

ACORN is a trademark of  
Acorn Computers Limited

February/March 1984

An ECC Publication

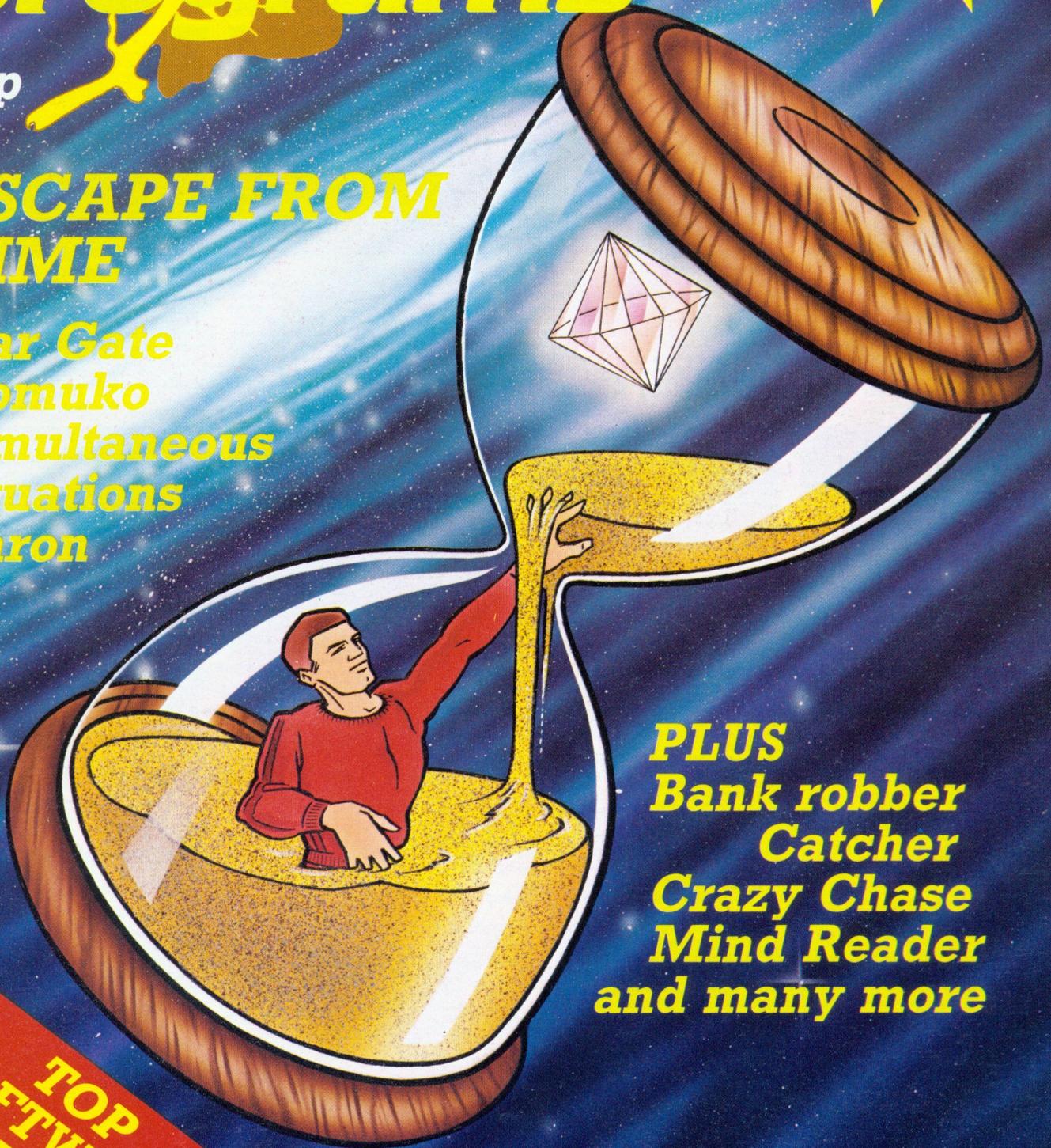
# acorn programs

95p

## ESCAPE FROM TIME

Star Gate  
Gomuko  
Simultaneous  
equations  
Baron

25 great  
new programs  
for the BBC  
and Electron



**PLUS**  
Bank robber  
Catcher  
Crazy Chase  
Mind Reader  
and many more

TOP  
SOFTWARE  
REVIEWS

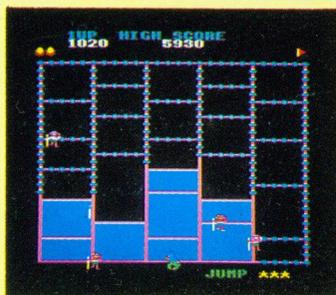
**SPECIAL OFFER!**  
Deduct £1 per cassette or disc when ordering 2 or more.

**THE BEST BBC MICRO SOFTWARE**  
PRODUCED BY AN INDEPENDENT SOFTWARE HOUSE  
★ TOP QUALITY MACHINE-CODE PROGRAMS ★

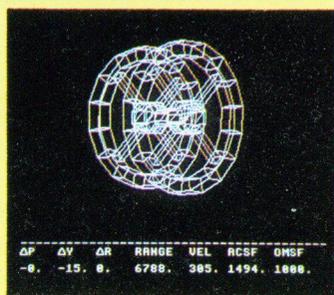
**BBC**



**HUNCHBACK (32K)** £7.95  
Beautifully detailed animation (the best we've yet seen) as Quasimodo leaps over the ramparts dodging rocks and arrows, swinging on ropes, and avoiding the guards's spears as he attempts to rescue Esmeralda. Twelve different screens of action! This program is sold under licence from Century Electronics Ltd; we have exclusive rights to its sale for use on the BBC micro.  
(For use with KEYBOARD or JOYSTICKS).  
"It is an extremely good version of the arcade game ... thoroughly recommended." ... BEEBUG MAGAZINE



**CRAZY PAINTER (32K)** £7.95  
The only full-feature version available for the BBC micro. On the first screen, you take the part of a monkey being chased by African tribesmen. If you manage to survive by painting-in all the squares, the bonus screen features the monkey trying to reach his bunch of bananas. After that, you take control of a paint-roller and each square painted-in adds to your score. But beware ... the teddy-bears are now in hot pursuit. Superb animation and sound-effects.  
(For use with KEYBOARD OR JOYSTICKS).  
●●● NEW RELEASE ●●●



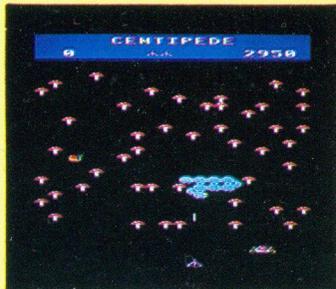
**2002 (32K)** £7.95  
A space docking simulator using 3D graphics to model the motions and responses of the ORION 4 spacecraft. Your mission is to pilot the shuttle to a "soft dock" with the space station. PITCH, YAW, ROLL, FORWARD, LATERAL and VERTICAL engines are provided together with orbit manoeuvring booster engines. 6 skill levels provide for the completely inexperienced pilot as well as the fully-fledged commander.  
●●● NEW RELEASE ●●●



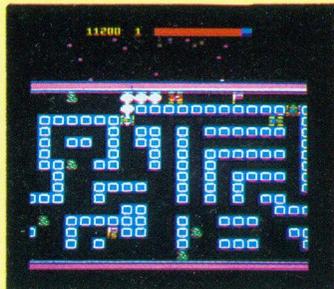
**ALIEN DROPOUT (32K)** £7.95  
A novel and unusual program. Arcade-action with this enthralling multi-stage shooting game. You have to shoot the aliens out of their "boxes" before the "boxes" fill up. Once full, the aliens fly down relentlessly, exploding as they hit the ground. Hi-score, rankings, and sound effects.  
(For use with KEYBOARD or JOYSTICKS).  
"... this game is as good as any on the market." ... HOME COMPUTING WEEKLY.



**FAIRGROUND (32K)** £7.95  
An exciting target-shooting game! Bonuses are scored for spelling out the word FAIRGROUND by hitting the appropriate target letters, and for shooting all the targets. Extra bullets are obtained by shooting the numerical targets, but watch out for the "smileys" who are intent on stealing your bullets. Music, sound effects, hi-score, and rankings.  
●●● NEW RELEASE ●●●



**CENTIPEDE (32K)** £7.95  
Incredible arcade-style game featuring mushrooms, snails, flies, spiders, and the centipedes of course. Excellent graphics and sound. 6 skill levels, hi-score, rankings, bonuses, and increasing difficulty as the spiders become more lively and the number of mushrooms increases.  
(For use with KEYBOARD or JOYSTICKS).  
"Visually this game compares well with the arcade version, being colourful and clear."  
... YOUR COMPUTER



**ROAD RUNNER (32K)** £7.95  
The only full feature machine-code version available for the BBC micro. Features include: scrolling screen, radar display, 3 pursuing cars, check-point flags, fuel gauge, smoke screens, 6 skill levels, rankings, increasing difficulty, and sound effects.  
(For use with KEYBOARD or JOYSTICKS).  
"I enjoyed the game very much ... the graphics are excellent ... movement is smooth and fast as only machine code can produce." ... HOME COMPUTING WEEKLY



**FROGGER (32K)** £7.95  
Not just another version of Frogger ... this is the arcade-action version that you've been waiting to see. Graphically brilliant with gaping-mouthed crocodiles, diving turtles, flies, and frogs that flex their legs as they jump along. Increasing difficulty, and responsive controls.  
(For use with KEYBOARD or JOYSTICKS).  
"... very good indeed ... fast flicker-free graphics and a frog that really hops!" ... BEEBUG MAGAZINE

**ALSO AVAILABLE**

- SPACE FIGHTER (32K) ..... £7.95
- GALAXIANS (32K) ..... £7.95
- INVADERS (32K) ..... £7.95
- FRUIT MACHINE (32K) ..... £7.95
- CRIBBAGE (32K) ..... £6.95
- PONTOON (32K) ..... £6.95

**DEALERS ... DEALERS ... DEALERS ...**

Our software is now available at all good dealers including:-  
**W. H. SMITH** - Selected branches.  
**JOHN MENZIES** - Selected branches.  
**BOOTS** - Selected branches.  
**ELTEC COMPUTERS**, 29 Ivgate, Bradford  
**MICRO MANAGEMENT**, 32 Princes Street, Ipswich  
**WEST COAST PERSONAL COMPUTERS**, 47 Kyle Street, Ayr.  
**MICROSTYLE**, 29 Belvedere, Lansdown Road, Bath.  
**ELECTRONEQUIP**, 36-38 West Street, Fareham, Hants.  
**3D COMPUTERS**, 230 Tolworth Rise South, Tolworth, Surrey.  
**GTM COMPUTERS**, 864 York Road, Leeds.  
+ MORE THAN 300 OTHER DEALERS THROUGHOUT THE U.K. AND OVERSEAS.

**ADVENTURE GAMES**

- COLDITZ ADVENTURE (32K) ..... £7.95
- STAR TREK ADVENTURE (32K) ..... £7.95
- LOST CITY (32K) ..... £7.95
- GIDEON'S GAMBLE (32K) . £7.95

**WE PAY UP TO 20% ROYALTIES FOR HIGH QUALITY BBC MICRO, ELECTRON AND ORIC-1 PROGRAMS**



**SUPERIOR SOFTWARE LTD.**  
Dept. AP2,  
69 Leeds Road, Bramhope, Leeds  
Tel: 0532 842385

ALL OUR PRICES ARE INCLUSIVE OF V.A.T. AND P. & P.

**DISC SOFTWARE AVAILABLE NOW**  
All our programs are ready for despatch on 5 1/4" discs at £11.95 each.

**OUR GUARANTEE**

- (1) All our software is available before we advertise.
- (2) All our software is despatched within 48 hours by first-class post.
- (3) In the unlikely event that any of our software fails to load, return your cassette or disc to us and we will immediately send a replacement.



## Getting more adventurous on your machines

**W**ELCOME to the second issue of *Acorn Programs*. This month our 25 listings include a full-scale adventure game which sets you searching for the crystal of power and the microchip which will allow you to escape from time in your time machine.

Among the listings are many which have been contributed by readers during the last two months. If you would like to earn £15 or more and see your program in print, send a copy of your program on cassette or disc to the address below. If you would like your program returned, please enclose a stamped-addressed envelope.

The Electron computer was launched last year but owners of Electrons are still poorly-served by software houses. Programs suitable for the Electron are scarce, whether in the form of cassettes or listings. If you have written an Electron program or know of any useful routines for it, why not share them with other readers through *Acorn Programs*?

