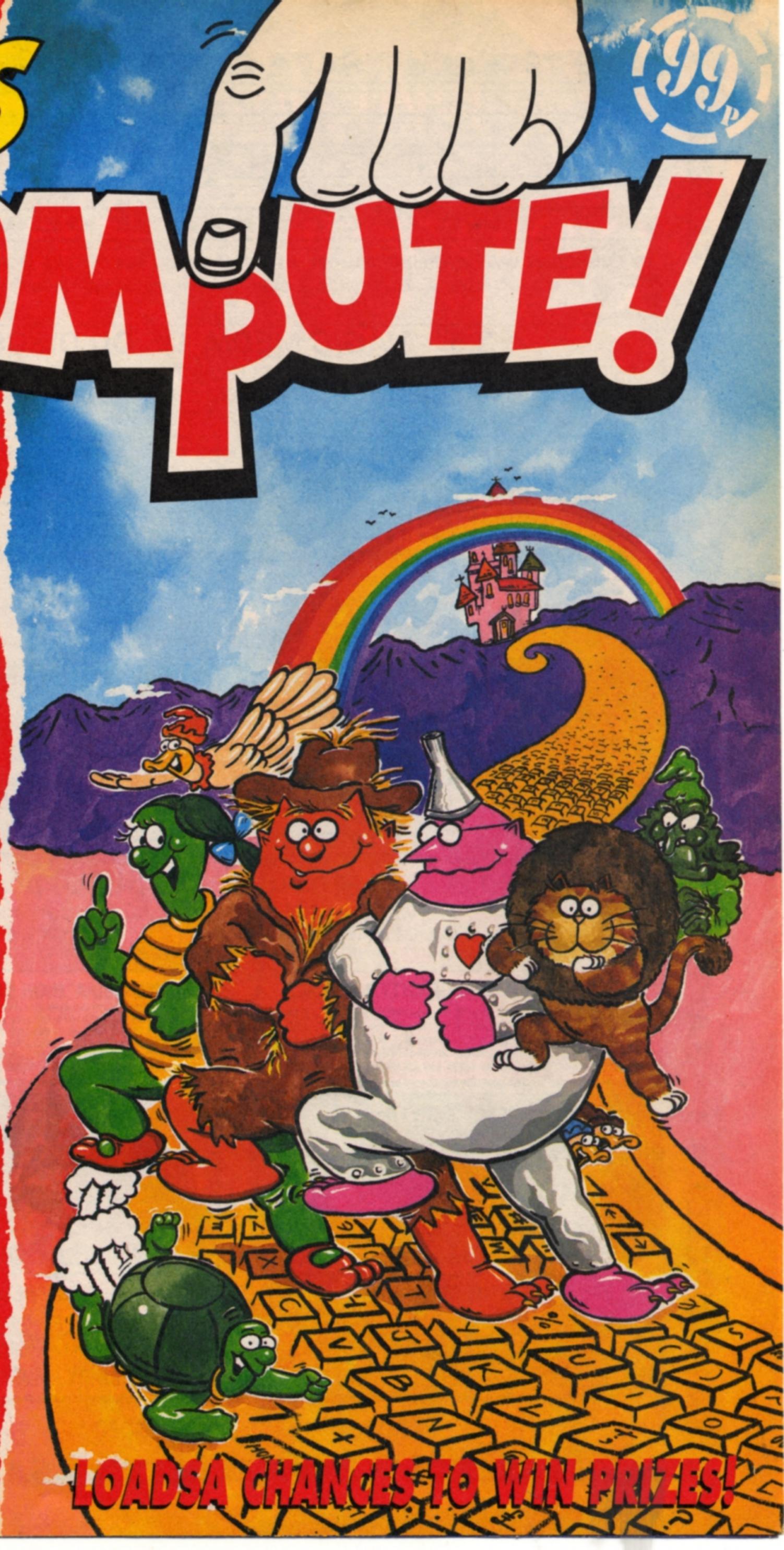
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For **ALL** users of:  
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Spectrum, Atari ST,  
PC, Amstrad CPC

No 8 March 1991  
A Database Publication



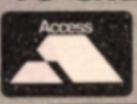
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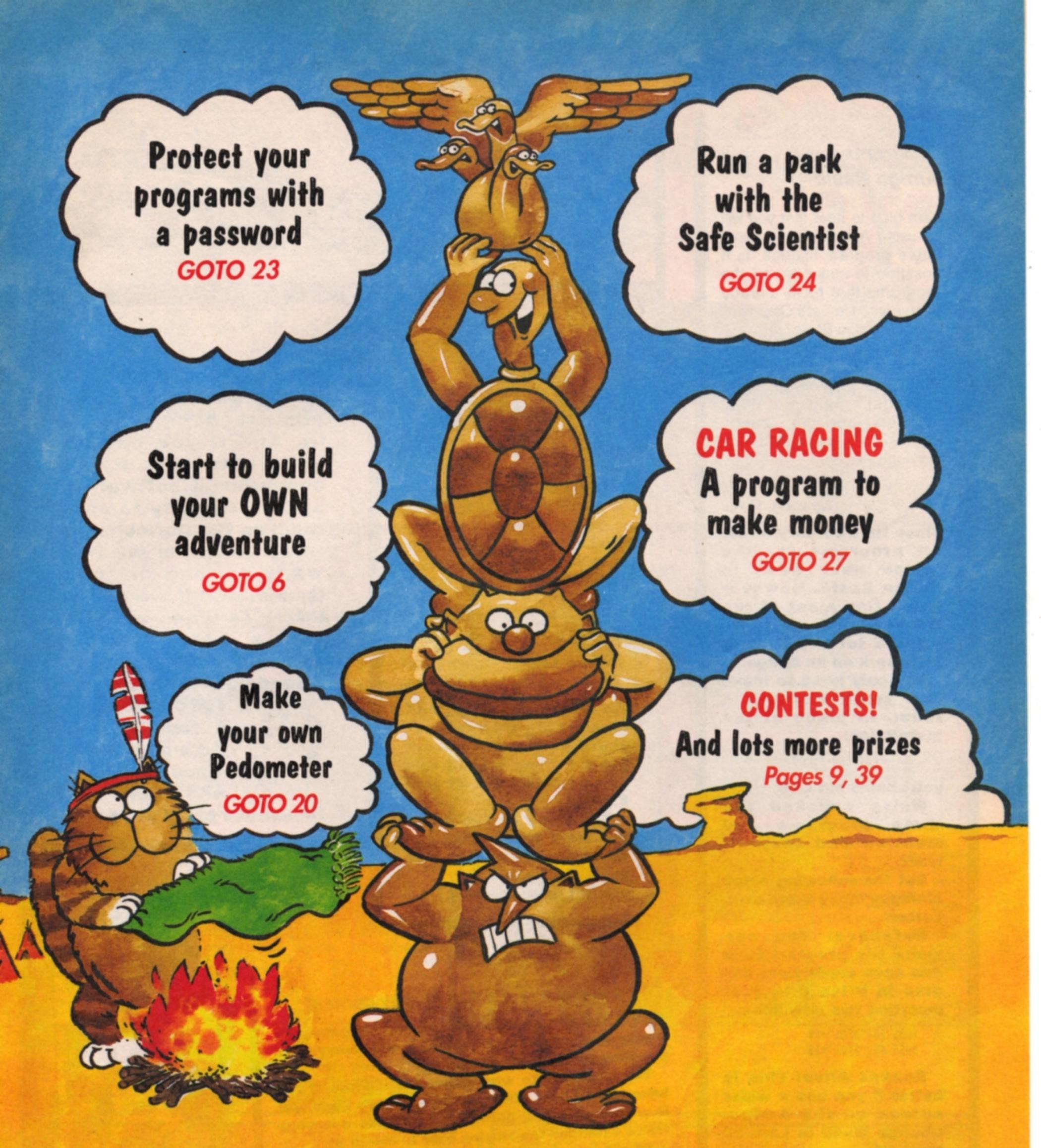
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**Protect your  
programs with  
a password**  
**GOTO 23**

**Run a park  
with the  
Safe Scientist**  
**GOTO 24**

**Start to build  
your OWN  
adventure**  
**GOTO 6**

**CAR RACING**  
**A program to  
make money**  
**GOTO 27**

**Make  
your own  
Pedometer**  
**GOTO 20**

**CONTESTS!**  
**And lots more prizes**  
**Pages 9, 39**

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## REGULARS

<b>Rom and Ram</b>	<b>GOTO 11</b>
<b>Gadget Shop</b>	<b>GOTO 14</b>
<b>Rom's Round Up</b>	<b>GOTO 18</b>
<b>The Games Gang</b>	<b>GOTO 28</b>
<b>Build a Database</b>	<b>GOTO 33</b>
<b>Logo Lowdown</b>	<b>GOTO 35</b>
<b>Final Front Ear</b>	<b>GOTO 44</b>

## Programs for Amiga Basic

I am glad to hear that you will be using Amiga Basic in your future program listings. Is it possible to make any of the programs that have already been printed in *Let's Compute!* work on Amiga Basic?

In particular, could you please tell me how to get the Database (November 1990 onwards), Snakes Alive! (January) and the Healthy Lifestyle (December 1990) working.

— Elaine Holbon (9),  
Newbury, Berks

**Since the February issue, all programs for the Amiga have been in Amiga Basic. However you'll find most of the GW-Basic listings we've printed for the PC will also work on an Amiga.**

**You only need to make one small change to them. In place of the instruction:**

```
SCREEN 1:CLS
```

**you should put CLS.**

**We've checked the three programs you mention and they all work.**

**But the following small changes make them even better:**

**Database:** You can make the program load and save cards from any disc in Drive 0 by just inserting two new lines.

```
1055 FS="DF0:"+FS  
2055 FS="DF0:"+FS
```

**Snakes Alive:** This is better if you use a wider screen on the Amiga. Change W=40 in Line 30 to W=75

**Healthy Lifestyle:** The scrolling screen at the start is a bit slow if the PC version is used on an Amiga. Change T/8 in Line 430 to T/80 to speed it up.

# Notice

## Better to LET or not?

One word of criticism about your programs is the use of LET. This is unnecessary, even on my ancient Electron!

I note that even the Program Doctor is guilty. All the programs in *Let's Compute!* run quite satisfactorily with the LETs deleted.

Cheers for now. I could use a new cap to play golf in!

— Maurice Williams (65),  
Llandrindod, Powys

**On most computers, LET is optional. However, as some need it we always put it in. You're right that you don't need it on your Electron.**

**The same is true about the word THEN. This can usually be missed out on most computers.**

**A hat is on the way.**

**If you have any tips for other readers, send them in. And if you have any questions about your computer or software just ask us. We'll try to answer them on the Noticeboard.**

**Let us know what you want to see in future issues. And if we use your letter or ideas we'll send you a *Let's Compute!* baseball hat!**

**Send your letters to:**



***Let's Compute!*  
Europa House,  
Adlington Park,  
Macclesfield  
SK10 4NP.**

**Remember to tell us your age.**

## There's still time for the Floppy contest

We've had some smashing entries for January's floppy disc contest. It's amazing how many uses you thought of for old discs.

The closing date was January 3 and lots of you have told us that when you bought *Let's Compute!* it was too late to enter. So to please everyone we've extended the closing date to March 31.

**So get your entries in the post now.**

We've also been told by several people that they don't want to cut up their valuable copies of *Let's Compute!* Remember we accept copies of any contest entry forms – but only one per person.

Also, if you want to enter more than one contest you can save postage. Just send all the entries together in an envelope addressed to:

***Let's Compute!* Contests, Europa House,  
Adlington Park, Macclesfield, SK10 4NP.**



I hope you like the poster.

— John Paul Cullen, Co  
Durham

# board

## Get more from adventures...

Here are some hints that will help you solve the adventure we gave you last month – *The Golden Crown*.

The first thing you should do in any adventure is draw a map.

You must think of each location as a separate area. Then use squares to show all the different places you can go to.

Put a mark on your map when you can't go any further in a certain direction. This will help you to know when you have explored everywhere.

You may find some passages are one way. Make sure you label them.

In most adventures everything you find as you go around is useful. That's not true with *The Golden Crown*. A few sly tricks have been added!

We don't want to spoil your fun by giving you all the answers. But here are some important clues:

- You cannot finish the

## Hints and tips

adventure unless you have found the dagger, the scroll and the key.

- If you can't get past the guard, find another way in.

- The magic word only works in the cellar.

*That should be enough hints for you to find the crown and return it to the king. But in case you're still having problems we'll pin the map to the noticeboard next month.*

## Save your position . . . and save your time!

I have constantly read in magazines the words: "At this point save your position". I do not know how to do this so could you please tell me?

– Philip Kyte, Barnsley, South Yorkshire

You often find this in Adventure games, where you're moving from place to place. Each time you move there's a chance something could happen: You could, for example, be killed by a giant.

If you've spent hours getting there it's very annoying to have to go right back to the beginning and start again. So most adventures let you save your position at any time. Do it often!

This means that next time you play the game you can load the last saved position. It's as if you'd never been away.

The way you do the save depends on what adventure you're playing. On most you type **SAVE**, just as you would type **NORTH**.

To load your position the command is often **RESTORE** rather than **LOAD**. The instructions for the adventure should give you more details.

## Where's the mistake?

My daughter Clare, who is 7, has recently obtained a BBC Master and finds *Let's Compute!* very helpful.

She enjoys the programs that can be typed in herself and on this subject she has a slight problem.

In the February issue there is an adventure game, *The Golden Crown*. It has been typed in and checked many times but still keeps coming up *Type Mismatch at Line 780*.

I cannot work out what we are doing wrong. Please could you put us straight on this problem?

Also, the Land your own Rocket program in the same issue is excellent. It will come in useful for Clare when she has to learn about multiplication and decimals.

– Mrs E Southworth, Leeds

**The first thing to note is that the line referred to in an error message isn't always the line with the mistake. In the case of a reported error in a line containing READ, the mistake is usually in the DATA lines.**

**We suspect you've just missed a comma out somewhere between Line 920 and 1070. But it's tricky to find exactly where by just looking at your screen.**

**There is an easier way to find out where the mistake is. When the program stops and reports the error, simply type:**

PRINT OS(I)

**What you will see displayed is the last thing the program managed to read correctly. Suppose it's the words silver key.**

**Look for that in the DATA lines. You'd probably find you've missed the comma between silver key and the zero following it in Line 1010.**

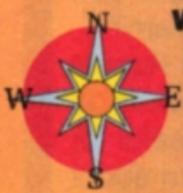
**If that's not the mistake, it's somewhere near there. At least you don't have to look at all the DATA lines.**

# We're off on the road to

**PART 1**

Why not write your own adventure game? This new series will show how easy it is.

# Adventure!



Writing an adventure is fun. And not only for you. It can give your friends lots of pleasure when they play it later.

And there's another good thing about writing adventures. You don't have to write a completely new program each time you want to create a new game.

Over the next few months we're going to show you how to write a program that will work for lots of different games.

It's called an *Adventure Manager*.



We'll be building it up section by section. In programming terms each of these is called a *routine*.

There will be lines in the program that will make the game jump to these routines when they are needed. These are known as *calls* to the routine.

That's enough of the jargon for now. Let's start building the game!

When you play an adventure your computer needs to understand the words the players type in. Each game will use different words. The program must be able to deal with all of them.



So the first thing we have to do is give our computer a list of words we want it to understand. Type in Lines 4999 to 5500.

This is a simple word list. It includes direction words like

**NORTH** and **SOUTH** - all your adventures will need these.

The **DATA** at line 5500 looks different. It's called a *rogue value* and it marks the end of the list.

The program will be written so that your computer knows it has reached the end of the list when it comes across a star (\*). That way you can add more words without having to tell the program each time you do so.



This is an example of an important rule of programming: The more work you do when you start, the less you'll have to do later.

Now type in Lines 999 to 2000. These set up lots of things your program will need later. It's called an *initialisation routine*.

Next you need the line that makes the program jump to the routine - the *call*. That's line 10. Type it in now.

Before you **RUN** the program you should also type in Line 990. That stops the program when all the calls to the routines have been carried out.

Now you're ready to **SAVE** and **RUN** the program. Try it.

Nothing will seem to happen yet. What you have done is give your computer a list of words, each with its own space number.

You'll notice that in the **DATA** we've only used the first four letters of each word. This is usually

enough for the computer to recognise what the word is. But make sure you don't confuse your machine by using similar words like **LIST** and **LISTEN!**

All the words are directions. Look at Line 5010. You can see that **EAST** and **E** have both been given the same number - 2. This means the computer will treat each of them as the same word.

So it doesn't matter whether a player types in **EAST** or **E**. The computer will look up the figure 2 in its memory and take him in the same direction.



You play an adventure game by typing in instructions or directions. We'll now add some lines that print *What next?* This invites the player to tell the computer what he wants to do.

Type Lines 2009 to 2499. You also need the call to them, so add Line 20.

You'll want the program to show you the word numbers it's found, so add Line 100. *We'll take it out when we add the routines that use descriptions instead of the room numbers.*

**SAVE** and **RUN** the program again. It will now sit and wait for you to type something in. Try typing anything.



If you type a word that's not in the data two zeros will be printed. If you type something it understands the word or words will be changed into numbers. Try typing **North E**. See what happens?

All this may seem a complicated way of recognising a few words. You may think you could write a five line

## What happens when you type something in?

When you answer the *What next?* question your reply is stored in **Y\$**. When you've **RUN** the program try entering: **PRINT Y\$**

You'll find your answer stored there. Now get your computer to check if any of the words are in your list.

Line 30 calls Lines 2500 to 2699 and they do this job.

The **REMs** in some of the lines are there to help you

understand what is going on. But don't worry if you don't quite get the hang of how it works. It will all come clear to you shortly.

## REMark

REMs are put in programs to make them more understandable to humans. Your computer ignores them completely!