*The Editor*

	Page
<b>News</b>	5
<b>Softscope</b>	7
<b>Competition</b>	15

### **BBC MODEL B**

<b>Character Changer</b>	8
<b>Cycles</b>	9
<b>Gomuko</b>	11
<b>Cockles and Mussels</b>	16
<b>Cradle Song</b>	16
<b>Blow the man down</b>	17
<b>Z-Cars</b>	17
<b>Names</b>	19
<b>Star Gate</b>	20
<b>Baron</b>	21
<b>Hangman</b>	22
<b>Bank Robber</b>	23
<b>Escape From Time</b>	25
<b>Catcher</b>	29
<b>Scissors Paper Stone</b>	31
<b>Bingo</b>	32
<b>Solitaire</b>	34
<b>Worms</b>	36
<b>Simultaneous Equations</b>	38
<b>Crazy Chase</b>	38
<b>Mind Reader</b>	39
<b>Illusion</b>	41
<b>Base</b>	43
<b>Boxes</b>	44
<b>Language Tester</b>	47

CONTENTS

**Managing editor** Nigel Clark **Assistant editor** Rebecca Ferguson **Managing production editor** Harold Mayes MBE **Group art director** Chris Winch **Group advertisement manager** John Ross **Advertisement executive** Ajay Patel **Editorial assistant** Colette McDermott  
**Production assistant** Dezi Epaminondou **Managing director** Terry Cartwright **Chairman** Richard Hease.  
**Acorn Programs is published bi-monthly by ECC Publications Ltd.**

The views expressed herein are not necessarily the views of Acorn Computers Limited

Telephone, all departments: 01-359 3525. If you would like to contribute to *Acorn Programs*, please send programs on disc or cassette to *Acorn Programs*, ECC Publications, 196-200 Balls Pond Road, London N1 4AQ. We cannot undertake to return them unless a stamped, addressed envelope is enclosed. We pay a basic rate of £15 for the copyright of each program published.

© Copyright 1984 ECC Publications Ltd. ISSN 0265 4660. Printed and typeset by Cradley Print PLC, Warley, West Midlands. Distributed by Spotlight Magazine Distribution Ltd, 1 Benwell Road, Holloway, London N7. 01-607 6411.



# Asia deals arranged

HOT on the heels of the launch of the BBC computer in the States followed news that, because of assistance from the Department of Trade and Industry in Acorn's negotiations with India, a substantial order had been placed.

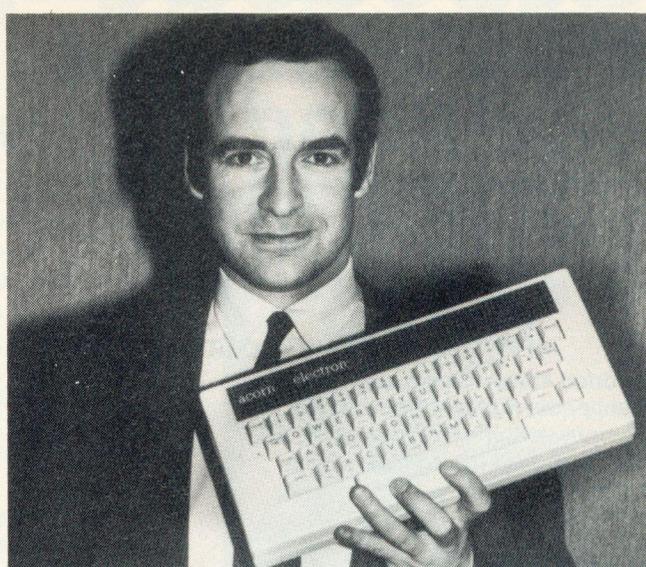
Acorn Computers is also negotiating with the People's Republic of China to sell Acorn computers there as well.

So far, Sinclair Research is the only major British manufacturer of microcomputers to sell computers in China and its supply problems have meant that there is still space in the Chinese computer

market which Acorn may be able to fill.

The Indian order was placed following a gift of five six-station Econonet networks including monitors, disc drives and other peripherals to the President of India. It formed part of the traditional exchange of gifts during the Queen's visit.

Acorn would not give the size of the order other than that it was 'substantial' but the machines are to go to the country's leading universities for the development of software for schools. The company has been trying for some time to get into the education market in India.



## Electron shortage

MANY potential Electron buyers have been frustrated by lack of supplies in the shops. When the Electron was launched Acorn hoped to produce it in big enough quantities to cope with the Christmas demand but re-

quests for it before it was on sale meant that demand exceeded supply.

A spokeswoman for W H Smith said: "We are selling every Electron we get hold of" and a spokesman for Acorn said that it intended to increase production to meet demand as soon as possible.

That is a similar experience to a London retailer which advertised that it had 38 Electrons for sale in December. The morning of the day in which Microage Electronics of Edgware was due to sell the machines there was a long queue of expectant customers braving the winter cold outside the shop at 7am.

There were no riots but only half the people waiting were able to buy an Electron.

## Confident on BBC contract

THE ACORN Computer contract with the BBC concerning production of the official BBC computer is due for renewal in October. Sinclair Research, producer of the ZX-81 and Spectrum computers, has expressed an interest in winning the contract. It has produced a flurry of rumours that by next year

the official BBC computer could be a very different machine, produced by any one of Britain's top personal computer manufacturers.

Acorn is confident that it will retain the contract and a spokesman for the company says: "We have had no indication that the BBC wants to withdraw from the contract".

The statement was reinforced by that of a spokesman for Commodore (U.K.) Ltd, which found it "unlikely that the BBC will swap computers", as any replacement computer would have to reach BBC specifications and employ BBC Basic, which only Acorn computers do at present.

## Connecting to Sinclair print

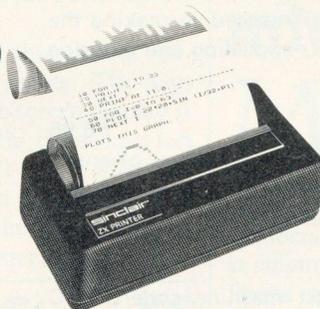
PRINTED COPIES of program listings and screen displays can be invaluable to computer programmers. The price of printers, however, puts them out of the reach of many computer owners. WD Interfaces of Leeds has introduced an interface which allows a BBC computer owner to connect the computer to a Sinclair Research ZX printer.

Using a ZX printer will be costlier than using it with a Sinclair machine, as the interface costs almost £30 and the printer costs slightly less than

£50. Anyone thinking of buying such a combination of interface and printer should be aware of the fact that the ZX printer has a tendency to smudge copy and to jam if not handled very carefully.

Meanwhile Electron users are likely to have to wait before they can expand the uses of their machine. Many pieces of hardware have been promised but at the time of going to Press none of them had been put on sale.

Demand is growing for printer interfaces and joystick



ports which, it is thought, are likely to be produced by Acorn, but no date has been given for their appearance.

Sir Computers of Cardiff is likely to be the first company which has add-ons ready for sale. It is expected to have a ROM extension board, allowing users to use eight BBC ROMs, ready in January with a printer and joystick interface following shortly.

## Penguin library

PENGUIN, the paperback publisher, is expanding its range of computer publications by signing a deal with Acorn to launch a series of books on the company's computers.

The series will be called *The Penguin Acorn Computer Library*. The first two books are already on sale — *The Acorn Guide to the Electron* by Neil and Pat Cryer selling at £5.95 and *Games and Other Programs for the Acorn Electron* by Lee Calcraft for £3.95.

# DISCOUNT SOFTWARE

FROM  
**SOFT SHOP**

## A FEW EXAMPLES FROM OUR RANGE

Andriod Attack (Computer Concepts)	£8.95
Centipede (Superior Software)	£7.95
Moonbase Alpha (Micropower)	£7.95
3D Bomb Alley (Software Invasion)	£7.95
LISP (Acornsoft)	£16.85
Snake Pit (Postern)	£7.95
Strato Bomber (IJK)	£7.50
Great Britain Ltd (Hessel)	£5.95
Bug Byte (Sea Lord)	£7.50
Digital Fantasia (Golden Baton)	£9.95

★      - SPECIAL OFFER -      ★  
★      **£1.25 OFF**      ★  
★      all cassettes (while stocks last)      ★  
★      Postage & Packing Free.      ★

Send for our free catalogue which includes all the leading software houses.

Send catalogue requests and orders to:

**SOFT SHOP, 78 Warren Drive, Hornchurch, Essex RM12 4QX.**  
Telephone: (04024 - 47722)

## DATATECH

### TOP QUALITY PRINTERS ROCK BOTTOM PRICES

EPSON RX80	£219 + VAT
EPSON RX80 F/T	£248 + VAT
EPSON FX80 F/T	£328 + VAT
EPSON MX100 F/T	£378 + VAT
EPSON FX100 F/T	£438 + VAT

We also have large stocks of sundries including ribbons fanfold paper roll paper continuous labels dust covers etc.

For free brochure and discount order form write now to

**DATATECH LTD (AP)**  
8 BELLINGHAM CLOSE  
BURY LANCS  
BL8 2TU  
TEL: 061-764 5579

# Silverlind

SILVERLIND LTD. 156 Newton Road, Burton-on-Trent, Staffs DE15 0TR. Telephone Burton (0283) 63987

ALL PRICES INCLUDE POST & PACKING & VAT

### HONEYBUG £7.50

A new and entertaining fun-game from the author of PENTILES. Fast reactions are needed to catch the errant larvae and weevils as you build up the hive with honey and a variety of bugs. Can you succeed in making the colony swarm in this colourful, appealing and amusing game?

### PENTILES £6.95

A jigsaw-type game. All ages will enjoy hours of entertainment with this fascinating and frustratingly addictive game which requires both luck and logic!

### REVERSI £6.95

Play the computer in this fast machine code/BASIC version of the popular board game. With 5 skill levels, autoplay, etc.

### TOWNTEST £6.50

A well-presented educational game. Test the family's knowledge of town and city locations in England, Scotland and Wales.

### HAUNTED HOUSE £6.00

In this absorbing adventure game, beware of the ghost as you search for treasures and negotiate the hazards of the castle and graveyard.

### GATEWAY TO THE STARS £6.50

You meet bizarre situations and alien creatures in this exciting space adventure.

### PASSPORT TO DEATH £6.50

Where on Earth are you?! Mapping this strange planet will lead you, a ZENDONIAN, to exciting adventures and fantastic treasures. Remember.....your starship needs extra fuel to take you home to ZENDON.

## Special Offer!!

Purchase any 2 games and **SAVE £1.00 on each**

Purchase any 3 games and **SAVE £1.50 on each**

Purchase any 4 games or more  
and **SAVE £2.00 on each**

Offer closes 31st January 1984

BBC/B GAMES

BBC/B GAMES

BBC/B GAMES

## Pointless use of the third dimension

**T**HREE DEEP SPACE is complete with a set of spectacles, to provide you with a three-dimensional image on your television screen. They seemed far too big for some people and did not seem to work at all for others. That meant that more than half of the people who played it could not see the 3D effect.

The game has no instructions. You play the part of a triangle on the left of the screen, shooting-down the attacking waves of parallelograms which approach from the right of the screen. That would normally mean moving up and down only but in 3D you are able to move forwards and backwards as well. The parallelograms are later replaced



by small aliens which are more difficult to hit.

The extra-dimensional effect is interesting but the game is unexciting and tiring on the eyes.

**Three Deep Space** is produced by Postern Ltd, PO Box 2, Andoversford, Cheltenham, Gloucestershire GL54 5SW and costs £7.95.

## Fast and furious lift-off

**P**LAY THE PART of a looney lift operator, capturing hotel guests in your lift and imprisoning them in the basement so they cannot reach the ground floor and complain to the manager about your activities. The guests move quickly, fall through holes in the floor, and all the time there is baggage arriving for collection on a conveyor belt.

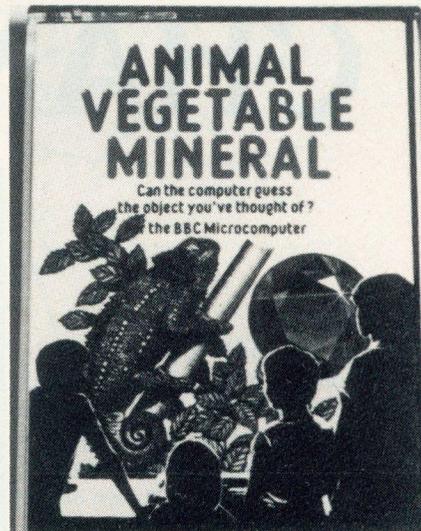
The game sounds fast and furious

## Child quiz boosts reference book use

**T**HIS EDUCATIONAL game is aimed at people between seven and 13 years of age. The player thinks of an **Animal, Vegetable or Mineral** and the computer attempts to identify it by asking questions. If it cannot do so it asks for a new question to distinguish the new object from the ones it already has in its memory.

If used in conjunction with reference books or a teacher, the game could encourage players to search for possible questions and their answers. Cheating is possible, though, and if the computer is given incorrect information it can be made to look stupid very quickly. For those who see the object of education as being the acquisition of as many facts as possible, the program is educational. Otherwise its main virtue is to promote the use of books.

**Animal, Vegetable or Mineral** is produced by Bourne Educational Software



and distributed by Acornsoft Ltd, 4a Market Hill, Cambridge CB2 3NJ. It costs £7.90 on cassette and £9.55 on disc.

## Good Pac-man version

**Y**OU PLAY the part of Sally, who is hastening to gather the gold on the card tables in her saloon, while the cowboys who own it are involved in fighting each other. If a cowboy catches Sally he will stamp up and down on her but if she sees him first she can knock him flat by throwing a table at him. Throughout that action the pianist continues to play, encouraging the player to greater efforts and driving anyone else in the room up the wall.

The game is a well-thought-out version of the Pac-man theme. The keys are easy to use and the screen display is clear although, as Sally faces only left and right, it is difficult to tell when she is moving up or down the screen. The music creates atmosphere, speeding as the action becomes faster, and reinforcing

the shaking of the whole screen display when a cowboy jumps on Sally.

**Saloon Sally** is produced by Psion Software, 20 Clifton Court, Maida Vale, London NW8 8HT on cassette only for £7.95.

## The answer lies in the micro-chip

**M**MAGIC GARDEN is designed to help you select flowers and shrubs to plant in your garden. It acts as a cross-referenced card index, storing information on large numbers of plants under headings such as colour, soil type preferred and scent. Plants can be found under either one or a combination of those headings and extra information on other plants can be added to the databank.

For keen gardeners who already have, or who have planned, such a file, the program would be useful. Without pictures, or information on the price or availability of plants, however, it was difficult to make a definite choice.

Shirley Conran's **Magic Garden** is available from Acornsoft Ltd, 4a, Market Hill, Cambridge CB2 3NJ and costs £9.85 on cassette and £11.50 on disc.

# CHARACTER CHANGER

**C**HARACTER CHANGER by Simon Aspinall of Beaconsfield, Buckinghamshire helps you to define your own characters. An eight by eight grid is displayed on the left of the screen and the character is shown on the right. When you are asked which character you wish to use, choose a number between 227 and 254. Instructions are included in the program.

```

10 REM CHARACTER GENERATOR
20 REM COPYRIGHT 1983 SIMON AS
FINALL
30MODE4
40PRINT" CHARACTER HANDLI
NG"
50PRINT" -----
---"
60PRINT
70PRINT"THE CHARACTER GEN. SH
OWS A DESIGN GRID ON THE LEFT A
ND THE ACTUAL CHAR. ON THE RIGHT
.CO-ORDINATES ARE ENTERED ROW TH
EN COLUMN (NUMBERS GIVEN ON GRID
)."
80PRINT"CO-ORDINATES MAY BE E
NTERED AT THE SAME TIME WITH A C
OMMA BETWEEN THEM. IF YOU WANT
TO DELETE THE SQUARE GIVEN JUST
ANSWER 'Y' TO THAT QUESTION."
90PRINT
100PRINT"IF YOU WANT THE CHR S
ET PRINTED THEN PRESS Q OTHER
WISE PRESS SPACE BAR."
110A$=GET$
120IFA$(">")="Q" THEN 190
130CLS
140PRINT"CHARACTER SET"
150FORF%=227TO255
160PRINT" ";CHR$(F%); " ";F%
170NEXTF%
180STOP
190REM ***** DESIGN A CHARAC
TER *****
200MODE4
210VDU23,225,255,129,129,129,1
29,129,129,255
220VDU23,226,255,255,255,255,2
55,255,255,255
230DIMA$(8)
240DIMB$(8)
250DIMC$(8)
260CLS
270PRINT"CHARACTER GENERATOR
CHARACTER"
280PRINT"-----
-----"

```

```

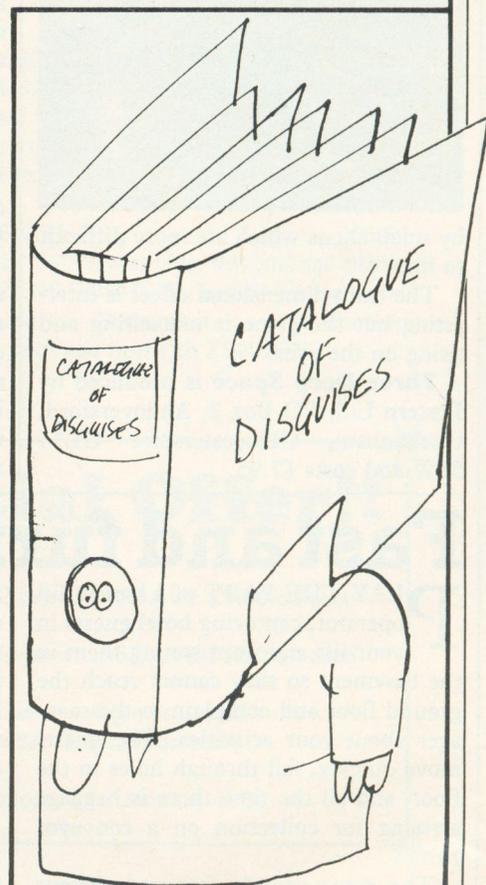
290PRINT
300FORF%=1TO8
310PRINTTAB(3);F%;
320VDU 225,225,225,225,225,225
,225,225
330PRINT
340NEXTF%
350A$(1)=145
360A$(2)=175
370A$(3)=205
380A$(4)=240
390A$(5)=275
400A$(6)=305
410A$(7)=340
420A$(8)=365
430B$(1)=910
440B$(2)=880
450B$(3)=840
460B$(4)=810
470B$(5)=780
480B$(6)=750
490B$(7)=720
500B$(8)=690
510FORF%=1TO8
520PRINTTAB(3+F%,11);F%
530NEXTF%
540PRINT
550PRINT"WHAT CHARACTER NUMBER
DO YOU WANT TO USE"
560INPUTO%
570IFO%<227THENGOTO260
580IFO%>254THENGOTO260
590PRINTTAB(2,1);O%
600PRINTTAB(0,13); "
";
610PRINT"
";
620PRINT"
";
630PRINT"
";
640PRINTTAB(0,13);"INPUT COORD
'S"
650INPUTA,B
660PRINTTAB(0,15); "
";
670PRINTTAB(0,16); "
";
680IFA=-1THENSTOP
690IFA<10RA>8ORB<10RB>8THENPRI
NTTAB(0,14); "
";
700IFA<10RA>8ORB<10RB>8THENGOT
O640
710PRINTTAB(0,15);
720PRINT"DO YOU WANT TO DELETE
THAT SQUARE?"
730INPUTA$
740PRINTTAB(0,16); "
";
750IFA$="Y"THENGOTO790
760PRINTTAB(B+3,2+A);CHR$(226)
770PROCDEFCHARC
780GOTO600
790PRINTTAB(B+3,2+A);CHR$(225)
800PROCDEFCHARC
810GOTO600
820DEF PROCDEFCHARC
830FORF%=1TO8
840$(F%)=0
850NEXTF%
860FORF%=1TO8
870E=0
880IFPOINT(A$(1),B$(F%))=1THEN

```

```

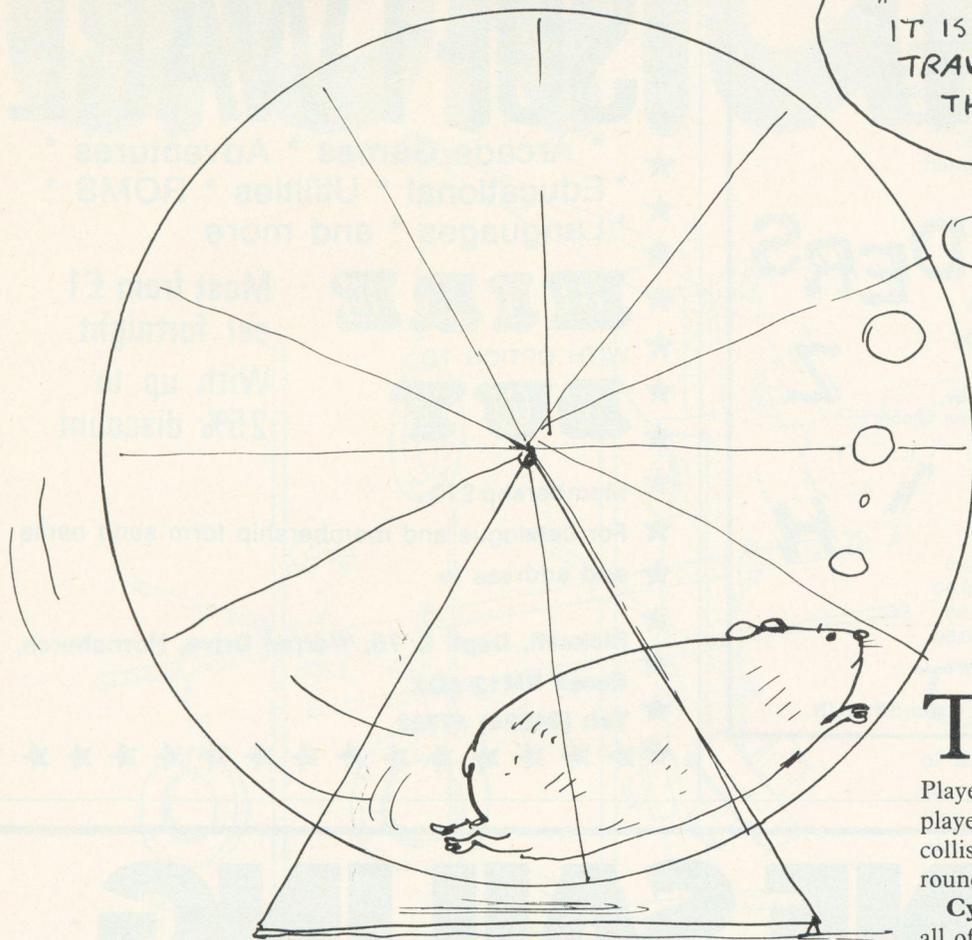
E=E+128
890IFPOINT(A$(2),B$(F%))=1THEN
E=E+64
900IFPOINT(A$(3),B$(F%))=1THEN
E=E+32
910IFPOINT(A$(4),B$(F%))=1THEN
E=E+16
920IFPOINT(A$(5),B$(F%))=1THEN
E=E+8
930IFPOINT(A$(6),B$(F%))=1THEN
E=E+4
940IFPOINT(A$(7),B$(F%))=1THEN
E=E+2
950IFPOINT(A$(8),B$(F%))=1THEN
E=E+1
960$(F%)=E
970NEXTF%
980VDU23,0%,S(1),S(2),S(3),S(4
),S(5),S(6),S(7),S(8)
990PRINTTAB(32,5);CHR$(O%)
1000PRINTTAB(0,22);"NO:- ";
1010FORY%=1TO8
1020PRINT" ";S(Y%);
1030NEXTY%
1040 ENDPROC
1050STOP
1060PRINTTAB(10,2);
1070VDU230,231,232
1080A$=GET$
1090VDU235
1100VDU127,11,135,127,11,135,12
7,8,135,127,8,135,127,8,135,127,
8,135
1110FORF=1TO10:NEXTF
1120GOTO1110
1130FORF=7TO0STEP-1
1140MDEF
1150VDU230,231,232
1160VDU240,241,242
1170A$=GET$
1180NEXTF
1190DRAW1000,1000
1200VDU19,1,0,0,0,0
1210A$=GET$
1220VDU19,1,1,0,0,0

```



# CYCLES

"IT IS BETTER TO TRAVEL HOPEFULLY THAN TO ARRIVE"