In this program some of the REMs are at the end of lines. Like this:

```
10 GOSUB 1000:REM SET UP START
```

You don't need to type in :REM or the following words.

Other REMs are alone on a line. For example:

```
999 REM SORT THINGS OUT BEFORE YOU START
```

These lines can be missed out entirely. But it's best not to. They could help you find things later.

program to do the same job.

But our program is very friendly. Any of the following will produce the same result:

```
N
NORTH
GO NORTH
RUN NORTH
PLEASE MAY I GO TO THE NORTH
```

Now you have a program that will look for ANY word you put in the data list. Try adding some of your own.

Just add a line between 5050 and 5500. Such as:

```
5060 DATA 10,HELLO
```

Look what happens when you run the program and type HELLO FROG. You will get:

```
10 0
```

That's because Hello has been given the number 10 and FROG is not in the list. It gets a 0.

Your program can now recognise direction words. But it's not an adventure yet. Your players will need somewhere to go - and exciting things to do.

Next month we'll add the lines that put places in your program. Then you'll be well on the way to seeing your own adventure come to life.

## A CHALLENGE

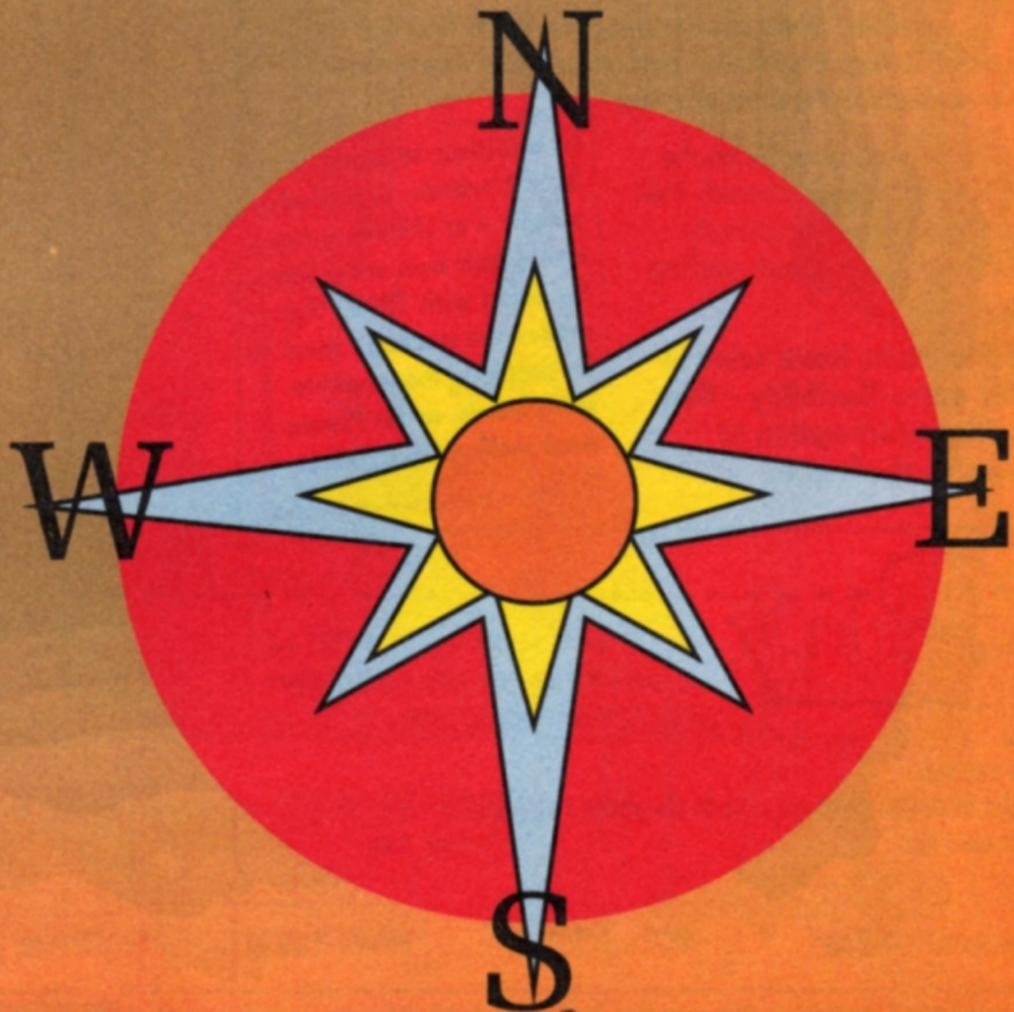
So far your players will only be able to type what they want in capital letters.

So while you wait for next month's *Let's Compute!* here's a challenge. See if you can make the program work for small letters as well.

## IS THIS YOUR COMPUTER?

This program works on a BBC, Archimedes, Electron, CPC, ST(Stos), Amiga and PC(GW-Basic). It will not work on a C64/128 or Spectrum.

```
10 GOSUB 1000:REM SET UP START
20 GOSUB 2010:REM DISPLAY
30 GOSUB 2510:REM GET WORD NUMBERS
100 PRINT"THE WORD NUMBERS WERE ";W(1);
" ";W(2)
990 STOP
998 REM
999 REM SORT THINGS OUT BEFORE YOU STA
RT
1000 LET W=0:REM THIS WILL BE THE NUMB
ER OF WORDS
1005 DIM W(2):REM WORD NUMBERS FOUND G
O HERE
1010 RESTORE 5000
1020 READ X,X$:REM THESE VARIABLES ARE
JUST FOR COUNTING
1030 IF X>0 THEN LET W=W+1:GOTO 1020:R
EM NOT THE END OF THE LIST?
1040 DIM WRDNUM(W):DIM WRDS(W):REM SET
UP ARRAYS TO PUT WORDS IN
1045 RESTORE 5000:REM GO BACK TO THE S
TART OF THE LIST
1050 FOR X=1 TO W:READ WRDNUM(X),WRDS(
X):NEXT X
2000 RETURN:REM-FINISHED SORTING THING
S OUT
2005 REM
2009 REM DISPLAY THINGS
2010 REM BITS GO IN HERE LATER
2200 PRINT "What next ";:INPUT Y$:LET
Y$=Y$+" "
2499 RETURN
2500 REM GET WORD NUMBERS
2510 LET W(1)=0:LET W(2)=0:LET P=0:LET
WHICH=1:REM THE WORD NUMBERS GO IN HERE
,P FOR POINTER, WHICH IS FIRST OR SECON
D WORD FOUND
2520 LET P=P+1:IF P>LEN(Y$) THEN RETUR
N:REM HAVE WE FINISHED?
2530 IF MID$(Y$,P,1)=" " THEN GOTO 252
0:REM FIND THE NEXT WORD
2540 LET W$="":REM NO WORD YET
2550 IF MID$(Y$,P,1)=" " THEN GOTO 260
0:REM END OF THE WORD?
2560 LET W$=W$+MID$(Y$,P,1):IF LEN(W$)
=4 THEN GOTO 2600:REM 4 LETTERS YET?
2570 LET P=P+1:GOTO 2550:REM GET THE N
EXT LETTER
2599 REM NOW SEE IF THE WORD MATCHES
2600 FOR X = 1 TO W
2610 IF WRDS(X)=W$ THEN W(WHICH)=WRDNU
M(X):LET WHICH=WHICH+1:REM FOUND MATCH -
SAVE IT
2620 NEXT X
2630 IF WHICH=3 THEN RETURN:REM STOP I
F YOU'VE GOT 2 WORDS
2640 IF MID$(Y$,P,1)<>" " THEN LET P=P
+1:GOTO 2640:REM IGNORE THE REST OF THAT
WORD
2650 GOTO 2520:REM GET THE NEXT WORD
2699 RETURN
4900 REM
4999 REM START DATA HERE ----- WORDS
FIRST
5000 DATA 1,"NORT",1,"N"
5010 DATA 2,"EAST",2,"E"
5020 DATA 3,"SOUT",3,"S"
5030 DATA 4,"WEST",4,"W"
5040 DATA 5,"UP",5,"U"
5050 DATA 6,"DOWN",6,"D"
5500 DATA 0,"X"
```





# Passing an exam . . . applying for a job . . . whatever you want to do in life you need to be able to SPELL!

There's mounting alarm about the appalling standards of spelling among Britain's schoolchildren. MPs, teachers, parents and employers are all stressing the vital importance of being able to spell correctly.

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SPELL! is unique. It lets the user learn at his or her own pace. They can take as long as they like – or take on the computer in a high-speed challenge!

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## FIVE ways to improve your spelling

**In a Flash:** Read the word as it flashes on the screen, then type it in. For practice runs, the word is left on the screen as it is typed.

**Rocket:** Hidden words have to be discovered in this hi-tech version of the old favourite Hangman. If they are guessed correctly the rocket will blast-off. Fail and all that's left is a load of scrap.

**Lunar Buggy:** Type fast for fun. The aim is to key in the word as it's pulled across the screen by the buggy. It has to be completed before the letters drop down a crater.

**All Mixed Up:** Jumbled letters have to be sorted out to find the scrambled word. To help beginners – and anyone else who is stuck – clues can be obtained at the press of a key.

**Conveyor Belt:** Words pass by on the screen and have to be remembered. Then they must be typed in – spelt correctly. This is a challenging test of both spelling and memory.

**All the programs have several options for extra flexibility – like a timer with on/off option to add that extra challenge.**

In addition to using the 5,000 words provided, parents – or children – can create their own word lists for using with SPELL! This makes the package ideal for practising those hard-to-learn words, or for "Learn these spellings" homework.



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The prizes are all described here. And there are 10 of each.

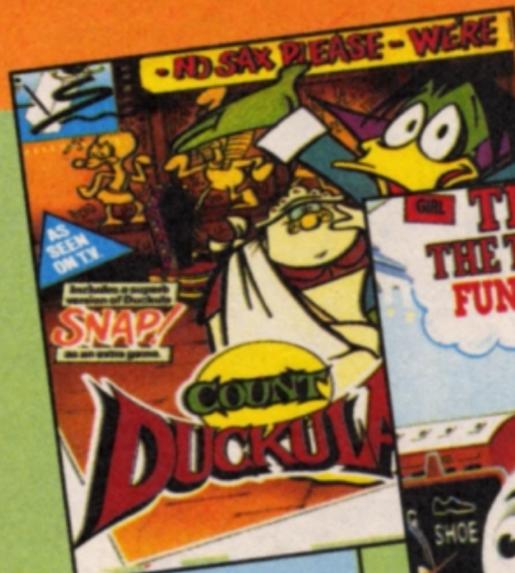
All you have to do is study these letters. Then rearrange them to get a seasonal saying:

**ADM SA A CHRAM REHA**

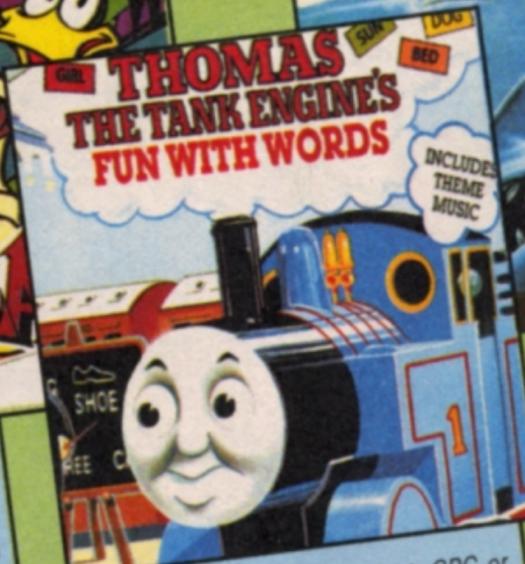
The first 60 readers with the right answer to be pulled from the sack will receive a prize.

A disc for their PC, ST or Amiga or a tape for their CPC, C64 or Spectrum.

All you've got to do now is fill in the entry form and send it to us before March 29.



**Count Duckula** - for Spectrum, C64, CPC, ST and Amiga. The popular cartoon hero has moved to computer games. Transported to Egypt you must find the mystical Sax before dawn. Explore the pyramid, solve puzzles and collect useful pieces.



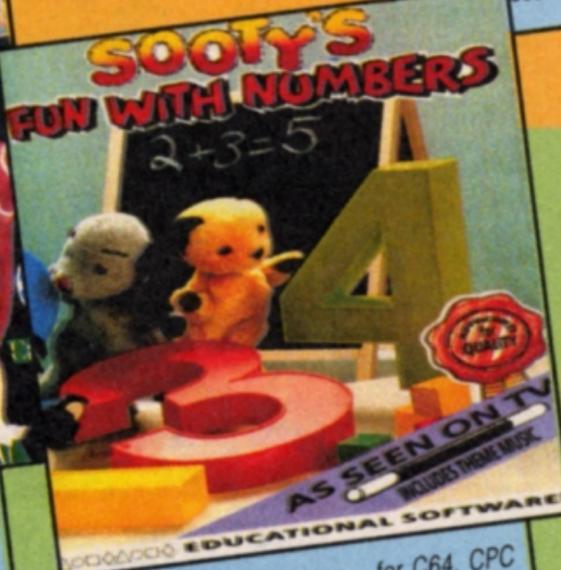
**Fun with Words** - for C64, CPC or Spectrum. Enjoy learning with Thomas the Tank Engine. There are six games and you have to pick the right letter, match shapes and much, much more.



**Jaws** - for Spectrum, C64, CPC, ST or Amiga. Enjoy the terror of the deep. You are Police Chief Brodie. With your friend Hooper and shark expert Quint you must make the beaches of Amity Island safe. Get rid of the horror of the great white shark. Lives and your job is at stake.



**Track Suit Manager** - for ST, Amiga or PC. You choose any European country and start to manage their national team. Decide how the matches are to be played and who will play. You can suffer the victories or the defeats as they happen.



**Fun with Numbers** - for C64, CPC and Spectrum. Can you help Sooty win the big race? Or help Sweep get the right number of bones? Or even help Sue with her hat problem?

## Entry Form

Name .....

Address.....

Postcode ..... Age .....

When rearranged the words are:

My computer is (please tick):

- ST .....
- Amiga .....
- PC (5.25in disc) .....
- PC (3.5in disc) .....
- CPC (tape only) .....
- C64 (tape only).....
- Spectrum (tape only)....