**T**HE GAME takes place on an enclosed grid with each of two players controlling a super cycle. Player one uses keys W, A, P and X and player two uses O, I, P and L. All collisions are fatal and the loser of each round is the player who crashes first. **Cycles** was written by Simon Aspinall of Beaconsfield, Buckinghamshire.

```

1 REM COPYRIGHT 1983 SIMON A
SPINALL
10 ON ERROR GOTO 30
20 MODE4
30 CLS
40 PRINTTAB(17);"TRAPPER"
50 PRINTTAB(17);"_____"
60 PRINT
70 PRINT"      by Simon AsPina
11."
80 PRINT:PRINT:PRINT:PRINT
90 PRINT"SPEED (1 TO 50) (50
SLOWEST) ?"
100 INPUT SK
110 IF SK<1 THEN SK=1
120 VDU 23;8202;0;0;0;
130 VDU 23,240,85,170,85,170,8
5,170,85,170
140 VDU 23,242,56,68,170,130,8
4,68,68,56
150 VDU 23,241,255,0,255,0,255
0,255,0
160 VDU 23,244,68,124,84,124,1
24,124,56,16
170 VDU 23,243,100,200,100,200
,100,200,100,200
180 D#=STRING$(39,CHR$(240))
190 O=#:P=#
200 CLS
210 QX=#:WX=#:AX=#:SX=#-1
220 PRINTD#
230 FORFX=1TO25
240 PRINTCHR$(240);STRING$(37,
" ");CHR$(240)
250 NEXTFX
260 PRINTD#
270 X1=10:Y1=5:X2=X1:Y2=33
280 VDU 240,240,240,240:PRINT" PLA
YER 1 ";CHR$(242);" "
290 VDU240,240,240,240:PRI
NT" PLAYER 2 ";CHR$(244);" "
VDU 240,240,240
300 PRINT:VDU240,240,240:PRINT
" "
310 VDU240,240,240,240:PRI
NT" " :VDU 240,240,
240
320 PRINT
330 PRINTD#
340 PRINTTAB(9,20);P
350 PRINTTAB(28,28);O
360 PRINTTAB(Y1,X1);CHR$(241)
370 T=FNREADCH(Y1+WX,X1+QX)
380 IFT<>32THEN PROCRCRASH
390 X1=X1+QX:Y1=Y1+WX
400 PRINTTAB(Y1,X1);CHR$(242)
410 IFINKEY(-66)=-1THENWX=-1:O
X=#
420 IFINKEY(-51)=-1THENWX=1:O#
=#
430 IFINKEY(-34)=-1THENQX=-1:W
X=#
440 IFINKEY(-67)=-1THENQX=1:WX
=#
450 PRINTTAB(Y2,X2);CHR$(243)
460 IFSK<>1THENPROCDLAY
470 PRINTTAB(Y2,X2);CHR$(243)
480 T=FNREADCH(Y2+WX,X2+QX)
490 IFT<>32THEN PROCMSH
500 X2=X2+QX:Y2=Y2+WX
510 PRINTTAB(Y2,X2);CHR$(244)
520 IFINKEY(-38)=-1THENQX=-1:A
X=#
530 IFINKEY(-56)=-1THENX=#1:AX
=#
540 IFINKEY(-40)=-1THENQX=-1:O
X=#
550 IFINKEY(-87)=-1THENAX=1:OX
=#
560 GOTO360
570 DEF FNREADCH(X,Y)
580 LOCAL AX,LASTX,LASTY,C
590 LASTX=POS
600 LASTY=VPOS
610 VDU 31,X,Y
620 AX=135
630 C=USR(0FFFF)
640 C=C AND 0FFFF
650 C=C DIV 2100
660 VDU 31,LASTX,LASTY
670 =C
680 DEF PROCRCRASH
690 X1=X1-QX:Y1=Y1-WX
700 O=O+1:PRINTTAB(28,28);O
710 GOTO750
720 DEF PROCMSH
730 X2=X2-AX:Y2=Y2-SX
740 P=P+1:PRINTTAB(9,20);P
750 PRINTTAB(8,30);"PRESS SPAC
E TO RESTART"
760 #FX15,0
770 G#=GET#:IFG#<>" THEN770
780 GOTO200
790 DEF PROCDLAY
800 FORFX=1TOSK#10:NEXTFX
810 ENDPROC

```

# TYPEASY

Typing tutor for *BBC model B* or *Electron*

- 139 graded exercises on cassette or disc
- PLUS routines for writing more yourself
- KEYBOARD DISPLAY with pointer
- NEW KEYS practised in one line exercises tells you which finger to use
- CAPS/lower case, numerals, punctuation, signs!
- ADVANCED multiline paragraphs – checks all strokes, new lines, etc at end of copy
- MEASURES SPEED in words/minute
- LOG of pupil's work displayed or printed

## TYPE INVADERS

A game to take you to FRENETIC SPEEDS

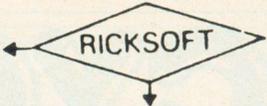
LETTERS rain down faster and faster – KILL them by pressing the right key before they occupy your base. Choose from many levels:

CAPS only, u/l case, numerals, whole words  
Finds and attacks your weak spots

Typeasy – cassette	£8.95
disc 40 track	£12.50
Type Invaders – cassette (BBC only)	£6.95
Two on one disc 40 track	£16.50

*all inclusive — cheque with order*

Carswell Computers Faringdon, Oxon, SN7 8JN



# BBC SOFTWARE

\* Arcade Games \* Adventures \*  
\* Educational \* Utilities \* ROMS \*  
\* Languages \* and more

## HIRE

Most from £1 per fortnight

## BUY

With up to 25% discount

Membership £10

For catalogue and membership form send name and address to

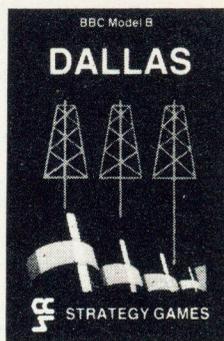
**Ricksoft, Dept. L, 78, Warren Drive, Hornchurch, Essex RM12 4QX.**

Tel: (04024) 47722

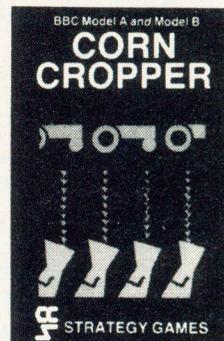
# PLANE SAILING



**Airline**  
Hijacks, strikes, crashes and spiralling fuel costs must all be overcome if you are to succeed at this game. A wing and a prayer will not be enough to turn your £3 million to £30 million in the time allowed, but your financial wizardry will enable you to take over British Airways, or will it?



**Dallas**  
Can you amass enough petro dollars to take over the Euing empire. Cut throat business and an eye for the main chance may get you there but you'll need nerves of steel to overcome the oil king of Dallas.



**Corn Cropper**  
Limited cash and droughts are two of the problems facing the farmer. Planting, fertilizing and harvesting must all be done economically if you are to reap the rewards offered in Corn Cropper. You choose the method that will bring you success.

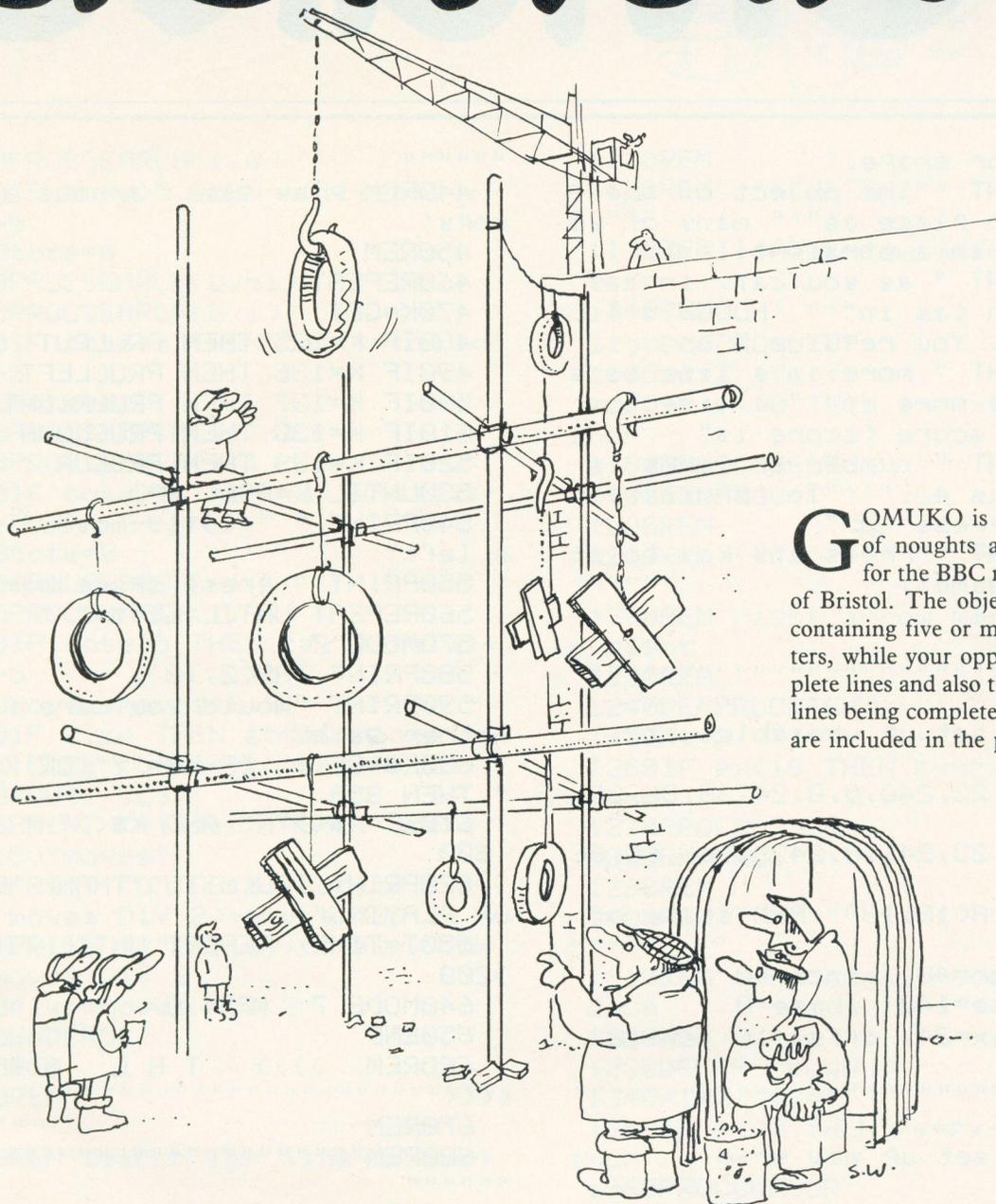


## BUSINESS STRATEGY GAMES – £6.95

Selected titles available from Greens, Boots, Rumbelows and all good computer shops or Cases Computer Simulations Ltd., 14 Langton Way, London SE3 7TL.

**NOW AVAILABLE ON ELECTRON!**

# GOMUKO



**G**OMUKO is a complicated form of noughts and crosses written for the BBC model B by D Stiles of Bristol. The object is to make lines containing five or more of your characters, while your opponent tries to complete lines and also tries to prevent your lines being completed. Full instructions are included in the program.

```

20REM
30REM C. BY D.B.STILES
40REM 4-FEB-83
50REM
60REM FORMATTED FOR BBC MODEL
B GRAPHICS
70REM
80MODE 7: D$="|||||!"
90PRINT TAB(12,2)D$;D$
100PRINT TAB(5)D$" BBC GOMUKO
    
```

```

"D$
110PRINT TAB(12)D$;D$
120PRINT "Move the cursor on
the grid using the"" cursor arr
ows. The cursor will be"
130PRINT " O for one Player, X
for the other. To"" Place your
mark Permanently Press the"
140PRINT " 'COPY' key; the mar
k Placed will be"" the same as
    
```

# GOMUKO

the cursor shape."

150PRINT "The object of the game is to Place as many of your marks in a straight line"

160PRINT " as you can, in any direction (as in ' ' NOUGHTS & CROSSES' ). You require 5 or"

170PRINT " more in a line to score, the more in a line the more you score (score is"

180PRINT " number of marks in line minus 4).""To terminate the game Press #"

190PRINT "Press any key to start the game";

200K=GET

210REM

220REM"#####"

230REM set up variables etc.

240REM

250VDU 23,240,0,0,24,36,36,36,24,0

260VDU 23,241,0,24,36,66,66,66,36,24

270DIM A(10,10): REM state of board

280xincr=40: yincr=40

290xbase=140: ybase=0

300offsx=24: offsy=16: ex=10

310REM

320REM"#####"

330REM set up new grid

340REM

350MODE 5

360Plyr=0: moves=0: totalo=0: totalx=0

370PROCGRID

380Px=9: X=xbase+10\*xincr: X1=X

390Py=9: Y=ybase+10\*yincr: Y1=Y

400PROCMAKED(X,Y)

410\*FX4,1

420REM

430REM"#####"

#####

440REM Play game: arrows and copy'

450REM

460REPEAT

470K=GET

480IF K=135 THEN PROCPUT

490IF K=136 THEN PROCLEFT

500IF K=137 THEN PROCRIGHT

510IF K=138 THEN PROCDOWN

520IF K=139 THEN PROCUP

530UNTIL K=ASC("#")

540PRINT " ";19\*19-moves" moves left"

550PRINT " Press space bar";

560REPEAT UNTIL GET#=" "

570MODE 7:

580PRINT TAB(2,10);

590PRINT "Would you care for another game? ";

600K#=GET#: IF K#="Y" OR K#="y" THEN 350

610IF K#<>"N" AND K#<>"n" THEN 600

620PRINT TAB(6,15)"THANK YOU FOR PLAYING"

630T=TIME: REPEAT UNTIL TIME-T >200

640MODE 7: \*FX4,0

650END

660REM )))) THE END

((((

670REM

680REM"#####"

690REM 'copy' key fixes mark in

700REM Place and adds up score

710REM

720DEFPROCPUT

730LOCAL B%,C%,D%,E%,N%,M%,O%,T%

740IF A(Px,Py)>-1 THEN ENDPROC

750IF Plyr THEN PROCX ELSE PROCU

760tally=0: tote=0

770PROCSEARCH(-1,0)



```

780PROCSEARCH(1,0)
790IF tote>5 THEN tally=tally+
tote-5
800tote=0
810PROCSEARCH(0,-1)
820PROCSEARCH(0,1)
830IF tote>5 THEN tally=tally+
tote-5
840tote=0
850PROCSEARCH(-1,-1)
860PROCSEARCH(1,1)
870IF tote>5 THEN tally=tally+
tote-5
880tote=0
890PROCSEARCH(-1,1)
900PROCSEARCH(1,-1)
910IF tote>5 THEN tally=tally+
tote-5
920moves=moves+1
930IF Plyr THEN totalx=totalx+
tally ELSE totalo=totalo+tally
940VDU4:CLS
950PRINT "Player"TAB(8)"score"
TAB(15)"moves"
960PRINT "O"TAB(8);totalo;TAB(
15);(moves DIV 2)+moves MOD 2
970PRINT "X"TAB(8);totalx;TAB(
15);moves DIV 2
980Plyr=moves MOD 2
990ENDPROC
1000REM
1010REM"*****"
"*****"
1020REM search for line of mark
s
1030REM
1040DEFPROCSEARCH(s9nx,s9ny)
1050LOCAL TX
1060IF A(Px+s9nx*TX,Py+s9ny*TX)
=Plyr THEN TX=TX+1 ELSE GOTU 109
0
1070IF Px+s9nx*TX<0 OR Px+s9nx*
TX>18 THEN 1090
1080IF Py+s9ny*TX>-1 AND Py+s9n
y*TX<19 THEN 1060
1090tote=tote+TX
1100ENDPROC
1110REM
1120REM"*****"
"*****"
1130REM left arrow moves cursor
left
1140REM
1150DEFPROCLEFT
1160X1=X: Y1=Y
1170IF Px>0 THEN Px=Px-1: X=X-x
incr
1180PROCCURSOR
1190ENDPROC
1200REM
1210REM"*****"
"*****"
1220REM right arrow moves curso
r right
1230REM
1240DEFPROCRIGHT
1250X1=X: Y1=Y
1260IF Px<18 THEN Px=Px+1: X=X+
xincr
1270PROCCURSOR
1280ENDPROC
1290REM
1300REM"*****"
"*****"
1310REM down arrow moves cursor
down
1320REM
1330DEFPROCDOWN
1340X1=X: Y1=Y
1350IF Py>0 THEN Py=Py-1: Y=Y-y
incr
1360PROCCURSOR
1370ENDPROC
1380REM
1390REM"*****"
"*****"
1400REM up arrow moves cursor u
p
1410REM
1420DEFPROCUP
1430X1=X: Y1=Y
1440IF Py<18 THEN Py=Py+1: Y=Y+
yincr
1450PROCCURSOR

```

# GOMUKO

```
1460ENDPROC
1470REM
1480REM"*****"
"*****"
1490REM XCURS,OCURS use MAKEEX,M
AKED
1500REM to place and remove cur
sors
1510REM
1520DEFPROCOCURS
1530IF plyr THEN PROCXCURS ELSE
PROCOCURS
1540ENDPROC
1550REM
1560REM"*****"
"*****"
1570DEFPROCXCURS
1580PROCMAKEEX(X1,Y1)
1590PROCMAKEEX(X,Y)
1600ENDPROC
1610REM
1620REM"*****"
"*****"
1630DEFPROCMAKEEX(X,Y)
1640GCOL 4,3
1650MOVE X+2*ex,Y+2*ex: DRAW X-
2*ex,Y-2*ex
1660MOVE X+2*ex,Y-2*ex: DRAW X-
2*ex,Y+2*ex
1670ENDPROC
1680REM
1690REM"*****"
"*****"
1700DEFPROCOCURS
1710PROCMAKED(X1,Y1)
1720PROCMAKED(X,Y)
1730ENDPROC
1740REM
1750REM"*****"
"*****"
1760DEFPROCMAKED(X,Y)
1770GCOL 4,3
1780MOVE X-offsx,Y+offsy
1790VDU5: PRINT CHR$(241)
1800ENDPROC
1810REM
1820REM"*****"
"*****"
1830REM PROCX,PROCO fix marks t
o grid
1840REM
1850DEFPROCX
1860PROCMAKEEX(X,Y)
1870GCOL 0,2
1880MOVE X+ex,Y+ex: DRAW X-ex,Y
-ex
1890REM
1900MOVE X+ex,Y-ex: DRAW X-ex,Y
+ex
1910PROCMAKED(X,Y)
1920A(Px,Py)=1
1930ENDPROC
1940REM
1950REM"*****"
"*****"
1960DEFPROCOC
1970PROCMAKED(X,Y)
1980GCOL 0,2
1990MOVE X-offsx,Y+offsy
2000VDU5: PRINTCHR$(240)
2010PROCMAKEEX(X,Y)
2020A(Px,Py)=0
2030ENDPROC
2040REM
2050REM"*****"
"*****"
2060REM create grid and init. a
rray
2070REM
2080DEFPROCGRID
2090VDU 23;8202;0;0;0
2100VDU 24,xbase,ybase,xbase+20
*xincr,ybase+20*yincr;
2110VDU 28,0,6,19,1: CLS
2120GCOL 0,1: CLG
2130FOR N=1 TO 19
2140MOVE xbase+N*xincr,ybase
2150DRAW xbase+N*xincr,ybase+y1
ncr*20
2160MOVE xbase,ybase+N*yincr
2170DRAW xbase+xincr*20,ybase+N
*yincr
2180FOR M=0 TO 18: A(N-1,M)=-1:
NEXT M
2190NEXT N
2200ENDPROC
2210REM
2220REM"*****"
"*****"
2230REM %%% THE ABSOLUTE END %
%%%
```



## Win software in our great music contest

The following pages contain four programs, each of which will play a tune on your BBC computer — a lullaby, a sea shanty, a folk song and a tune best-known as a TV signature tune. Choose one of those songs and write a program which includes it.

The winning programmer will receive copies of Beeb-Art and Music Processor by Quicksilva and the winning program will be published in the next issue of *Acorn Programs*. Programs will be judged on use of the music, use of the machine and originality.

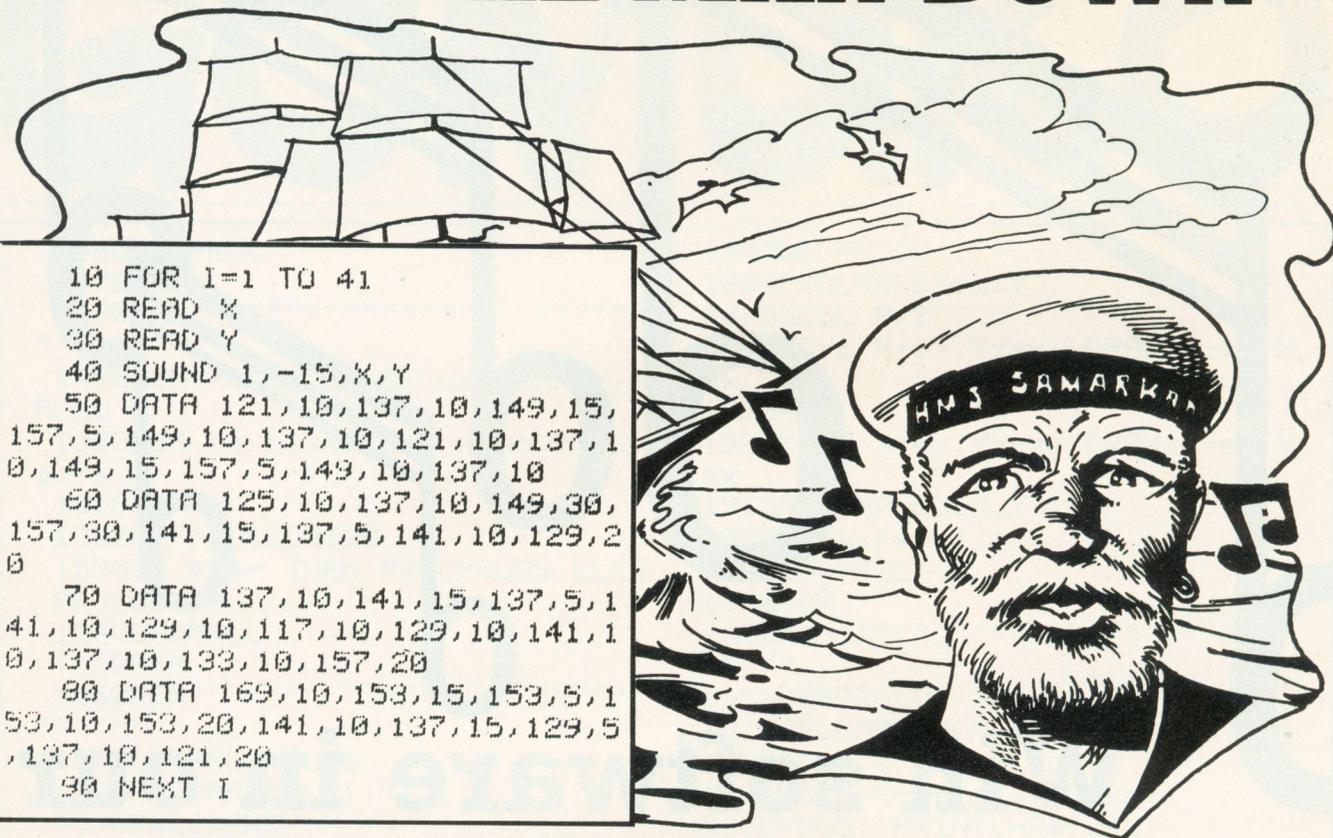
Complete the entry form below and send it, together with a recording of your program and a brief description of it, to the address on the form.

Name .....

Address .....

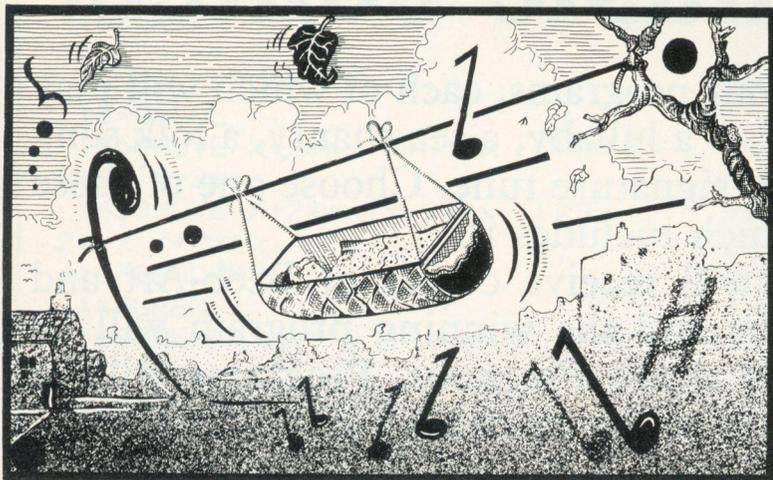
.....  
 Send your entries, marked Music Competition; to  
 Acorn Programs, 196-200 Balls Pond Road, London N1  
 4AQ to arrive not later than March 28, 1984.