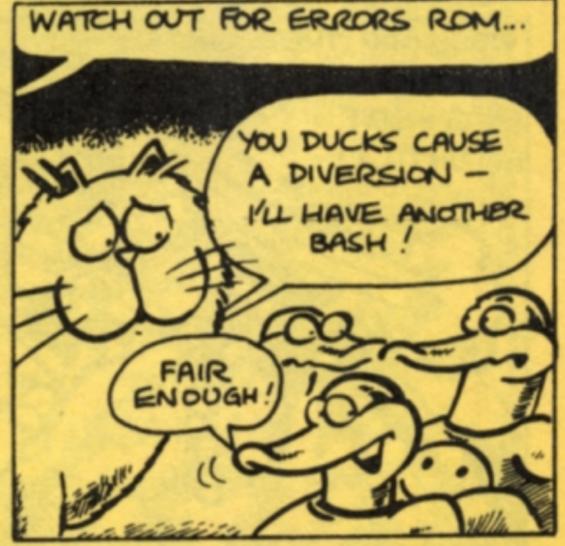
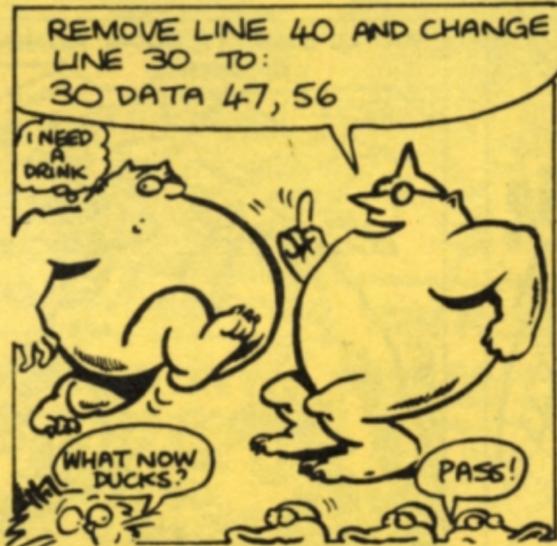
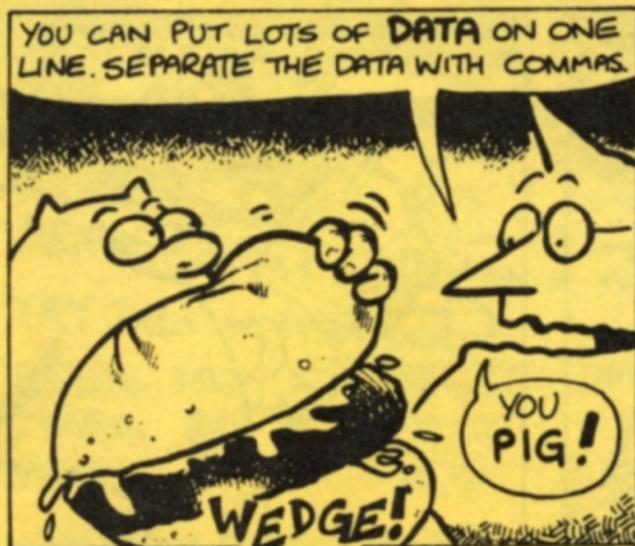
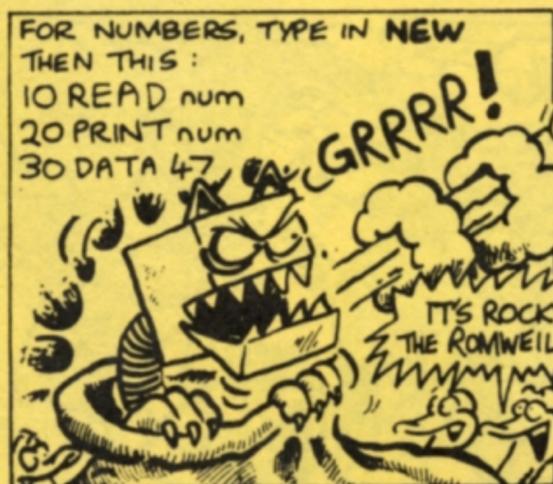
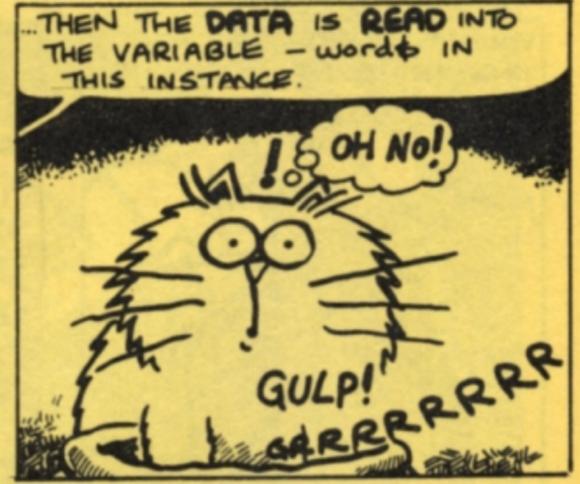
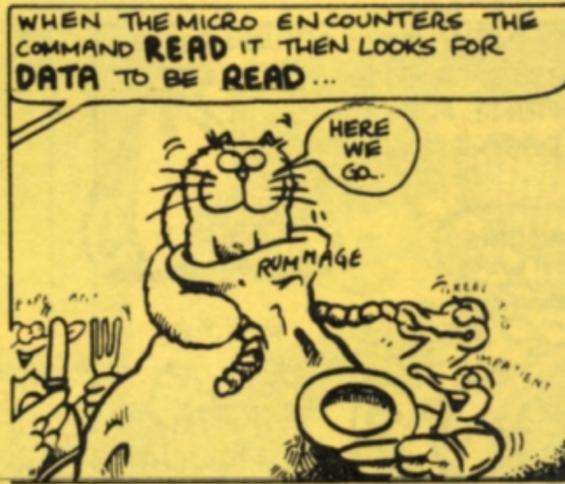
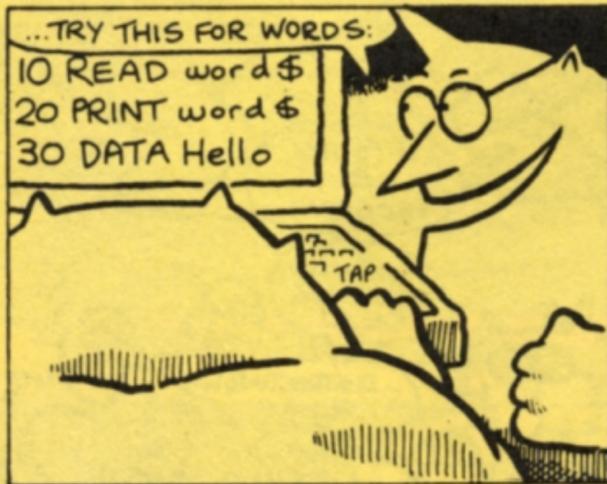
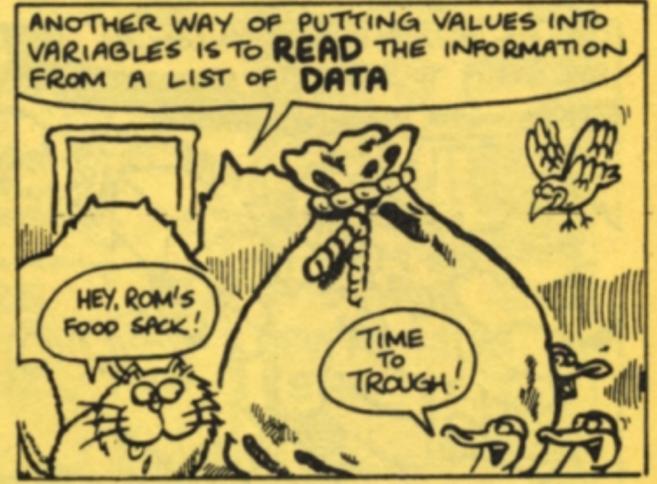
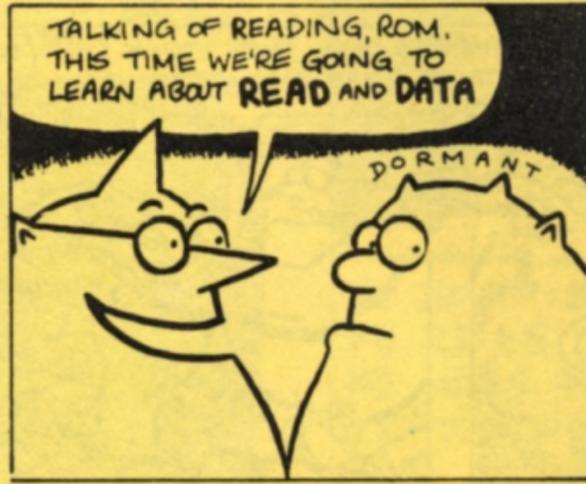
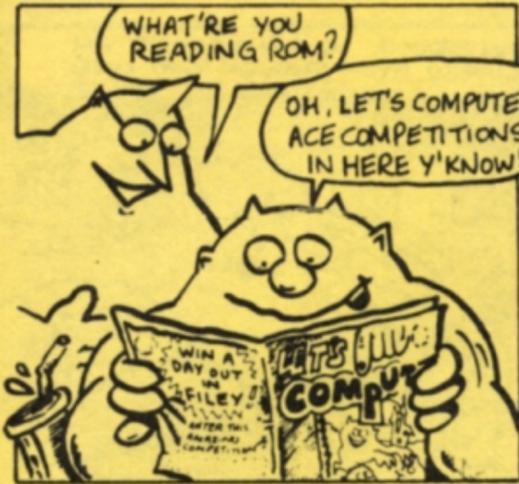
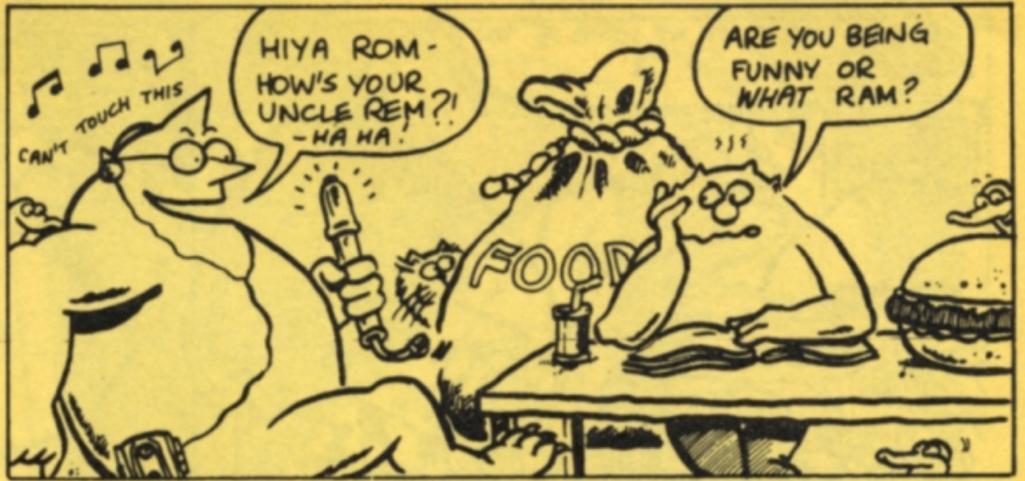
Now send to Alternative Contest, Let's Compute! Europa House, Adlington Park, Macclesfield SK10 4NP.



# BBC BASIC

WITH

ROM & RAM



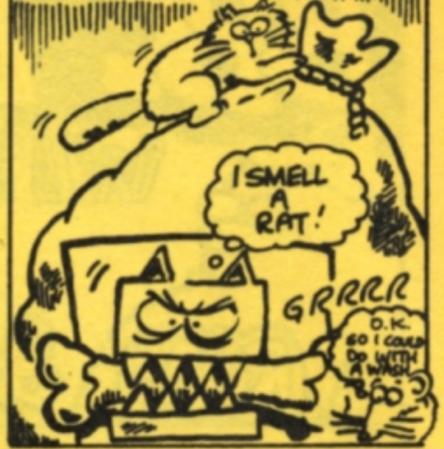
CHANGE THE LOOP AT LINE 5 TO:  
5 FOR I% = 1 TO 3



WHAT'S THIS ERROR AT LINE 10 I HAVEN'T CHANGED IT!



MEANWHILE...



LINE 5 TO 25 LOOPS THREE TIMES LOOKING FOR DATA TO READ...



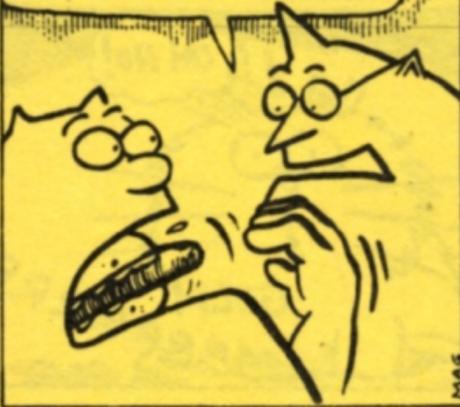
... BUT THERE'S ONLY TWO ITEMS OF DATA TO READ ON LINE 30



SO, AN ERROR IS GENERATED ON LINE 10 EVEN THOUGH THAT LINE IS O.K.

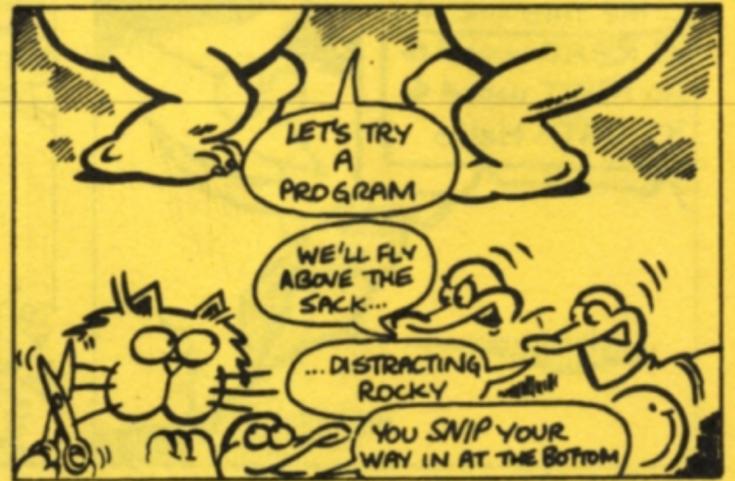


YOU CAN READ MORE THAN ONE THING AT ONCE.



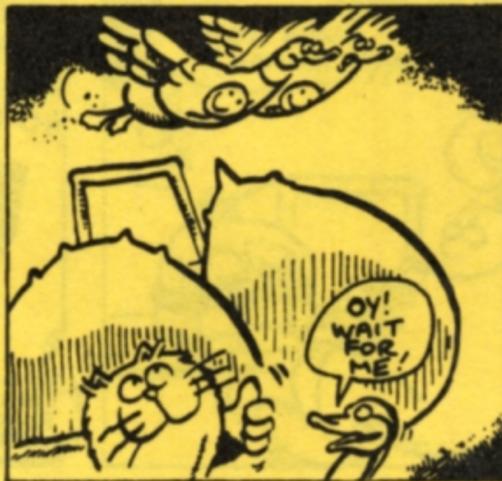
TYPE NEW, PRESS RETURN, THEN:

10 READ A\$, A  
20 PRINT A\$, A  
30 DATA ENGLAND, 7



THIS PROGRAM WILL CHOOSE A RANDOM COLOUR:

10 FOR I% = 1 TO RND (4)  
20 READ col\$  
30 NEXT  
40 PRINT col\$  
50 DATA RED, YELLOW, GREEN, BLUE



WELL, ADD THESE LINES:

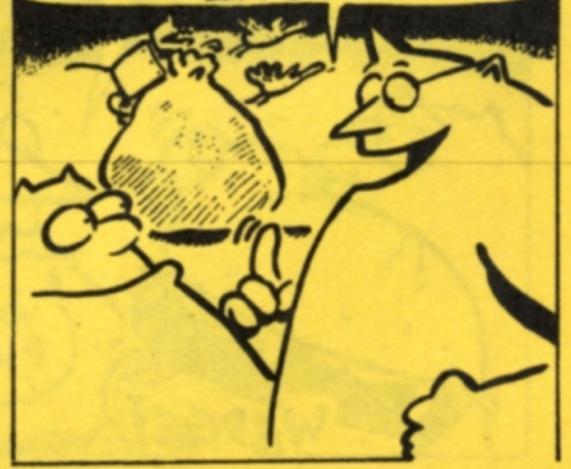
5 REPEAT  
55 G = GET  
60 UNTIL 0



YOU'LL SEE IT SOON RUNS OUT OF DATA.



THIS IS BECAUSE IT STARTS READING FROM THE START - OR WHERE IT LEFT OFF.



ADD THIS LINE:  
6 RESTORE

NOW IT WORKS

RESTORE MAKES IT START READING FROM THE FIRST LINE OF DATA AGAIN.

SAUSAGES!

YOU CAN ALSO SELECT WHICH LINE OF DATA YOU WANT TO START READING FROM. TYPE NEW, THEN THIS:

```
10 RESTORE 60
20 READ A$
30 PRINT A$
40 DATA FROG
50 DATA PIG
60 DATA DOG
70 DATA CAT
```

GRRR

OH NO!

AHA!

SNARL

SORRY THAT DIDN'T WORK

HEY, DROP THE BANGERS

TO FINISH, HERE'S A TELEPHONE BOOK PROGRAM

```
10 INPUT "Name " name$
20 REPEAT
30 READ data$, num%
40 UNTIL data$ = name$
50 PRINT name$; ":"; num%
```

WAG

I'M HUNGRY

HMM! FOOD!

NOW ADD YOUR OWN DATA LIKE THIS:

```
60 DATA FRED, 349912
70 DATA MARY, 256537
80 DATA MIKE, 696901
```

DOH-ER

WHIP

WWWHAAT

YANK

GRRRRRRRRRRRR

OH NO!

OH YES! NEXT MONTH ROM GOES MULTI FORMAT- AT LAST!

WHAT A VERY POOR Joke

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# THE GADGET SHOP

# CREATE YOUR OWN LAB

Gadget shop projects have a habit of sparking off other good ideas. This month's fascinating game was thought up as I played with last month's pinball machine.

In fact if you bought the gadget kit for last month you have all you need. This month's mega game uses the same bits.

You've probably seen the usual type of labyrinth game. You have to guide a ball through a maze and avoid it dropping down the holes.

Well, with the help of your computer you can do away with the walls and holes altogether. What's more, by simply changing the wiring or the software you can have a completely different game any time you want.

The object of this new game is to get your ball from the start to the finish in the fastest time possible. Along the way you must visit each one of the special stages.

You have to go to each in turn and you mustn't alert the guardian of the labyrinth. If you do - or if you visit a stage out of turn - you have to start again.

## HOW TO BUILD YOUR LABYRINTH

The way the labyrinth made is very similar to last month's pinball machine.

First of all you need a board. Any size will do. I used one 30cm by 30cm.

Then get a small strip of wood and make a retaining edge all round. Glue or nail it to the board.

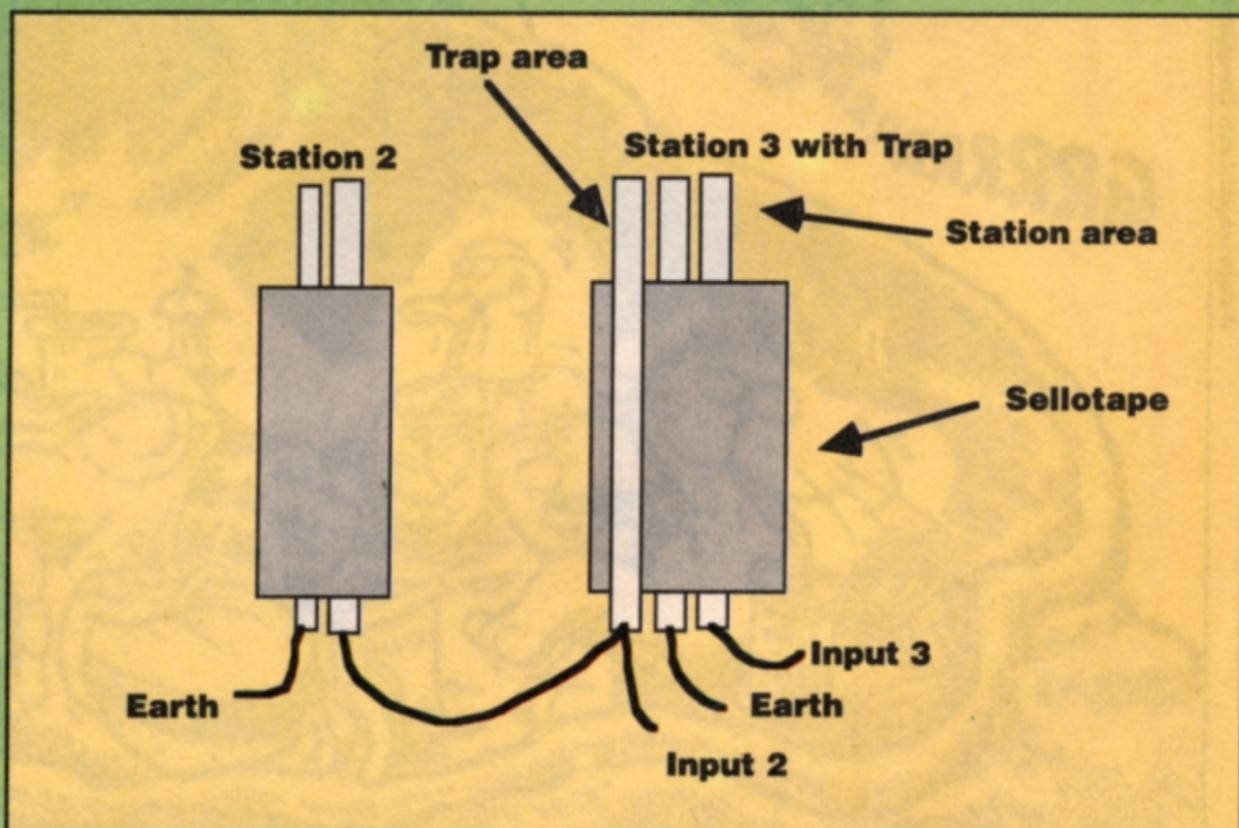
If you want to make the game mega-hard you can leave this bit out. But you'll spend most of your time picking the ball off the floor.

Next take some adhesive backed alu-

minium foil and lay down some tracks. The idea is to create stations where you have to hold the ball and traps which you have to avoid.

The diagram below shows the basic idea of what the traps and stations should look like. Remember if you want the foil to cross but not make connection use sellotape between the layers.

You can also use tape to prevent the ball making contact before getting to the station. Each station must be numbered



Stations and Traps from the foil

### FOR ALL COMPUTERS

This gadget works with any computer that uses a nine-pin joystick plug. Using the modifications in the text it can also be used on a BBC Model B, Master and Electron with Plus One.

IN THE SHOP SOON: **AUTO MONEY BOX** ●

# OUR BYRINTH

**Gadget shop owner Mike Cook shows how you can make a Labyrinth without walls**

so that you know which one to go to next.

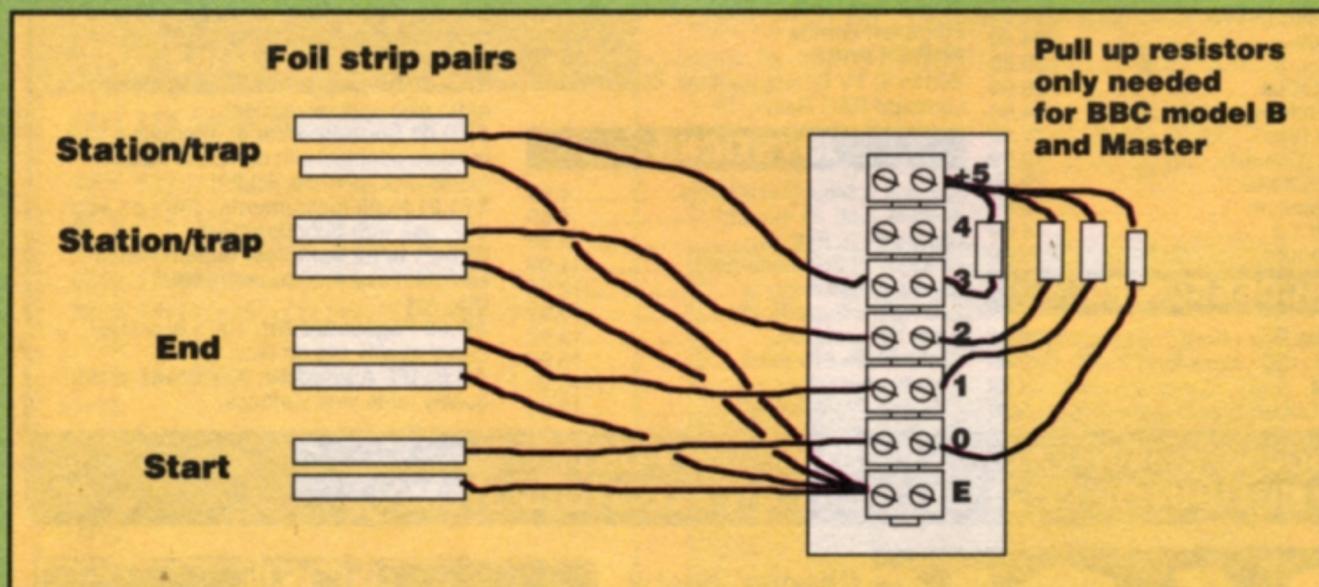
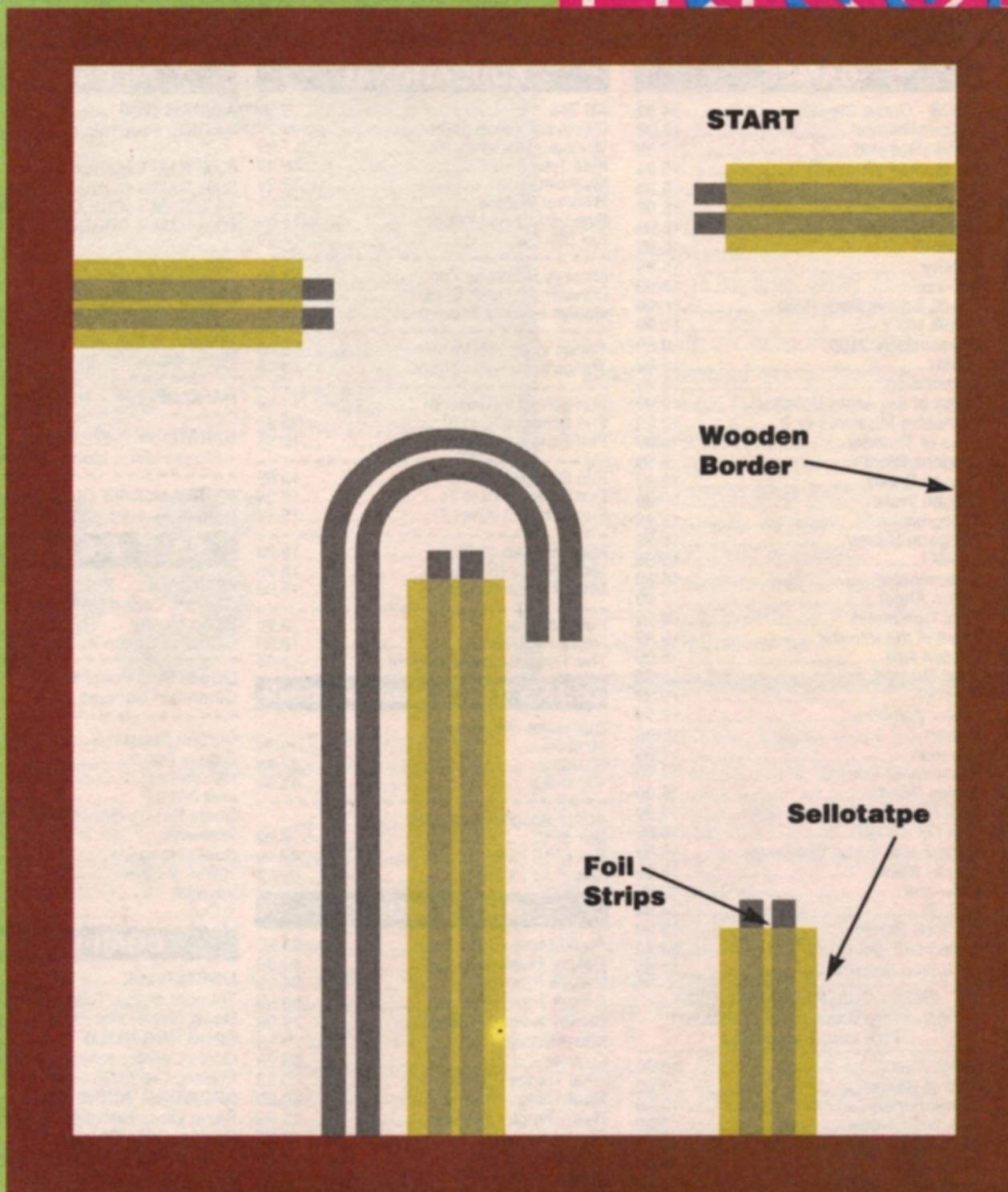
The number of stations you will be able to have depends on what type of computer you have.

Acorn machines – apart from the Compact – have eight inputs on the user port. This means you can have up to eight stations. Other machines will only have five.

You need to use one station for the start and one for the finish. The rest can go anywhere.

The diagram below shows how to connect your labyrinth stations to your computer. Remember, a trap can be any station that you are not supposed to be visiting. The program shown is for the

**Continued on next Page >>>>>>**



**The Labyrinth wiring**

# BYTEBACK



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1 disk = £1.99  
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Ask for our NEW catalogue!

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**AU.03 QL Emulator;** plus 2 disks full of programs. (3 disks: £5.97)  
**AU.13 Visicalc;** spreadsheet.  
**AU.18 North C;** programming language.

#### Educational

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#### Games

**AG.02 Games;** Pacman, Othello, Hanoi Gravity Wars, Jackland, Empire, etc.  
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# BYTEBACK

DEPT LC, 6 MUMBY CLOSE, NEWARK, NOTTS NG24 1JE

Cheque, postal orders or credit card facilities are available



Acorn range of computers. The listing for other computers is provided when you order the kit or free if you send in an SAE - see the order form.

To play the game simply RUN the program. Move the board so that the ball sits over the start station.

You will then hear your computer beep. From this moment you are being timed.

A message to go to the next station will show on your screen. When you get there you will be directed to the next and so on until the end.

If at any time you trigger the trap or go in the wrong order you will be told to return to the start.

When you successfully complete the run your time will flash up. Press the spacebar to have another run. The pro-

gram is written in a very flexible way. Line 540 contains the station numbers in the order you must visit. Any numbers missed are traps.

We start at station 0 so that's the first number in the line and end up at station 1 so that is the last but one number in the line.

The numbers in between are the stations to visit. If your computer has eight inputs the numbers here can go up to 7.

You can repeat any station number to make the player thread a complex path through the labyrinth. This line must end in a -1 to tell the computer that there is no more data to read.

So get twisting and tilting and really sharpen up your reflexes.

I'll see you next month.

```

10 MODE 7
20 REM THE GADGET SHOP Labyrinth
30 REM By Mike Cook
40 DIM V(20),BV(20)
50 BEST=99999
60 S=0
70 REPEAT
80 READ V(S)
90 BV(S)=2^V(S)
100 S=S+1
110 UNTIL V(S-1)<0
120 S=S-1
130 REPEAT
140 CLS
150 PRINT TAB(10,3);"The Labyrinth"
160 PRINT TAB(10,4);"By Mike Cook"
170 IF BEST <>99999 THEN PRINT TAB(0,7
);"Best Time Today ";BEST;" seconds"
180 PRINT TAB(0,10);"Move to the Start
";SPC(20)
190 REPEAT
200 AX=?&FE60
210 UNTIL AX=&FE
220 PRINT TAB(0,10);"Start when you are
ready";SPC(20)
230 REPEAT
240 AX=?&FE60
250 UNTIL AX=255
260 TIME=0
270 SOUND 1,-15,60,2
280 CS=1
290 REPEAT
300 IF CS<>0 THEN PRINT TAB(0,10);"Now
move to station ";V(CS);SPC(20)
310 REPEAT
320 AX=?&FE60
330 UNTIL AX=255
340 TM=TIME
350 REPEAT UNTIL TIME>TM+4
360 AX=?&FE60
370 IF AX<> 255 THEN GOTO 310
380 AX=?&FE60
390 IF AX=255 THEN GOTO 380
400 IF BV(CS)<>(NOT(AX) AND 255) THEN
CS=0:SOUND 1,-15,20,2:PRINT TAB(0,10);"G
o back to the start";SPC(20):GOTO 310
410 CS=CS+1
420 SOUND 1,-15,100,2
430 UNTIL CS=S
440 PRINT TAB(0,10);
450 T=TIME/100
460 IF T<BEST THEN BEST=T:PRINT"Congra
tulations. The best time today!!!"
470 PRINT"Your time was ";T;" seconds"
;SPC(20)
480 PRINT"Press any key to play again"
490 FOR BX=40 TO 150 STEP 10
500 SOUND 1,-15,BX,2
510 NEXT BX
520 AS=GET$
530 UNTIL FALSE
540 DATA 0,3,2,4,1,-1
    
```

**This program is for BBC computers. Software for other machines is supplied when you order your packs**

## IS THIS YOUR COMPUTER?

**Archimedes/BBC A3000**  
 Replace Lines 200, 240 320,360 and 380  
 SYS "OS\_Byte",150,&60 TO „A%

**Electron with User port interface**  
 Replace A% = ?&FE60 with A% = ?&FCB0

**Amiga, Atari ST, Commodore 64/128, Spectrum**  
 The program will be supplied free when you order Gadget Shop parts.



### ORDER FORM

#### Gadget Pack 7 - Pin ball Construction Set

- 7a) 16mm ball bearing, 50m reel of aluminium foil, 16 nuts and bolts (6BA size), 2 crocodile clips ..... £8.75
- 7b) 12 volt solenoid and push button ..... £11.50

The software for your computer is supplied free with orders. Please remember to state what type of computer you have in the space below.

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The *Let's Compute!* expert takes a break from Basic and looks at the top games

# Master

Master Break is the latest release from Superior. The BBC, Electron and Archimedes versions have all been brought out together.

Based on the Radio One DLT quiz. It's your chance to amaze your friends with your general knowledge.

It's a mix between trivial pursuits and snooker. You'll find it surprising addictive.

Up to four people can play and must answer from a choice of six subjects. They're Science, Pop Music, Geography, Leisure, The Arts and History.

The subject for the first question is chosen randomly from the list. It's a red ball question. You must select the right answer from four.

If you get this right, you choose a coloured ball question. If you are right again you have a random red ball question to answer next. And so it goes on.

Each subject has a different colour

## Speedball II

It's the future. For two years there hasn't been a single game of Speedball. But there are new rules, bigger pitches and more action.

You're in charge of the worst team in history – Brutal Deluxe. Your job is to get the team to the top of the league. Simple? No chance...

Speedball 2 is the follow up to the hugely successful Speedball. But, it has been improved and is definitely worth adding to your collection.

Divided into two, the match is the main part. You get an overhead view of Speedball which is great. The super graphics really add to the effect.

Speedball is very easy to play. Run up the pitch with the ball and hurl it at the goal. Then stop the other team doing the same.

There are loads of other features though. If you throw the ball down a hole it can spin out at the other side. You can leap and catch a ball in mid-air. Or even rush up and punch the other players!

In the other part of the game you are the manager. As you buy and sell players you try to make the best team you can.

It's very much along the lines of football manager games. It increases what Speedball has to offer.

The graphics and sound are brilliant. The players are colourful and move well. Even the still pictures are excellent.

Speedball 2 costs £19.95 for the ST and Amiga from Image Works.

A PC version is being worked on, and CPC, C64 and Spectrum owners may get a chance to play later in the year

*This is a game you'll want to play again and again.*



## Teenage



Simply brilliant

10

# Break

every time. The colours show how long you have to answer the questions.

The black ball questions score the most. Not because they are the most difficult. You'll find the timer bar disappears before your eyes.

You may decide to pass on answering some red ball questions. But you can only do this three times.

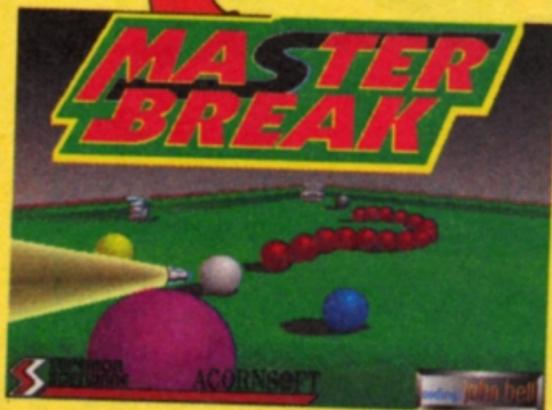
Sometimes you'll find that your trusty computer has put the ball directly over the pocket. If you get the next question wrong your friends will get the points - nice.

The digitised pictures and sounds on the Archimedes version are great. The timer really adds to the atmosphere. I panicked the first time I tried to answer a black question.

The right answers are not given, though it is nice when you guess correctly. It costs £9.95 for tape, £11.95 for BBC disc and £19.95 for Archimedes disc.

Good value for money

9



*Master Break is just as good to play on your own or with friends. You'll need very quick reactions to get the maximum break of 147.*

# Mutant Hero Turtles

You can now get Teenage Mutant Hero Turtles for the CPC, C64, Spectrum, PC, ST and Amiga. The PC version is the original from the USA. The others are changed and improved for the UK. BBC Master 512 and Archimedes owners with a PC emulator and the PC version can join in the fun too.

You meet the same heroes and baddies as the TV cartoon series. The Foot, led by the Shredder, have kidnapped April.

Michaelangelo, Donatello, Leonardo and Raphael have two hours to rescue her. If they don't she'll be brainwashed and will become a member of the Foot.

There are six levels of arcade adventure to battle through. They take you into the sewers, city streets and even the Hudson river.

You have to fight, defuse bombs and leap from building to building. And at the end of each level you'll have to battle it out with a martial arts expert.

You can choose which of the heroes you want to play. Your movement is recorded on a map of the city.

Each turtle has a different weapon. You'll find friends as you play and they will give you information on where to find April. Pizza, of course, will help your energy level.