# BLOW THE MAN DOWN



```

10 FOR I=1 TO 41
20 READ X
30 READ Y
40 SOUND 1,-15,X,Y
50 DATA 121,10,137,10,149,15,
157,5,149,10,137,10,121,10,137,1
0,149,15,157,5,149,10,137,10
60 DATA 125,10,137,10,149,30,
157,30,141,15,137,5,141,10,129,2
0
70 DATA 137,10,141,15,137,5,1
41,10,129,10,117,10,129,10,141,1
0,137,10,133,10,157,20
80 DATA 169,10,153,15,153,5,1
53,10,153,20,141,10,137,15,129,5
,137,10,121,20
90 NEXT I
    
```



# Cradle Song

```

10 FOR I=1 TO 75
20 READ X
30 READ Y
40 SOUND 1,-15,X,Y
50 DATA 109,10,129,10,2000,.5
,129,10,137,10,145,5,157,5,2000,
.5,157,15,149,5,145,10,2000,.5,1
45,10,137,10,129,20
60 DATA 109,10,129,10,2000,.5
,129,10,137,10,145,5,157,5,2000,
.5,157,15,149,5,145,10,2000,.5,1
45,10,137,10,129,20
70 DATA 157,10,2000,.5,157,10
,145,10,157,10,2000,.5,157,5,149
,5,137,15,2000,.5,137,5
80 DATA 145,10,129,10,145,10,
137,20,109,10,129,10,2000,.5,129
,10,137,10,145,5,157,5,2000,.5,1
57,15,149,5,145,10,2000,.5,145,1
0,137,10,129,20
90 DATA 149,5,125,5,129,20,13
7,5,109,5,129,20,2000,.5,129,5,1
45,5,157,10,145,5,129,5,137,5,10
9,5,129,20
100 NEXT I
    
```

```

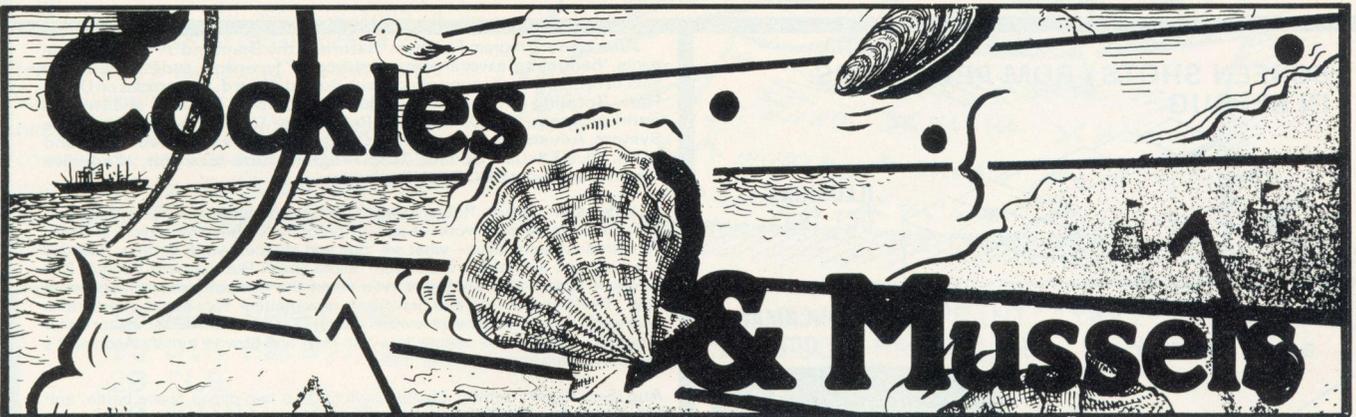
10 FOR I=1 TO 92
20 READ X
30 READ Y
40 SOUND 1,-15,X,Y
50 DATA 129,10,149,15,2000,1,
149,4,2000,1,149,10,2000,1,149,1
0,165,10,149,10,157,15,2000,1,15
7,5,2000,1,157,10,2000,1,157,10,
169,10,157,10,165,10,157,10,149,
10
60 DATA 177,10,169,10,165,10,
2000,1,165,10,157,15,149,5,157,2
0
70 DATA 129,5,2000,1,129,5,14
9,10,2000,1,149,10,2000,1,149,10

```

```

,2000,1,149,5,165,15,149,10,157,
10,2000,1,157,10,2000,1,157,10,2
000,1,157,5,169,15,165,5,157,5
80 DATA 165,5,177,15,169,10,1
65,5,177,15,169,10,165,15,149,5,
157,10,149,20,129,10,149,15,2000
,1,149,5,2000,1,149,5,2000,1,149
,5,165,15,149,10
90 DATA 157,15,2000,1,157,5,2
000,1,157,10,2000,1,157,5,169,15
,165,5,157,5,165,5,177,15,169,10
,165,5,177,15,169,10,165,15,149,
5,157,10,149,20
120 NEXT I

```

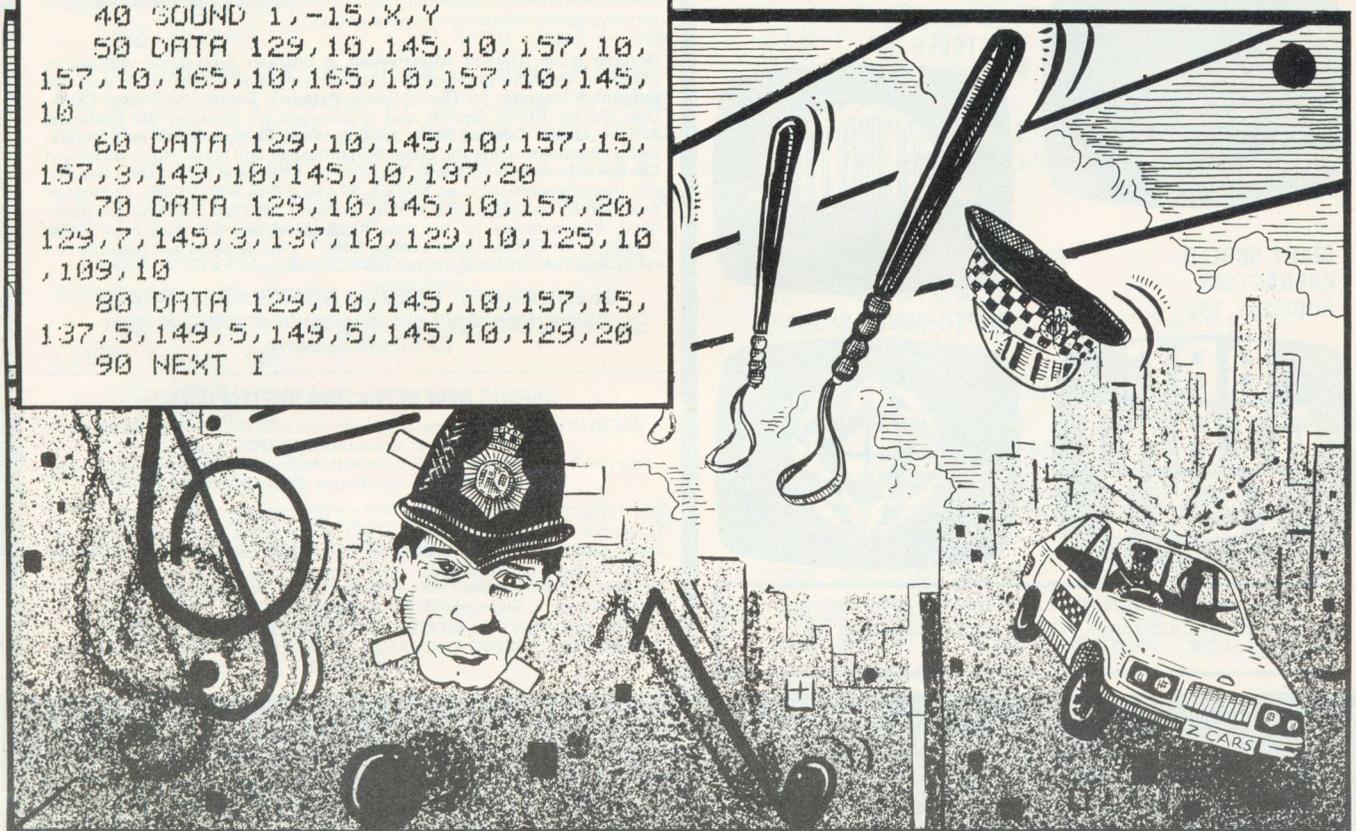


```

10 FOR I=1 TO 32
20 READ X
30 READ Y
40 SOUND 1,-15,X,Y
50 DATA 129,10,145,10,157,10,
157,10,165,10,165,10,157,10,145,
10
60 DATA 129,10,145,10,157,15,
157,3,149,10,145,10,137,20
70 DATA 129,10,145,10,157,20,
129,7,145,3,137,10,129,10,125,10
,109,10
80 DATA 129,10,145,10,157,15,
137,5,149,5,149,5,145,10,129,20
90 NEXT I

```

# Z-CARS





# BEEBUG FOR THE BBC MICRO

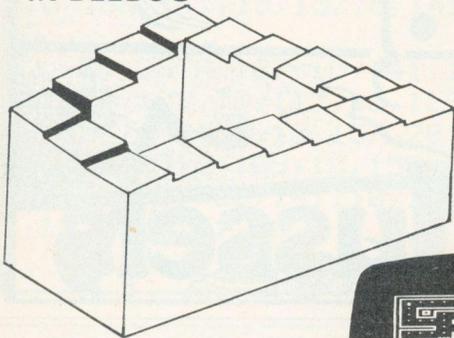
## DEVOTED EXCLUSIVELY TO THE BBC MICRO

### MEMBERSHIP NOW EXCEEDS 20,000 BRITAIN'S LARGEST COMPUTER USER GROUP

20,000 members can't be wrong — BEEBUG provides the best support for the BBC Micro. BEEBUG Magazine — NOW 64 PAGES devoted exclusively to the BBC Micro.

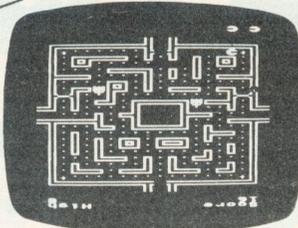
Programs — Hints & Tips — Major Articles — News — Reviews — Commentary.  
PLUS members discount scheme with National Retailers. PLUS members Software Library.  
10 Magazines a year. First issue April 1982. Reprints of all issues available to members.

#### SCREEN SHOTS FROM PROGRAMS IN BEEBUG

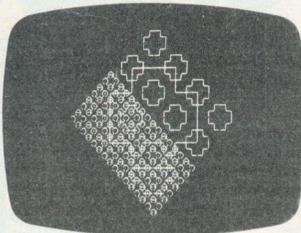


ILLUSIONS  
OCT 1983

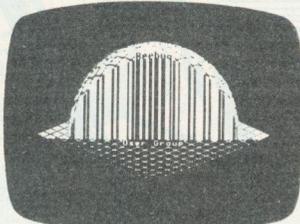
MUNCHMAN  
OCT '83



SPIDERS WEB  
AUGUST 1983



3D SURFACES  
OCTOBER 83



GIANT SCREEN  
CHARACTERS  
AUG/SEPT 1983



ELLIPTO JUNE 1983



Magazine programs now available on cassette to members at £3.50 inc: VAT & p&p — see issue for details.

**June Issue:** Program Features: 'Return of the Diamond' A 16k adventure game, 'hedgehog' a well implemented 'frogger' type game, and Ellipto. Create your own off the shelf sound effects with Sound Wizard. Plus articles on Using Files, Rotating and Expanding Characters, Using Printers, and How to multi-program the User Keys. Reviews of The Hobbit Floppy Tape System, Adventure Games, and a Comparative Review of Wordwise and View. Plus FX Call Update, Disc Program Auto-relocator, Wordwise Update, and more BBC Book Reviews.

**July issue:** Games: Robot Attack (32k) and Anagrams, a 16k word game. Watching the Beeb at work — a sample program to show your micro at work. An introduction to discs — what are they and are they worth getting. Balloons — a coloured animation. Make your micro speak like Kenneth Kendal. Bad Program Lister — lists programs even when the computer pronounces them 'bad'. Reviews of Epson and Seikosha's new printers. Five books of programs reviewed, plus more software reviews. Using Files Part 4. A full disc sector editor program — to read and retrieve lost disc files, and how to modify Acornsoft's Planetoid. Plus hosts of useful hints.

**Aug/Sep Issue:** Games: Space Lords (32k) a two-player space battle, and Mars Lander (16k). Build yourself a light pen — a simple explanation for the beginner, together with a sample program. Use our "Contact Points for the Beeb" to discover who to contact when in need. We show how to put those 'awkward' cassette programs onto disc. Final instalment of our popular 5-part series on "Using Files" — MICRONET, Watfords Electronic's Disc Filing System, two EPROM programmers, and the tax advisory package "Microtax". This month's visual programs include Spider's Web, Super Large Screen Characters, Bounce and Swing. We also show how to hold two complete screen pictures at once, and switch rapidly between them in "Dual Screens on the Beeb". A Crossword, Brain Teaser and our 4th Software Competition provide a competitive edge to this month's magazine. We also have our very popular scattering of Hints and Tips.