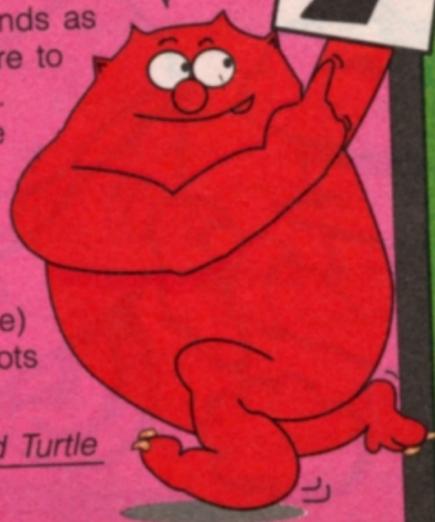
The graphics are nice to look at - especially on the ST, Amiga and on VGA PCs. The sound effects are quite good too.

Teenage Mutant Hero Turtles is from Image Works. It costs £24 for the ST and Amiga, £29.99 for the PC and CPC, C64, Spectrum costs £12.99 (tape) or £16.99 (disc). Some shops sell the games with lots of turtle goodies too.

*All in all it's a good arcade adventure game and Turtle TV fans will enjoy it.*

Definitely worth playing

7



# Sound Blaster

Lots of games have great tunes and other sound effects. Have you ever wished your computer was louder so you could fill the room with sound? Then you could really annoy the neighbours!

If your computer speaker isn't big enough, Sound Blaster can help. It plugs into your computer and really boosts the noise.

You get several parts. First, there's an amplifier. This plugs into your computer and controls the sound level. You get a mains adaptor to give it power.

There's a pair of speakers for listening loud. You also get a pair of headphones so you can carry on playing when you've been told to shut up.

If you've used any kind of hi-fi equipment before setting up your Sound Blaster will be simple. For the best results put the speakers high up and lie them on their side.

When you first turn on make sure the volume control is low. You can then turn it up to what level you want and everyone else can stand.

Do watch out though. The speakers must be undone to use headphones and there is no proper on/off switch.

The red light will be on all the time. Unplug the unit when you're not using it.

The Sound Blaster costs £44.95. You can get it for all major types of home computer.

*It's a great product. Just the thing to annoy mum and dad - until they find out about the headphones!*

Blasting Fun!

9





**No.2**

- ### What you'll need
- ★ A pram wheel.
  - ★ A piece of wood (about 4cm by 4cm by 1m)
  - ★ A screw to fix the wheel to the wood.
  - ★ A piece of stiff card about 4cm by 10cm.
  - ★ Two drawing pins
  - ★ A computer

- ### HOW TO USE IT
1. Place the pedometer at the point where you want to start measuring.
  2. Walk to the point where you want to measure up to, pushing the pedometer in front of you. Count the clicks as you go.
  3. Feed the number of clicks into your computer to find the distance.

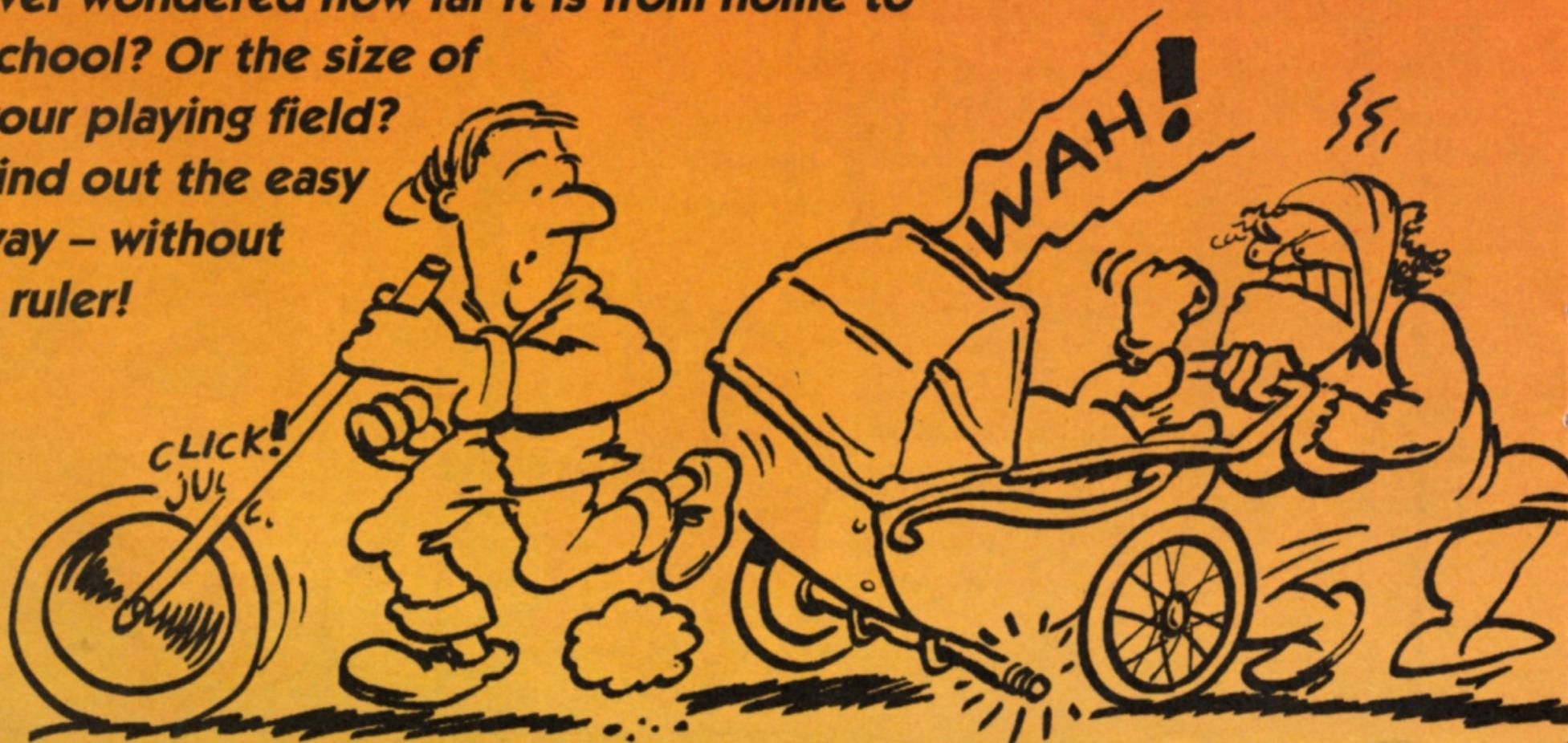
So you want to measure a field but you haven't a ruler long enough! Not to worry. All you need is your computer - and the *Let's Compute* pedometer.

What's a pedometer? Just a wheel on the end of a stick. What you want to find out is the distance the wheel has rolled. A real one uses things like gears and complicated electronics. These work out the distance automatically.

On your simple one, you'll hear a click each time the wheel goes round. All you have to do is count the number of clicks. Then give that figure to your computer and it will do the rest.

# Let's make a PEDOMETER

Ever wondered how far it is from home to school? Or the size of your playing field? Find out the easy way - without a ruler!



# AT YOUR COMPUTER

Type the program in, SAVE it and RUN it. You'll be asked two simple questions. Here's how you should answer them:

## How big is the wheel?

Measure the distance across the wheel (the diameter). Type it into your computer. Make sure you use the same units as you want to measure the big distance in.

For example, suppose you want to measure a field in metres. If your wheel measures 28.4cm your answer to the computer's question would be .284.

## How many clicks?

Just key in the number of clicks your pedometer made.

You'll then be told how far you pushed your pedometer. If you measured the wheel in metres the distance is in metres. If you used feet, it's in feet.

And that's all there is to it.

You'll be asked if you want another go. You must answer with a capital Y for yes or N for no.

If you answer Y you won't be asked the first question again. The size of the wheel is the same all the time.

## HOW TO MAKE IT

There are lots of ways you can make a pedometer. It depends on what odds and ends you have.

Here's one suggestion for how to make one. But you can always use your imagination to design your own.

Use a screw to fix a pram wheel to a piece of wood. All you then need is something to make a click each time it goes round.

One way to do this is to fold a small piece of card and fix it to the tyre. If it's a solid tyre you can use drawing pins to do it. But that isn't such a good idea if the tyre is full of air!

Remember, all you have to make sure is that every time the wheel goes round the card touches the wood. That makes the click.

That's one way to make a pedometer. Now make your own and start measuring.

If you use it to measure anything unusual write to *Let's Compute!* and tell us. If you include a photograph of yourself using your pedometer you might even see it pinned to the noticeboard.

## HOW THE PROGRAM WORKS

**Line 40** works out the distance round the wheel (the circumference). It uses the well known formula:

$$\text{CIRCUMFERENCE} = \pi \times \text{DIAMETER}$$

**Line 50** multiplies this by the number of clicks to give the total distance.

**Line 60** converts this to the nearest whole number. The method used was described by the Program Doctor last month.

```
10 CLS
20 INPUT "HOW BIG IS YOUR WHEEL";D
30 INPUT "HOW MANY CLICKS";N
40 LET C=3.14*D
50 LET T=C*N
60 LET T=INT(T+0.5)
70 PRINT:PRINT
80 PRINT "IT MEASURED ";T
90 PRINT:PRINT
100 INPUT "ANOTHER GO (Y/N)";QS
110 IF QS="Y" THEN PRINT:PRINT:GOTO 30
120 IF QS<>"N" THEN GOTO 100
```

## IS THIS YOUR COMPUTER?

**Electron/BBC/Amiga/  
Archimedes/  
Spectrum/PC(GW-Basic)**

*The program works as shown.*

**Commodore 64/128**

*Change Line 10 to:*

```
10 PRINT CHR$(147);
```

**ST(Stos)**

Put # after the variables H, B, D, S, B and R. So, for example, H becomes H#.



**NEXT MONTH: Check your reflexes with Peter's super reaction tester**

GAMES	AMS		CPC		C64		SPECTRUM	
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* Arithmetic (6-11)	3.70	6.70	-	-	3.70	6.70	3.70	4.45
* Spelling (6-11)	3.70	6.70	-	-	3.70	6.70	3.70	4.45
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* Files for Ans. Back Quiz	-	-	-	-	-	-	-	-

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	5 1/4	3 1/2	Disc	Disc
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The program even lets you write your own quizzes and save them on disc or cassette  
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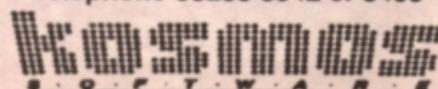
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# PROGRAM DOCTOR

DOC, HOW DO I STOP SPIES LOOKING AT MY PROGRAM?

EASY! PUT THESE LINES AT THE START. THEN, IF ANYONE WANTS TO USE THE PROGRAM THEY HAVE TO TYPE IN A PASSWORD FIRST.

DON'T LOOK!  
-please!

-ACME EYE CHART-

```
10 PRINT "WHAT IS THE PASSWORD?"
20 INPUT P$
30 IF P$="PASSWORD" THEN GOTO 50
40 PRINT "WRONG PASSWORD":GOTO 40
50 PRINT "YOUR PROGRAM GOES HERE"
```

WHAT IF I TYPE IT IN WRONG BY MISTAKE? IT WON'T LET ME HAVE ANOTHER TRY.

MOST PROGRAMS LET YOU HAVE THREE TRIES. ADD THESE LINES TO YOURS AND IT WILL DO THAT.

HA! HA!

```
5 LET T=0
34 LET T=T+1
36 IF T<3 THEN PRINT "TRY AGAIN":GOTO 10
```

BUMPER ACME GEL

THE PROBLEM AT THE MOMENT IS THAT SOMEONE COULD WATCH WHAT PASSWORD YOU TYPE. IT'S A GOOD IDEA IF IT DOESN'T SHOW ON THE SCREEN.

```
15 LET P$=""
20 LET L$=GET$
22 IF L$=CHR$(13) THEN PRINT:GOTO 30
26 LET P$=P$+L$
28 GOTO 20
```

HOW DO YOU DO THAT?

CHANGE LINE 20 AND ADD THESE LINES. NOTE THAT LINE 20 IS DIFFERENT ON SOME MAKES OF COMPUTER. CHECK YOURS IN THE BOX BELOW.

NOW NOTHING SHOWS ON THE SCREEN. I DON'T EVEN KNOW HOW MANY LETTERS I'VE TYPED!

ADD THIS LINE AND A STAR WILL SHOW EACH TIME YOU PRESS A KEY

```
24 PRINT "*";
```

THAT'S ALL THERE IS TO STARTING YOUR PROGRAMS WITH A PASSWORD!

FOOT NOTE

IS THIS YOUR COMPUTER?

ELK/BBC/ARCHIE  
WORKS AS SHOWN  
COMMODORE 64/128

CHANGE LINE 20 TO:

```
20 GET L$: IFL$="" THEN GOTO 20
```

SPECCY/CPC/ST(DOS)/AMIGA/PC (GW BASK)

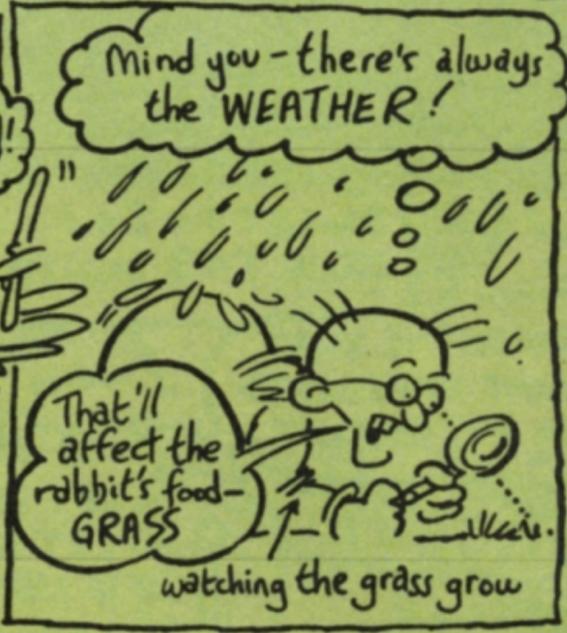
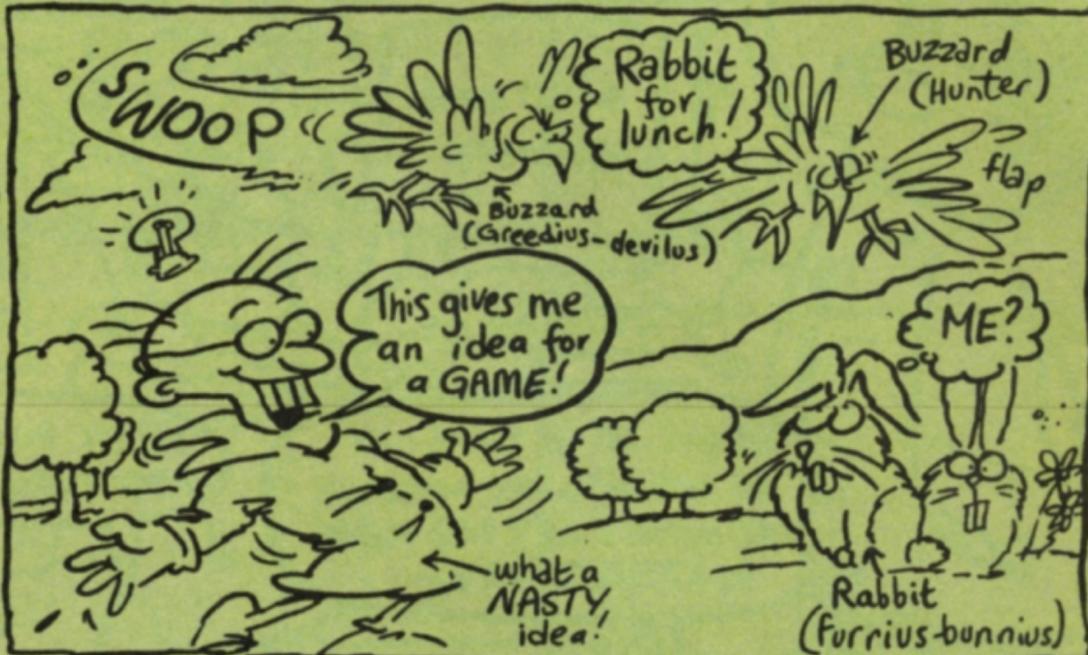
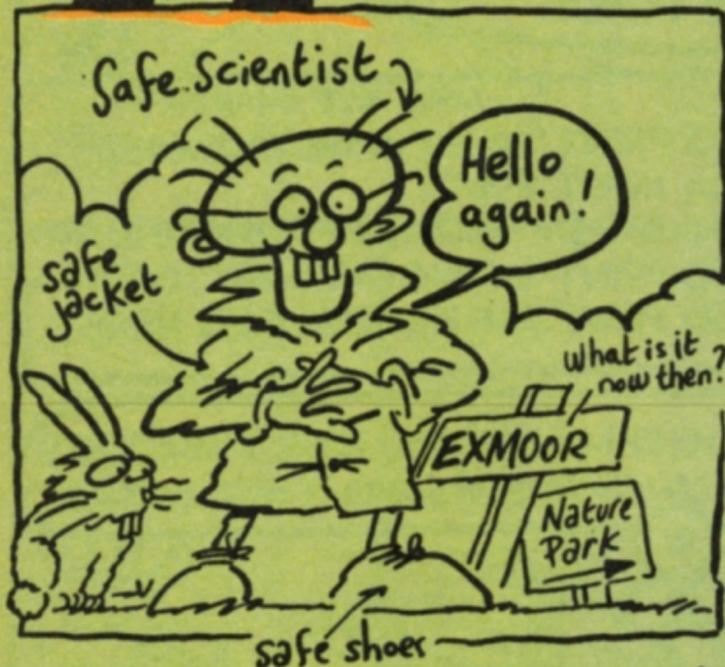
CHANGE LINE 20 TO:

```
20 LET L$=INKEY$: IFL$="" THEN GOTO 20
```

```
21 IF INKEY$ <> "" THEN GOTO 21
```



# The Safe



# Scientist

## Nature IN THE Balance



### **The Safe Scientist looks at animal problems in the park**

Here's a game that's based on a small park in Exmoor. It contains a few pairs of buzzard along with a supply of their favourite food – rabbits.

You play the part of the warden. You must try to maintain a balance between the hunters and their prey.

A lot of the problem is out of your control. For example, the growth of the rabbit's food – grass – depends on the weather.

You run the park for four years. Each season you can decide whether to cull rabbits or introduce some more.

This may seem harsh. But if there are too many of our furry friends they will eat all the grass. Then they'll starve! That means the buzzard population will also suffer. In any case, selling the rabbits can help to pay your wages.

The Nature Park Problem makes use of what's called a mathematical model. All the possible events are simplified to basic equations in your computer.

For example, in your model each pair of buzzards will always produce three young birds. Their survival depends on the weather and how much food is available.

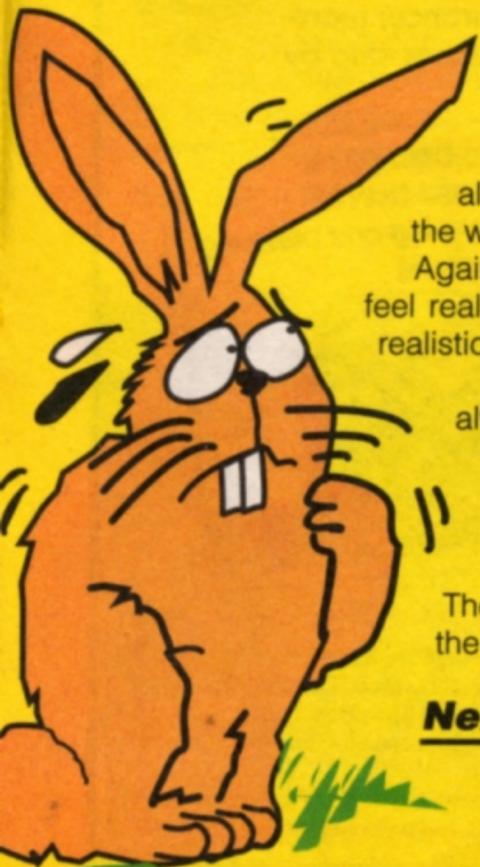
Again, your computer works this out using a simple sum. If you feel really brainy you could refine these sums and produce a more realistic picture of life in the park.

As ever, the way you use the program is up to you. But, as always in science, the idea is to investigate. Questions like:

What happens if you do nothing? Can you keep up a healthy buzzard population if you do intervene every season?

You could keep your own records of weather conditions. Then use them to try to work out how to manage the rabbits for the best effect.

**Next month we'll be putting the brakes on.**  
**Can you stop a car before it crashes?**



### **NATIONAL CURRICULUM AREAS COVERED**

What's this program got to do with science? And is it any help with the National Curriculum?

Well, one whole attainment target is about *Human Influences on the Earth*.

Also, the *Variety of Life* topic wants you to understand predator/prey relationships. You also need to know about pyramids of numbers and biomass.

The program covers all these areas. It also encourages you to investigate. And that's something every good scientist has to do!

**TURN OVER THE PAGE  
FOR THE PROGRAM**

# The Safe Scientist

```

10 REM NATURE PARK CHALLENGE
20 DIM SS(4):DIM GS(5)
30 DEF FNR(R)=RND(R)
40 CLS:FOR X=1 TO 4:READ SS(X):NEXT X
:FOR X=1 TO 5:READ GS(X):NEXT X
50 LET B=3:LET R=50:LET G=3
60 FOR Y=1991 TO 1994
70 FOR S=1 TO 4
80 NR=0
90 LET SS=SS(S)
100 LET W=FNR(6):LET G=W-S
110 IF G<1 THEN LET G=1
120 RESTORE
130 LET GS=GS(G)
140 GOSUB 410
150 IF S=3 THEN LET R=R/(6-W/3)
160 IF FNR(5)=1 THEN LET R=R+10
170 IF R<1 THEN LET R=1
180 IF S=3 THEN LET B=B+NB/2
190 IF S=3 THEN LET B=B-20*B/R
200 IF B<0 THEN LET B=0
210 IF FNR(5)=1 THEN LET B=B+1
220 IF S=4 THEN LET R=R/(6-W/2)
230 GOSUB 320
240 NEXT S
250 NEXT Y
260 CLS
270 PRINT"You have managed the nature
park for four years."
280 PRINT:PRINT"You now have a buzzard
population of ";INT(B);" pairs."
290 STOP
    
```

```

300 DATA "SPRING","SUMMER","AUTUMN","W
INTER"
310 DATA "VERY BAD","POOR","FAIR","GOO
D","FIRST RATE"
320 CLS
330 PRINT"How many rabbits will you cu
ll";
340 INPUT C
350 LET R0=(R*2)-C:LET R=R0/2
360 PRINT"How many new rabbits will yo
u release";
370 INPUT C
380 LET R=R+C/2
390 CLS
400 RETURN
410 PRINT "The year is ";Y;". It is ";
SS
420 PRINT:PRINT"There are ";INT(B);" p
airs of buzzard"
430 PRINT:PRINT"There are ";INT(R);" p
airs of rabbit"
440 PRINT:PRINT"The grass is in a ";GS
;" condition"
450 PRINT:IF S<>2 THEN GOTO 480
460 LET NB=B*3:LET NR=R*7:LET R=R+NR/2
:PRINT
470 PRINT"There are ";INT(NB);" new bu
zzards and ";INT(NR);" new rabbits."
480 PRINT "PRESS SPACE"
490 IF INKEY$(0)<>" " THEN GOTO 490
500 CLS
510 RETURN
    
```

## IS THIS YOUR COMPUTER?

### BBC/Archimedes/Electron

The program works as shown

### Spectrum/CPC/ST(Stos)/ Amiga(Amiga Basic)/ PC(GW-Basic)

Change these lines:

```

30 DEF FNR(R)=INT(RND*R+1)
490 IF INKEY$<>" " THEN GOTO 490
    
```

### C64/128

Use capital letters throughout

Replace:

```
CLS
```

with:

```
PRINT CHR$(147);
```

in the listing, change these lines:

```

30 DEF FNR(R)=INT(RND(0)*R+1)
490 GET AS:IF AS<>" " THEN GOTO 490
    
```



# rite On!

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that grows up  
with your children

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There has been a need for some time for a modern, mainstream primary word processor which is able to take children from simple beginnings and introduce them gradually to a wider range of word processing features. *WriteOn!* fills the gap perfectly.

T.E.S.

# LET'S MAKE MONEY

Part 4

# Ready, steady - GO!

## Raise funds with the Let's Compute! car racing game

Bingo, raffles, wheel of fortune and lots of other fund raising events have one thing in common. They all involve an element of chance.

The idea behind them all is simple. You collect money from lots of people, keep some and split the remainder between a few winners.

Here's a short computer program that can give a new look to that sort of event. It's a car racing game!

Type in the program and try it. You'll be asked how many cars you want. Answer

5 as a test. Then press the spacebar and you'll see the cars racing. At the end you'll be told which car will win. Press the spacebar and off they go again.

*So how do you use the program to make money?*

All you have to do is charge people to guess which car will win. Once a few people have paid run the program to find the winner.

Then keep, say, a quarter of the money you took. Split the remainder between the ones who guessed correctly.

## WRITE YOUR OWN PROGRAM

This program is intended as a frame on which you can base your own version. It can easily be changed. For example, you could improve the graphics and add a finish line. Or use sound to add more atmosphere to the race. To get you started, here are some changes that you can easily try. First, you can have more cars racing.

At the moment the program is set up for eight. That means there's room to fit the cars on all computer screens. But you can usually fit more. Just change the 8 in Line 10 to fit as many cars on your own screen as you can.

You can, in fact, easily fit more cars on your screen by moving them closer together. Remove the \*2 in Line 80 to do that.

If you only want a few cars racing change the \*2 to \*3 to move them further apart. Now, with more space between the cars there's room to fit lane markings as well!

**If you make any changes to the program we'd love to see them.**

```
10 INPUT "HOW MANY CARS";N:IF N>8 THE
N GOTO 10
20 DIM C$(N):DIM P(N)
30 FOR L = 1 TO N:LET C$(L)=" "+STR$(
L)+">":LET P(L)=2:NEXT L:LET R=1
40 PRINT:PRINT"PRESS SPACE TO START T
HE NEXT RACE"
50 REPEAT UNTIL GET=32
60 CLS
70 FOR L=1 TO N
80 PRINTTAB(P(L),L*2);C$(L)
90 NEXT L
100 IF P(R)>30 THEN GOTO 140
110 LET R=RND(N)
120 LET P(R)=P(R)+1
130 GOTO 70
140 PRINT:PRINT "NUMBER ";R;" WON"
150 GOTO 30
```

## IS THIS YOUR COMPUTER?

### Electron/BBC/Archimedes

*The program works as shown*

### Commodore 64/128

*Change these lines:*

```
50 GET AS:IF AS <> " " THEN GOTO 50
60 PRINT CHR$(147);
80 POKE 211,P(L):POKE 214,L*2:SYS 587
32:PRINT C$(L)
110 LET R=INT(RND(0)*N)+1
```

### Amstrad CPC

*Change these lines:*

```
50 IF INKEYS<>" " THEN GOTO 50
80 LOCATE P(L),L*2:PRINT C$(L)
110 LET R=INT(RND*N)+1
```

### Amiga/PC(GW Basic)

*Change these lines:*

```
50 IF INKEYS<>" " THEN GOTO 50
80 LOCATE L*2,P(L):PRINT C$(L)
110 LET R=INT(RND*N)+1
```

### Spectrum

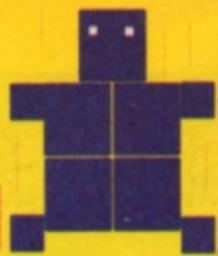
*Change these lines:*

```
20 DIM C$(N,5):DIM P(N)
50 IF INKEYS<>" " THEN GOTO 50
80 PRINT AT L*2,P(L);C$(L)
110 LET R=INT(RND*N)+1
```

### ST (Stos)

*Change these lines:*

```
50 IF INKEYS<>" " THEN GOTO 50
80 LOCATE P(L),L*2:PRINT C$(L)
110 LET R=INT(RND*N)+1
```



# The Games Gang

## Robocop 1, 2 and counting

Following the success of Robocop 1 and the new Robocop 2, a third movie is now being made in the States. As usual, Ocean is most likely to get the licence. But so far this has still not been confirmed.

By the way, if you're under 18 you couldn't get to see either Robocop 1 or 2. But you shouldn't have the same trouble with Robocop 3 - it will carry a 12 or PG certificate.

## Pam's Passwords



Archimedes players of Man-at-Arms can get on with the game thanks to a handy password from Nicholas Wright (7) from Ossett.

The password is:

INCUBUS

## Peter's Patch!



**Turrican** is Rainbow Art's excellent blaster. To help you through the C64 version there are three excellent pokes.

To use them you'll need an Action Replay-style cartridge.

Infinite time - POKE 3030,173  
Infinite gyroscopes - POKE 4133,173  
Infinite weapons - POKE 16365,0

## Problems in Persia

The Grand Vizier has given the beautiful Princess of Persia one hour to make up her mind. She either marries him or faces execution.

Is she doomed? Can anybody save her? You could - if someone hadn't got to you first.

You're now imprisoned in the palace dungeons. But maybe there's another way out...

Broderbund/Domark's Prince of Persia has you fighting your way right from the bottom of the Persian Palace to the princess' tower right at the very

top. The adventure is a combination of puzzle solving, fighting and acrobatic platform adventure. It's also in 3D. But what's most impressive about all of this is the main character's superb animation.

It's based on home movie clips taken by the author. You can see the most elegant and realistic jumping, leaping and running movements you're likely to find anywhere.

It's pretty addictive too! If you own an Amiga, Atari ST or PC don't forget to check it out.

# CHARLIE'S CHEATS!

If you are finding the ST version of **Shinobi** a little difficult here's a cheat. Pause the game and type in LARSXVIII.

You'll find that you now have an infinite number of credits.

Dean Scott from Perth has written in with some help for fellow Spectrum game players. If you need a hand on **Treasure Island Dizzy** hold down the A, O and P keys on the menu screen.

Then press Enter. But keep your fingers on the keys. When the game starts press C and you'll become invisible.

The Z and X keys will allow you to go where you want. The spacebar starts you playing again.

Here's one for Spectrum **New Zealand Story** players. Type FLUFFY on a new screen and CHEAT will appear at the bottom. You'll now have infinite lives. Also the Enter key will let you skip levels.

Geoffrey Swann from Ruislip has been looking hard at the CPC version of **Batman the Movie**. To profit from his studies hold down the E, D, 2, 0 and 9 keys to skip a level.



## Another King's Quest

The fifth instalment in Sierra's King's Quest series has just hit the shelves. So far it's only for the PC. But Atari ST and Amiga versions should follow soon.

Up to now playing a King's Quest adventure meant typing in commands as well as using the mouse. But this latest episode is entirely icon-driven.

It tells of Graham of Daventry as he attempts to rescue his family from the magician Mordack. The pictures are improved and there's even a CDrom version expected in the spring.

King's Quest V comes on 5.25in and 3.5in discs. It costs £39.99 (EGA) or £44.99 (VGA) – so get saving!

## Mafia Mayhem

The Godfather I and II movies were about goings-on in an American mafia family. They showed machine gun massacres, a severed horse's head in the bed (yeuch!) and lots of other macho antics.

Now Godfather III is soon to be released in the UK. And US Gold have announced they've blagged the licence for all three movies.

They are going to turn them into a series of action and adventure games. One of each game style is currently under development.

*Let's Compute!* will let you have more details as we get them.

COLLECTION TIMES  
9.00 AM  
5.00 PM

If you've any hints, pokes or cheats you'd like us to print send them to:

**Let's Compute!**

**Europa House, Adlington Park, Macclesfield SK10 4NP.**

## Helpful Harry

**The Wimp Game** on the Archimedes has had a lot of you asking for help. To get through the kitchen follow this advice:

Having made a note of the letters and numbers in the lounge, enter these on the panel of the microwave. It will then open.

Examine the calender on the wall. You'll need it in the next room but one.

Then turn on the kettle at the wall. Next bring the coffee and mug straight down from the shelf to the work surface and put the coffee jar into the mug.

When the steam comes from the kettle switch it off. Click on the kettle and water will pour into the mug.

A cassette will then appear from the slot on the work surface. Carefully pick it up and place it in the slot in the microwave. Don't drop it or you'll have to start again.

Help for **Gisburne's Castle** on the Electron or BBC comes from M Quarterman (11) Sawtry.

By following the moat you will eventually come to a log cabin. Here you'll find a blue bottle. It's perfect for poisoned arrows.

Once you get into the castle you'll need these poisoned arrows to kill the knights.



# SOFTWARE CITY

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\*Includes original Small C code supplied at the cost of distribution

# Part 6

## CARD INDEX DATABASE

1. Load a box of cards
2. Save a box of cards
3. Read/search for a card
4. Write on a new card
5. Throw away old cards
6. Change something on a card
7. Print the cards
8. Sort the cards into order
9. Stop the program

Cards free=45/Cards used=6  
What do you want to do?  
Please type in a number (1- 9)

# SORT THE CARDS

**Find the Facts:**  
**Roland Waddilove adds**  
**a search routine to the**  
**Let's Compute! database**

## DON'T BE IMPATIENT!

"Your database program doesn't work", wrote one very annoyed Let's Compute! reader.

"I typed it in and tried to sort the cards into order and the program stopped with an error message".

**Don't panic!** Some features of the program won't work yet. So far we haven't typed them all in.

We are building up our database month by month and looking at how it works at every stage. Remember, Rome wasn't built in a day!

In this month's article you'll find the missing subroutine to sort the cards into alphabetical order.

You can already use the database that we've been creating over the last five months.

So far you can type information in, save it, load it and search for any facts you want.

But an important feature of any good database is still missing. Very often you will want to sort the cards into order.

*This month we'll add the lines to do that.*

Start by loading the database program that you've already built up. Then enter the new lines listed below. SAVE your new, improved database.

When you've done that it's time to

check whether the program works. Run it program and choose *write a card* from the menu.

As a test, type in a set of five dummy cards. Just use a few letter Gs on to the first card, Bs on the second, then Zs, As and Fs.

These are just letters chosen at random. Use others if you want.

Now select the sort option on the menu. Look at the cards afterwards and you should see they're in alphabetical order. If they're not, carefully check your typing.

*Let's see how the new subroutine works.*

The information you type on to the cards is stored in an array called *C\$( )*. Each card has five lines of text so the first one is *C\$(1)*, *C\$(2)*, *C\$(3)*, *C\$(4)* and *C\$(5)*.

The second card is five lines after the first card and so starts at *C\$(6)*. Card three is at *C\$(11)* and so on.