**October Issue:** Games: Munch-Man, a Snapper type game with super graphics, Illusions graphics and sound you won't believe. A versatile Renumbr program for Basic, Fabric Patterns, an invisible Alarm Clock, Disc Sector String Search and a program for drawing 3D Surfaces. Articles on the Teletext Mode for beginners, Compilers and interpreters, using Joysticks, using the Speech Synthesizer and more. Reviews of two Cassette Recorders (Marantz Superscope C190 and Acorn Data Recorder), three Printers (NEC pc-8023B, STAR DP840 and CP-80), and lots of new games software (and we've arranged SPECIAL OFFERS for members). Plus a review of the new Acorn Electron and news of our new magazine for Electron users called ORBIT. Plus all our usual features like Hints and Tips, Postbag, and a new Brainteaser.

**BEEBUGSOFT: BEEBUG SOFTWARE LIBRARY**  
offers members a growing range of software from  
£3.50 per cassette.

#### BEEBUG NEW OPERATING SYSTEM OFFER

BEEBUG members can now obtain the new 1.2 OPERATING SYSTEM ROM at around HALF PRICE  
As a result of BEEBUG negotiations with Acorn the ROM now may also be offered by other user groups to their members.

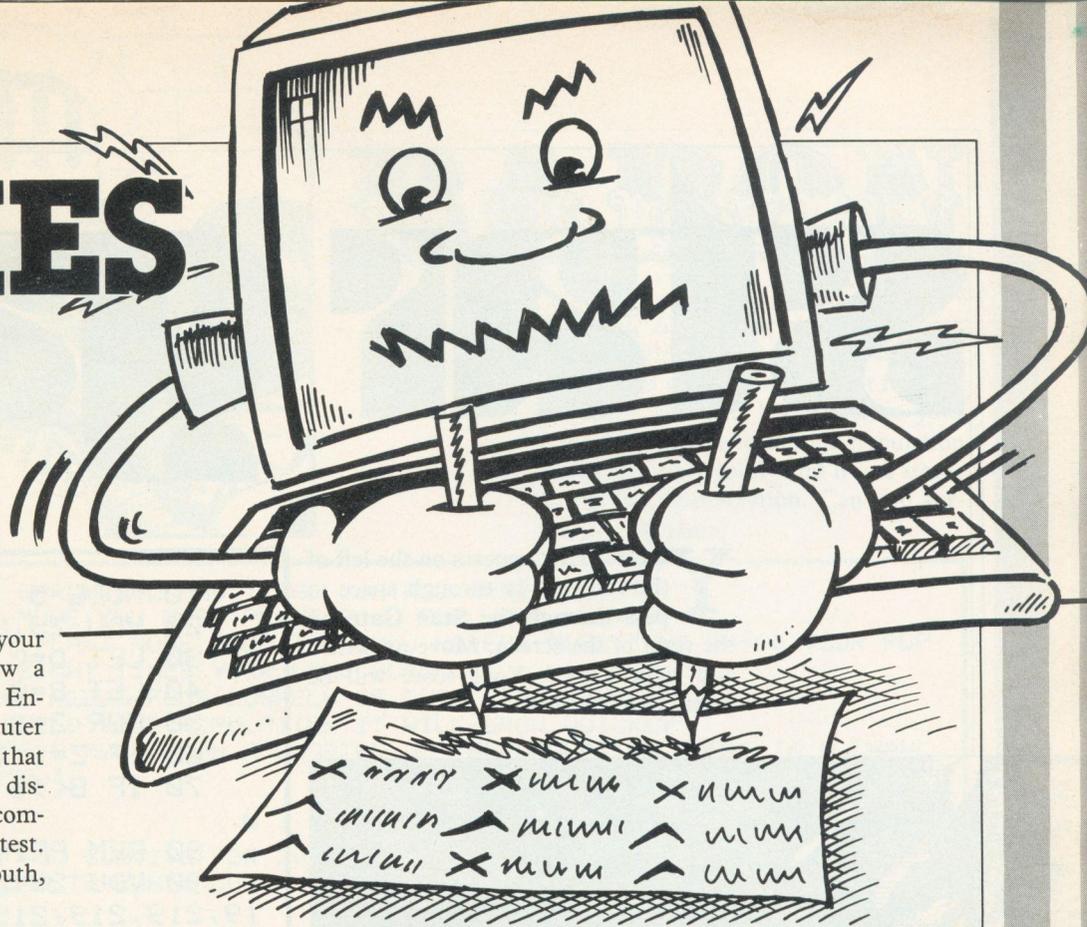
1. Starfire (32K).
  2. Moonlander (16K).
  3. 3D Noughts and Crosses (32K).
  4. Shape Match (16K).
  5. Mindbender (16K).
  6. Magic Eel (32K).
  7. Cylon Attack (32K).
  8. Astro-Tracker (32K).
  9. Utilities: 1. Disassembler (16K). Redefine (16K). Mini Text Ed (32K).
  10. Applications: 1. Superplot (32K). 2. Masterfile (32K).
- 13% DISCOUNT TO MEMBERS ON THE EXCELLENT WORDWISE WORD PROCESSING PACKAGE — THIS REPRESENTS A SAVING OF OVER £5.00.

Send £1.00 & SAE for Sample

Membership: UK £5.40 for six months, £9.90 for one year.

Overseas one year only: Europe £16.00, Middle East £19.00, Americas & Africa £21.00, Other Countries £23.00  
Make cheque to BEEBUG and send to: BEEBUG Dept 10, PO Box 109 Baker St, High Wycombe, Bucks HP11 2TD  
Send editorial material to: The Editor, BEEBUG, PO BOX 50, St. Albans, Herts AL1 2AR

# NAMES



**T**YPE-IN this program and your computer will seem to show a preference for certain people. Enter anybody's name and the computer will tell you whether or not it likes that person. When you think you have discovered the criteria on which the computer bases its choice, ask for a test. Written by Dr J Evans of Plymouth, Devon.

```

10 REM NAMEGAME
15 DIM A$(8),C$(8)
20 CLS
30 PRINT TAB(5,2)"Some people
think we computers""are just m
achines. Well we have""FEELINGS
you know, I can tell you."
40 PRINT"" For example, s
ome people I""like but others I
can't STAND."
50 PRINT"" If you tell me
the names of people""you know,
I will tell you if I like""the
m or not. When you think you kno
w""which sort of people I like
type TEST""instead of a name, a
nd I'll give you."
60 PRINT"a test. If you want
to give up type QUIT"
62 PRINT"MAKE SURE YOU HAVE
CAPS LOCK ON"
65 Z=0
70 REPEAT
75 A=0:T=0
80 INPUT W$
90 IF W$="QUIT" THEN PRINT"Be
tter luck next time." :END
100 IF W$="TEST" PROCtest
105 IF Z>0 GOTO 170
110 L=LEN(W$)
120 FOR I=1 TO L
130 IF MID$(W$,I,1)="A" A=A+1
140 IF MID$(W$,I,1)="T" T=T+1
150 NEXT I
160 IF (A>0 AND T=0)OR(A=0 AND

```

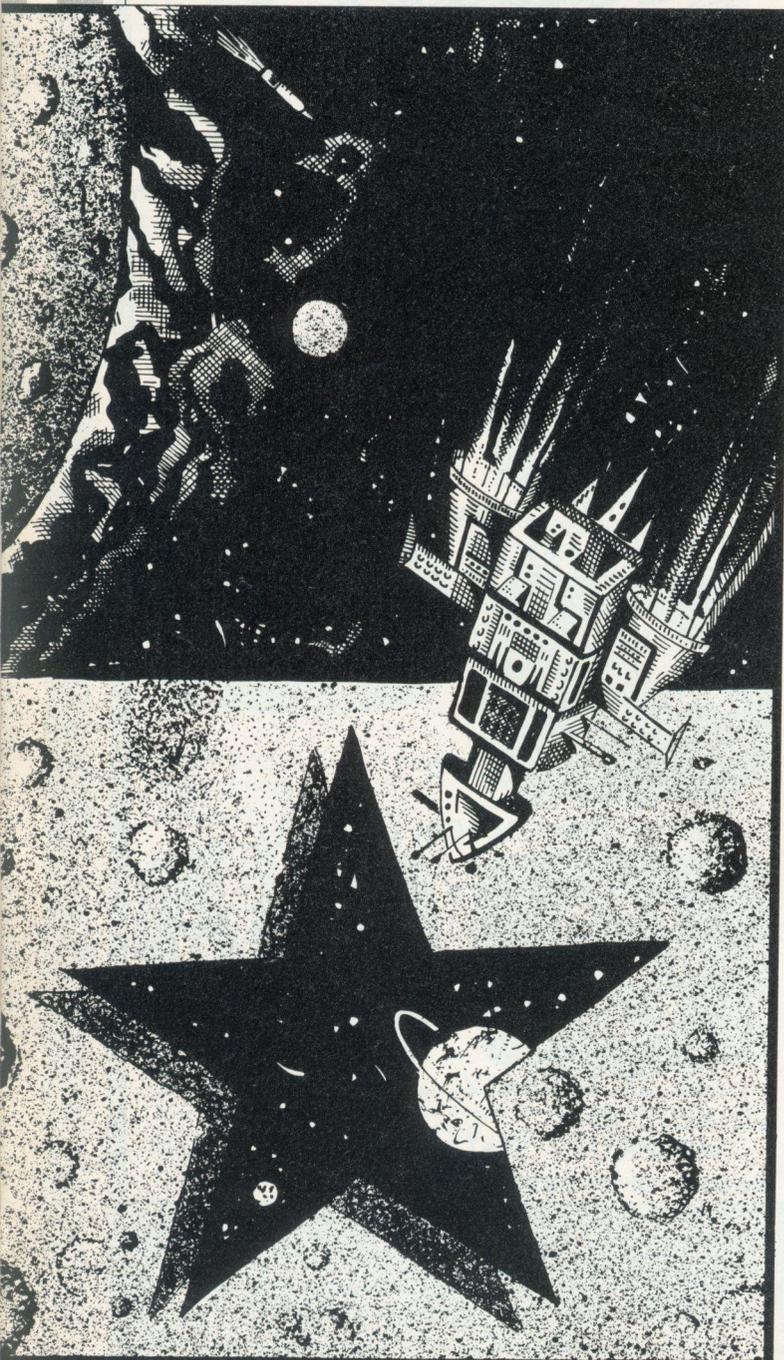
```

T>0) THEN PRINT"Yes, I like ";
W$ ELSE PRINT"No, I don't like
";W$
170 Z=0
172 UNTIL FALSE
175:
180 DEF PROCtest
185 RESTORE
200 T=0:Z=0
205 PRINT"Answer Y or N."
210 FOR I=1 TO 8
220 READ TEST$
230 PRINT"Do I like ";TEST$;
240 INPUT A$(I)
250 IF A$(I)<>"Y" AND A$(I)<>
N" GOTO 240
260 NEXT I
270 FOR I=1 TO 8
275 READ C$(I)
280 IF A$(I)<>C$(I) T=T+1
290 NEXT I
300 IF T=0 GOTO 340
305 PRINT"You failed the test
.";"Try again(Y/N)";
310 INPUT DEC$
320 IF DEC$<>"Y" AND DEC$<>"N"
GOTO 305
330 IF DEC$="Y" THEN Z=1:ENDPR
OC ELSE END
340 PRINT"Well done, you've p
assed the test." :END
400 DATA MARMADUKE,TABITHA,RUM
PLESTILTSKIN,LEONORA,ATTICUS,XER
XES,PERSEUS,DEMETRIUS
410 DATA Y,N,Y,Y,N,N,N,Y