### The card sorting program

```
8000 REM ===== Sort cards =====
8010 CLS
8020 PRINT "Sorting the cards..."
8030 FOR X=6 TO 246 STEP 5
8040 FOR Y=251 TO X STEP -5
8050 IF C$(Y)>=C$(Y-5) THEN GOTO 8110
8060 TS=C$(Y+0):C$(Y+0)=C$(Y-5):C$(Y-
5)=TS
8070 TS=C$(Y+1):C$(Y+1)=C$(Y-4):C$(Y-
4)=TS
8080 TS=C$(Y+2):C$(Y+2)=C$(Y-3):C$(Y-
3)=TS
8090 TS=C$(Y+3):C$(Y+3)=C$(Y-2):C$(Y-
2)=TS
8100 TS=C$(Y+4):C$(Y+4)=C$(Y-1):C$(Y-
1)=TS
8110 NEXT Y
8120 NEXT X
8130 RETURN
```

This  
program  
works on  
all home  
micros

### IS THIS YOUR COMPUTER?

**BBC/Electron/Archimedes/  
Spectrum/Amiga/ST(Stos)/  
CPC/PC (GW-Basic)**

*The program works as shown .*

**C64/128**

*Change the following line:*

8010 PRINT CHR\$(147);

**NEXT MONTH**  
You'll add a new  
routine to print  
the cards. Then  
if you have a  
printer, you'll be  
able to produce  
printed cards.

Your own logo disc or tape for £1!

Turtle graphics is a vital part of any Logo program. And that's what Turtle Logo is. Specially written for the Electron, BBC Micro and A3000/Archimedes series, it is on the tape or disc that comes with the Let's Compute! Club bumper pack.

You can find out how to join the Club on Page 32 - and about all the other goodies sent out to members.

However, if you only want Turtle Logo we'll send it to you for just £1 if you complete and return the coupon below

## ORDER FORM

Please send me the *Let's Compute! Turtle Logo*. I enclose cheque, postal order or stamps the value of £1. (Only suitable for Electron, BBC Micro or Archimedes series.)

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# A KNOTTY PROBLEM!

Tight Turtle is as mean as they come! He wants to wallpaper his home but doesn't want to shell out.

He decided to draw the patterns on the paper himself. He's no artist, so he used his computer and the Logo language.

He devised the knotty little program on the right. It draws a fascinating twisting knot.

Our picture shows Tight hanging the paper. You can easily draw the same pattern using his program.

You first need to run the Logo Language. This is available for most makes of home computer.

(If you haven't got Logo and you're using an Acorn computer the *Let's Compute! Turtle Logo* is an ideal starting point - see the offer on the left.)

Once your Logo language is running type in Tight's program. Then save it by entering:

```
SAVE "KNOT
```

Now the program is in your computer. You can see Tight's square by typing:

```
KNOT 40
```

To draw patterns of different sizes just change the 40 to another number.

### Now it's time to try out your own design

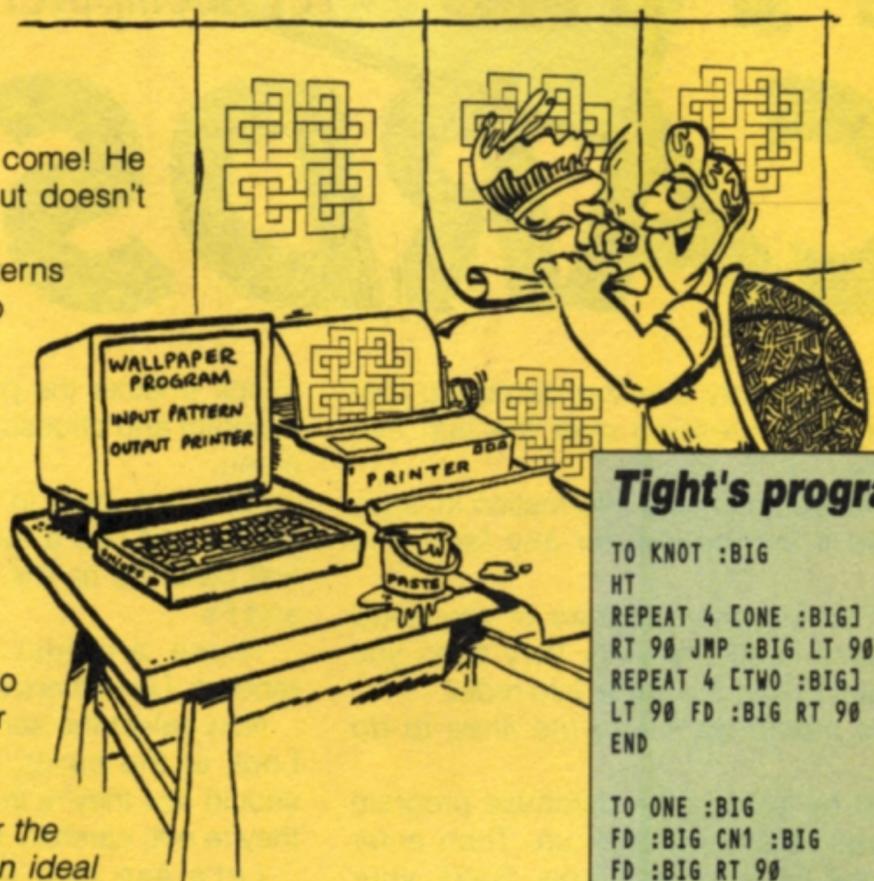
There are many different ways to draw knots. That's because there are lots of places to start drawing from and lots of ways you can go.

You might even be able to find a simpler way of drawing this particular knot. Try finding an easier route round it.

Or you can try designing and drawing knots of your own. You should look for simple repeated shapes to make the task easier.

If you draw one - or write any other Logo programs - we'd love to see it.

Post it to *Let's Compute!* Adlington Park, Macclesfield SK10 4NP. There's a super *Let's Compute!* baseball cap for the writer of every one we print.



### Tight's program

```
TO KNOT :BIG
HT
REPEAT 4 [ONE :BIG]
RT 90 JMP :BIG LT 90
REPEAT 4 [TWO :BIG]
LT 90 FD :BIG RT 90
END
```

```
TO ONE :BIG
FD :BIG CN1 :BIG
FD :BIG RT 90
CN1 :BIG JMP :BIG
END
```

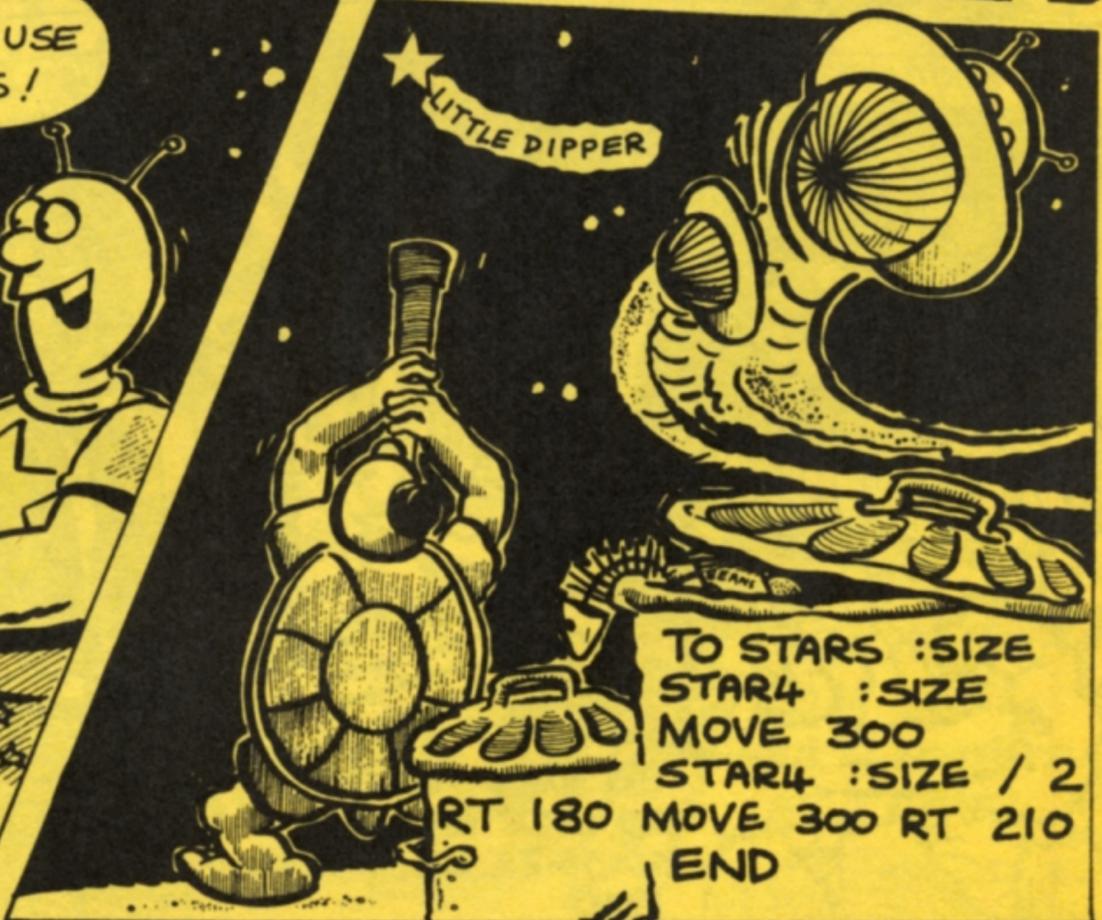
```
TO CN1 :BIG
FD :BIG * 2 JMP :BIG
FD :BIG * 2 RT 90
FD :BIG * 3 RT 90
FD :BIG * 4
END
```

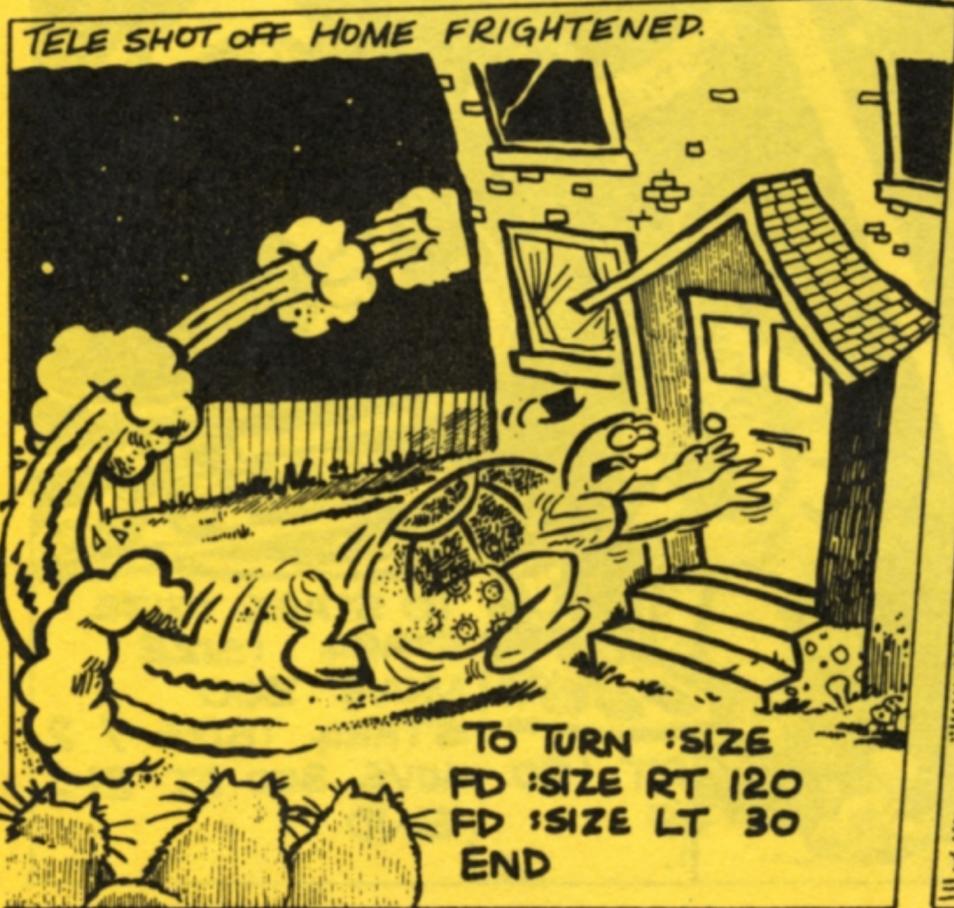
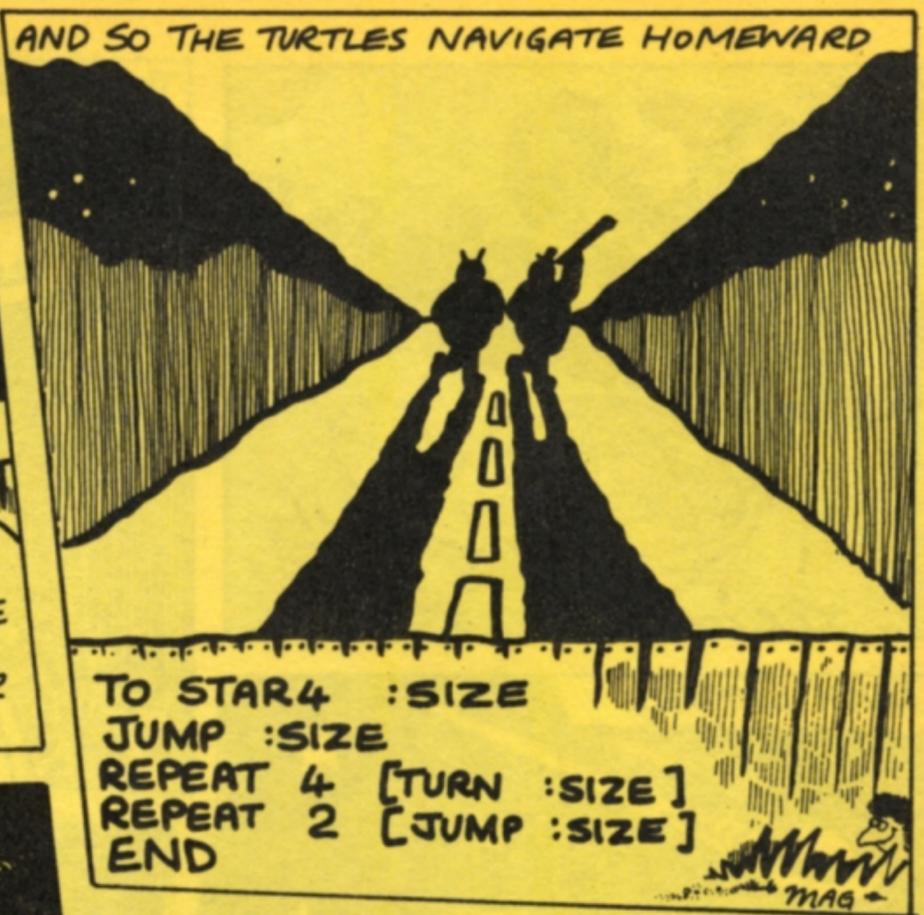
```
TO JMP :BIG
PU FD :BIG PD
END
```

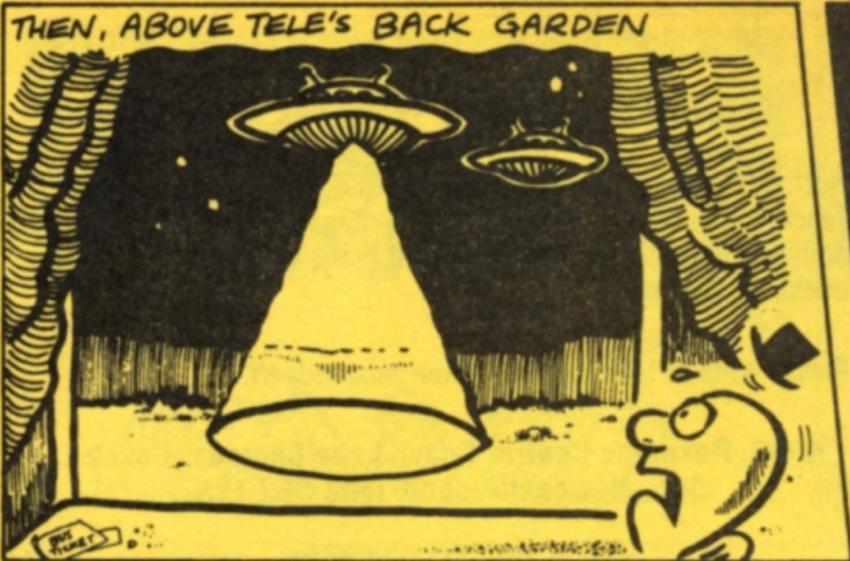
```
TO TWO :BIG
FD :BIG * 2
CN2 :BIG RT 90
CN2 :BIG JMP :BIG
END
```

```
TO CN2 :BIG
FD :BIG JMP :BIG
REPEAT 2 [FD :BIG RT 90]
FD :BIG * 3
END
```

# LOGO LONDOWN







☆ **TURTLE PROFILE** ☆

**TELSTAR  
TURTLE**  
- STARGAZER!

**FACTS**

HEIGHT: TELESCOPIC  
EYES: BLOODSHOT  
HAIR: NONE  
CLOTHES: SHELL SUIT!  
LIKES: CLOSE ENCOUNTERS  
DISLIKES: PAYING FOR ABOVE  
FAVOURITE FOOD: MILKY WAYS,  
GALAXYS, MARS BARS!  
HOBBIES: STARING AT THINGS

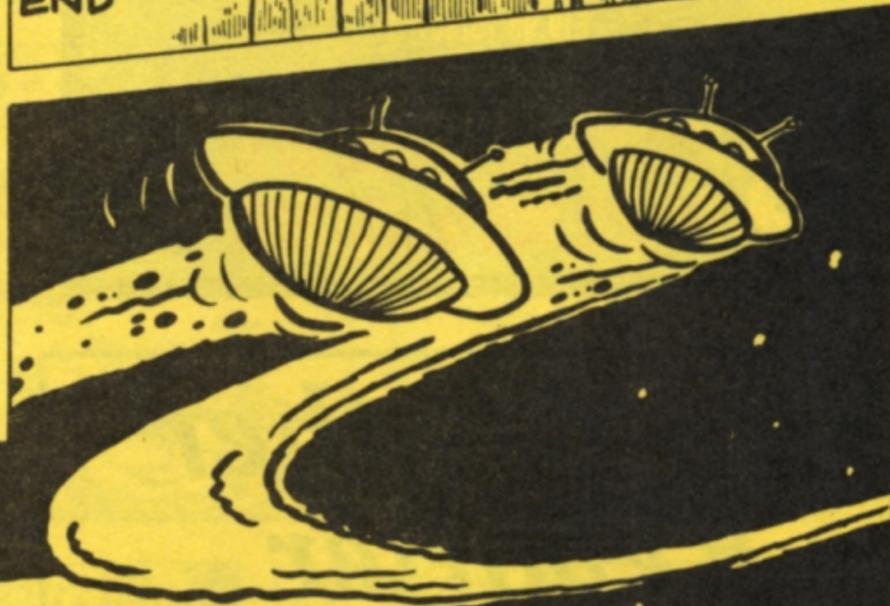
**TELSTAR SAYS:-**

"YOUR TEETH ARE LIKE STARS -  
THEY COME OUT AT NIGHT!"



TO JUMP : SIZE  
PU RT 45  
FD : SIZE \* 72 / 100  
RT 75 PD  
END

TO MOVE : SIZE  
PU FD : SIZE PD  
END



**REMEMBER! SAVE YOUR PROGRAM BEFORE YOU RUN IT.**

TRY THIS:

STAR4 100  
STAR4 80  
STAR4 60

DON'T BOTHER TO  
CLEAR THE SCREEN  
BETWEEN EACH

ANOTHER TO TRY!  
CLEAR THE SCREEN  
AND TYPE:  
POLE 50

HAVE FUN AND  
USE THESE LITTLE  
PROGRAMS TO  
MAKE YOUR  
OWN  
GALAXY!

NEXT MONTH  
☆  
TELSTAR AND  
TELE STAR  
AGAIN IN MORE  
ASTRONOMICAL ANTICS!

CAN YOU DRAW A SIX-POINTED STAR?

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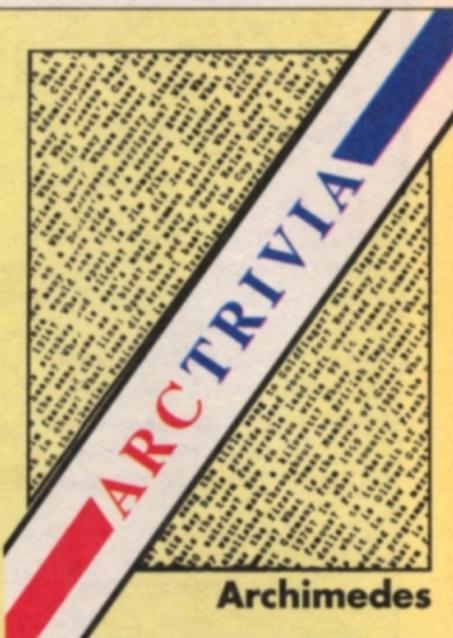
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homes  
for  
your  
friendly  
rodents  
must be  
won!

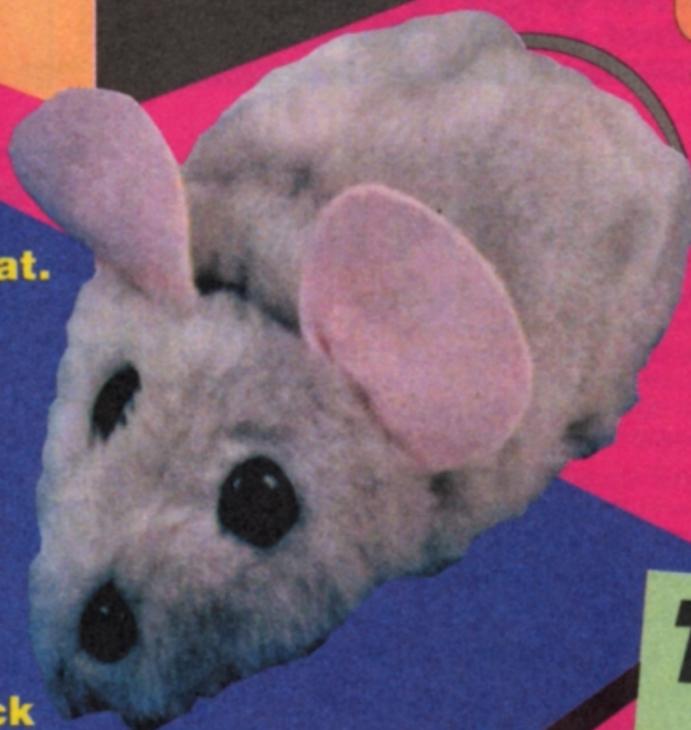
When you leave your computer for the night, have you ever felt pity for the poor mouse? He's left all alone!

He may get cold without a warm coat. He hasn't got a house of his own. There's not even a mat to keep the cold out.

This poor creature needs help! And BeeBug have developed three very special products that every mouse will want:

- A mouse house. When you don't need him your mouse can have a quick snooze in a home of his own
- A mouse mat. Not only will it allow your mouse to move more easily over the tabletop, but it also keeps him clean.
- A furry mouse cover. Specially developed for British mice, this warm jacket fits over your mouse. It gives him eyes, ears and a nose. Not only does it keep the cold out. You can still use the mouse to run your favourite programs while he is wearing it.

You can buy a set of three from Beebug for £12.55. But to start rescuing some of the Let's Compute! readers' mice, TEN sets are to be given away free.



## To win

All you have to do to get one of these special mice sets is answer the three questions below. Then tell us what your mouse is called and why that's his/her name.

The ten people with correct answers and the best mouse names will win a prize.

## The Questions

1. In which nursery rhyme did the mouse run up the clock?
2. Who chased the blind mice?
3. Two famous cartoon characters are Tom and Jerry. Which one is the mouse?

Now fill in the Entry Form and send it to Let's Compute! by March 29.

### Entry Form

Name ..... My mouse is called:  
 Address .....  
 .....  
 Post Code ..... Age .....

#### ANSWERS

1.....  
 2.....  
 3.....

Send to: Beebug Contest, Let's Compute! Europa House, Adlington Park, Macclesfield SK10 4NP.

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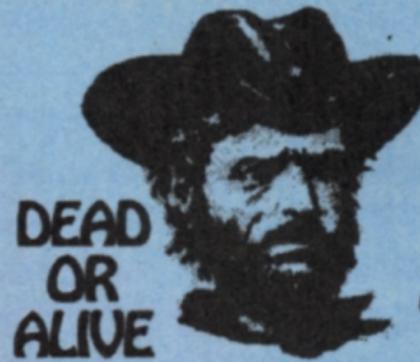
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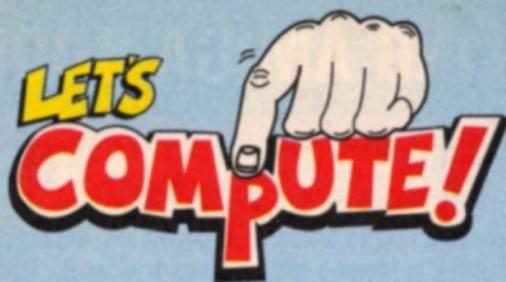
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# PRIZE WINNERS

## BAG A TURTLE

In the January issue of *Let's Compute!* we asked you to test your knowledge of Donatello, MichaelAngelo, Raphael and Leonardo.

The prizes were 10 bags of turtle bits and pieces from Image Works the creators of the Teenage Mutant Hero Turtles computer game.

Names of the first 10 readers to be pulled from the sack were:

Ewall Anderson (6) Edinburgh; Owen Pritchard (10) Caerffili; Lee Alexander (8) Fairwater; Sarah Robertson (9) Aberdeen; James Hodgkinson (8) Felixstowe; Robin Plowman (8) Morden; Charles Ryder (8) Dorchester; David Lewis (6) Smallburgh; Nicholas Williams (8) Uxbridge; Peter Gillman (9) Radley.

## WIN A PRINTER FOR YOUR SCHOOL

Panasonic and Mannesman Tally had three printers on offer which you could win for your classroom.

We had sackfuls of correct entries from all over the country but the first two from we opened were:

Paul Elliot (9) from Spring Cottage Primary School in Hull and Stephen Hill (10) from Weston All Saints Primary School in Weston.

They will each be receiving a MT81 9-pin dot matrix printer.

If you were a member of the *Let's Compute!* Club you could enter the second part of the contest and win a 24-pin Panasonic printer. This was awarded to:

Michelle MacDonald (10) from Hammond Middle School in Lightwater.

# HIGH SCORE CHALLENGE!

Game	Computer	Score	Name	Age
A.T.F.	Spectrum	28,000	Thomas Hampson	12
Blast	BBC	2,014	Steven Owen	16
Boxer	Electron	999,140	Christopher Butler	15
Bubble Bobble	ST	7,000,270	Hereward Proops	10
Centipede	PC	17,499	Mike Forbes	11
Chase HQ	CPC	50,000,000	Isaac Griffiths	12
Chuckie Egg II	CPC	56,264	Karen Hawley	10
Codenames: Droid	BBC	54,000	Peter Zupians	12
Crack-up	CPC	60,000	James Norton	10
Deathstar	BBC	145,950	Julian Smyth	12
Digger	PC	33,175	Daniel Gregory	13
Dino	BBC	1440	Matthew Chatterley	-
Double Dragon	C64	161,300	Anthony Townsend	25
Fireball II	Archimedes	210,740	Thomas Flux	11
Fruit Machine	CPC	2090	Amy Luckcraft	11
Galaforce 2	Electron	215,990	Daniel Keenor	14
Golden Axe	Spectrum	240,001	Thomas Hampson	12
Goldrunner	ST	326,900	Frederic Duncan	13

Game	Computer	Score	Name	Age
Hard Drivin'	C64	11,239	Richard Holt	12
Head Over Heels	CPC	79,760	Clair Brooks	14
Ikari Warriors	Amiga	39,500	Stuart Billingham	11
Inertia	BBC	287	James Greenstreet	13
Jetpac	BBC	9665	Paul Tarling	8
Moon Cresta	BBC	54,400	Gayam Shakoor	13
Op. Thunderbolt	Amiga	2,680,200	Richard Irons	12
Outrun	C64	6,486,420	Peter Godfrey	8
Pacmania	Spectrum	105,140	Alan Whysall	14
Pinball Simulator	CPC	9,884	Tony Ward	13
PingPong	CPC	112,976	Michael Lorraine	15
ProBoxing	CPC	40,095	James Higgins	9
Rainbow Islands	Spectrum	2,580,930	Alan Whysall	14
Renegade	C64	420,600	Andrew Whittaker	10
Robocop 2	Spectrum	1,649,550	David Jenkins	12
Robot Monsters	CPC	30,126	Hadyn Hughes	11
Snake	C64	387	Peter Armann	11
Snare	C64	11,608,503	John Paul Cullen	13

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Name ..... Computer .....

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..... Game ..... Score .....

..... Age ..... Game ..... Score .....

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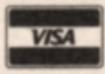


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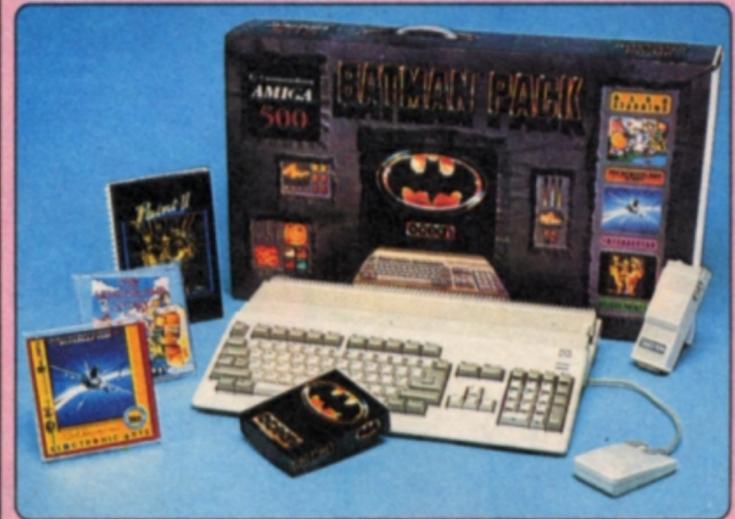
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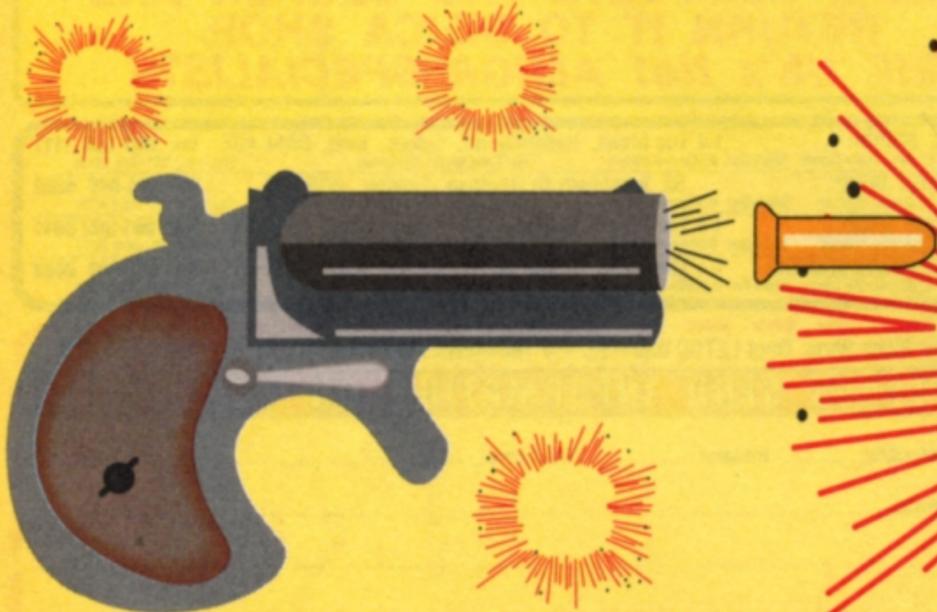
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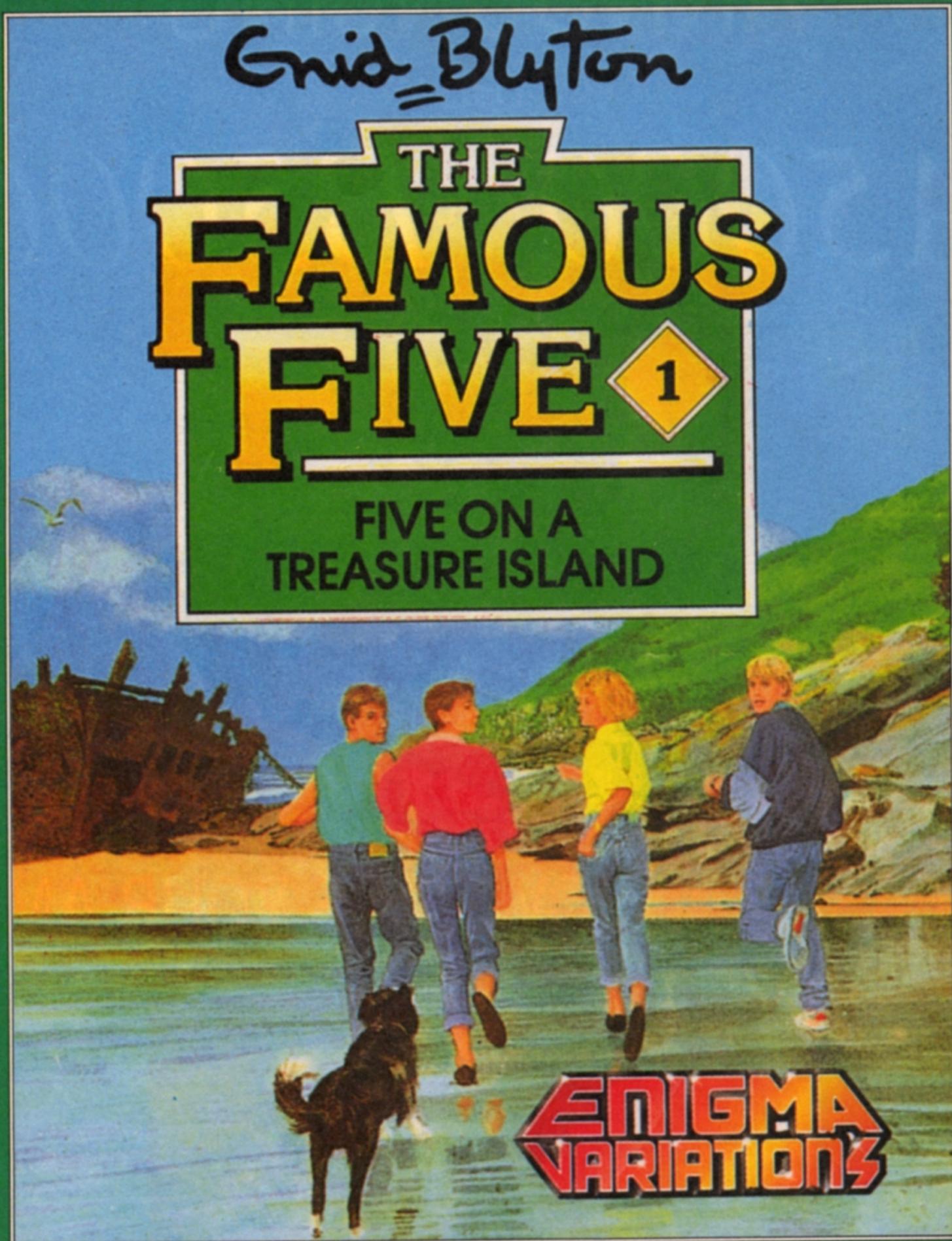
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