```

# star gate

**Y**OUR SHIP appears on the left of the screen. Fly through space to pass through the **Star Gate** on the right of the screen. Move up with : and right with /. Your score will be given after 20 turns.



```

10 MODE 5
20 VDU 23;8202;0;0;0
30 LET D=0
40 LET B=0
50 FOR Z=1 TO 20
60 IF Z=1 THEN GOSUB 280
70 IF B<>0 THEN CLS: GOSUB 28
0
80 REM PRINTS SPACE SHIP
90 VDU 23,241,24,60,126,255,2
19,219,219,219
100 B=10:A=2
110 FOR I=1 TO 19
120 PRINT TAB(A-1),(B-1));" "
130 PRINT TAB(A-1),B);" ";CHR
#(241)
140 PRINT TAB(A-1,B+1);" "
150 REM MOVES SHIP
160 LET G#=INKEY$(20)
170 IF G#="/" THEN LET B=B+1
180 IF G#=":" THEN LET B=B-1
190 LET A=A+1
200 IF A=19 AND B<>S AND B<>S+
1AND Z<>20 THEN NEXT Z
210 IF A=19 AND B<>S AND B<>S+
1AND Z=20 THEN GOTO 250
220 IF B=20 THEN LET D=D+1
230 NEXT I
240 NEXT Z
250 CLS
260 PRINT"YOUR SCORE IS ";D
270 END
280 GCOL0,1
290 VDU 23,240,255,255,255,255,
255,255,255,255
300 FOR Q=1 TO 20
310 LET F=RND(20): LET G=RND(32
)
320 PRINT TAB(F,G);"*"
330 NEXT Q
340 FOR X= 1 TO 30
350 PRINT TAB(19,X);CHR$(240)
360 NEXT X
370 LET S=RND(30)
380 PRINT TAB(19,S);" "
390 PRINT TAB(19,(S+1));" "
400 RETURN

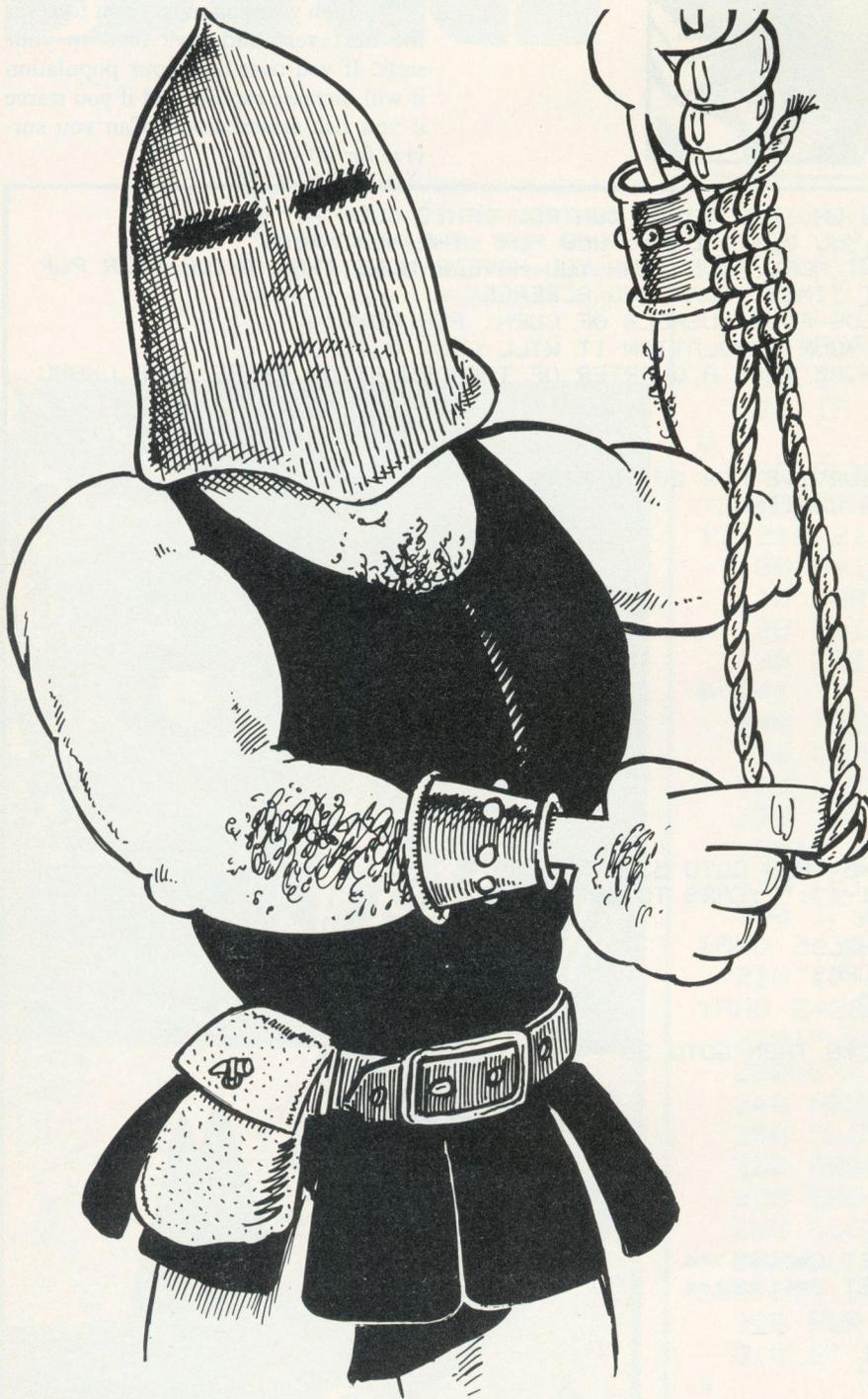
```

# BARON

**YOU ARE a Baron**, charged with providing food for your subjects. Each year you must plant food for the next year and give food to your serfs. If you over-feed your population it will increase rapidly and if you starve it you risk assassination. Can you survive for 20 years?

```
1 PRINT "YOU ARE A BARON WHO HAS TOTAL CONTROL OF HIS COUNTRY"
2 PRINT "WITH EACH MOVE YOU MUST PLANT FOOD FOR THE NEXT YEAR"
3 PRINT "YOU CANNOT PLANT MORE FOOD THAN YOU HAVE OR MORE THAN TWICE YOUR POPULATION, OR MORE THAN EIGHT TIMES YOUR LAND ACREAGE"
4 PRINT "EACH VASSAL NEEDS FOUR BUSHELS OF CORN PER MOVE"
5 PRINT "IF YOU OVERFEED YOUR POPULATION IT WILL GROW QUICKLY"
6 PRINT "IF YOU STARVE MORE THAN A QUARTER OF THE POPULATION THERE IS A CHANCE YOU WILL BE ASSASSINATED"
7 PRINT
8 PRINT
9 PRINT "          CAN YOU SURVIVE FOR 20 YEARS?"
10 PRINT "PRESS RETURN TO CONTINUE"
11 INPUT Y
12 CLS
13 PRINT "LEVEL 1 2 OR 3"
14 INPUT J
15 *TV254
16 LET J=3-J
17 IF J=3 THEN STOP
18 IF J<0 THEN GOTO 14
19 CLS
20 LET A=100
21 LET B=100
22 LET C=20
23 FOR I=1 TO 20
24 IF A<=0 OR B<=0 OR C<=0 THEN GOTO 53
25 PRINT " YOU HAVE "(21-I)" YEARS TO GO"
26 PRINT "POPULATION=" ;A
27 PRINT "CORN=" ;B ;" BUSHELS"
28 PRINT "LAND = " ;C ;" ACRES"
29 PRINT "CORN TO PLANT?"
30 INPUT P
31 IF P>B OR P>A*2 OR P>C*8 THEN GOTO 30
32 PRINT P
33 LET B=B-P
34 PRINT "CORN FOR FOOD?"
35 INPUT F
36 IF F>B THEN GOTO 35
37 CLS
38 LET B=B-F
39 IF P/8<(C*3)/4 THEN LET C=(C*5)/4
40 IF P/8<<(C*3)/4 THEN LET C=(C*3)/4
41 LET F=F/4
42 LET Z=F-A
43 IF Z<A/4 THEN GOSUB 55
44 LET A=A+Z
45 LET Y=RND(6)
46 IF Y<3 THEN LET B=B+P*J
47 NEXT I
48 CLS
49 PRINT "WELL DONE SCORE=" ;B
50 PRINT "YOU LOST SCORE =0"
51 RUN
52 LET V=RND(3)
53 IF V=1 THEN PRINT "ASSASSINATED"
54 IF V=1 THEN RUN
55 RETURN
```

# HANGMAN



**P**LAY the computer or challenge your friends in this electronic version of the pencil and paper game **Hangman**. Enter your word or let the

computer choose one and then try to guess the word, letter by letter. Every time you make a mistake your man moves one stage nearer death.

```
10MODES
20LET WORDS=10:REM WORDS=NUMBER OF WORDS IN DATA STATEMENTS
30PRINT TAB(0,15);"1. ENTER W
```

```
ORD"
40PRINT"2. COMPUTER'S CHOICE"
50LET D#=GET#
60IF D#="1" THEN GOTO 110
```

```
70IF D#="2" THEN GOTO 90
80GOTO50
90RESTORE(8999+(RND<WORDS>))
100READ WORD#:GOTO 130
110CLS:PRINT TAB(0,15);"INPUT WORD"
120INPUT WORD#
130CLS:RESTORE 5000:LET L=LEN WORD#
140LIMIT=0
160LET TRY#=""
170LET C#=""
180LET B#=""
200FOR N=2 TO L
210LET B#=B#+ "-"
220NEXT N
230 PRINT TAB(0,22);"TRIED SO FAR :- ";TRY#
240PRINT TAB(0,25);B#
250PRINT"INPUT GUESS"
260INPUT G#
270PRINT TAB(0,28);"
"
280IF LEN G#>1 THEN PRINT "ONLY ONE AT A TIME"
290LET G#=LEFT$(G#,1)
300LET TRY#=TRY#+G#
310FOR N=1 TO L
320IF G#=MID$(WORD#,N,1) THEN LET C#=C#+G#:GOTO 340
330LET C#=C#+MID$(B#,N,1)
340NEXT N
350IF B#=C# THEN LIMIT=LIMIT+1:GOTO 1000
360LET B#=C#:LET C#=""
370IF WORD#<>B# THEN GOTO 230
380CLS:RESTORE010
390FORF=1TO2:GOSUB1100:NEXT
400FORF=1TO4:GOSUB1020:NEXT
410MOVE690,710:DRAW700,700:DRAW710,710
420PRINT"WELL DONE"
430PRINT TAB(0,23);:GOTO2035
1000IF LIMIT=7 OR LIMIT=8 THEN GOSUB 1100:GOTO360
1010IF LIMIT=13 THEN GOTO 2000
1015GOSUB1020:GOTO360
1020READX1,Y1,X2,Y2
1030MOVEX1,Y1:DRAWX2,Y2
1040RETURN
1100 READX,Y,A,B
1110VDU29,X;Y;
1120MOVE COS1*A,SIN1*B
1130FORC=1TO139STEP6
1140DRAWCOSC*A,SINC*B
1150NEXT
1160VDU29,0;0;
1170RETURN
2000MOVE650,750:DRAW750,825
2010MOVE690,700:DRAW700,710:DRAW710,700
2020PRINT TAB(0,22);:FORC=1TO9:PRINT" ",NEX T
2030PRINT TAB(0,22);"BAD LUCK"
2035PRINT" THE WORD WAS:-"'WORD#
2040PRINT"DO YOU WANT ANOTHER GO?""PRESS Y OR N"
2050#=#GET#:IF D#="Y"THEN RUN
2060IF D#="N" THEN END
2070GOTO2050
5000DATA400,400,800,400,500,400,500,800,400,400,500,500,800,700,800,500,700,600,800,700,800,700,750
5010DATA700,715,35,35,700,590,40,90,680,585,650,430,720,585,750,430,670,650,600,675,730,650,800,675
9000DATA COMPUTER
9001DATA MACHINE
9002DATA BBC
9003DATA ANSWER
9004DATA CHOPSTICKS
9005DATA YACHT
9006DATA GYPSUM
9007DATA NONSENSE
9008DATA ETHER
9009DATA MANUAL
```



# Bank Robber

```

10 VDU 23:8202:0:0:0;
20 PROCInstructions
30 H=0
40 S=0
50 L=10
60 CLS
70 *FX 11,8
80 X=10
90 Y=14
100 PRINT TAB(0,0);"  bbbbbbbbbbbbbbbbbb "
110 PRINT TAB(0,15)" "
120 K=RND(17)
130 IF K<3 THEN GOTO 120
140 FOR A=1 TO 15
150 FOR T=1 TO 100
160 NEXT T
170 PRINT TAB(K,A);" "
180 PRINT TAB(K,A-1);" "
190 A0=INKEY(0)
200 IF A0="Z" AND X>1 THEN X=X-1
210 IF A0="/" AND X<17 THEN X=X+1
220 PRINT TAB(X,Y);"upz"
230 *FX 15,0
240 NEXT A
250 IF K=X+1 THEN PROCscore ELSE PROClives
260 GOTO 100
270 DEF PROCscore
280 SOUND 1,-15,150,1
290 S=S+100
300 PRINT TAB(23,0);"Score \";S
310 IF S>H THEN H=S
320 PRINT TAB(23,5);"Hi-Score \";H
330 ENDPROC
340 DEF PROClives
350 L=L-1
360 SOUND 0,-15,50,2
370 PRINT TAB(23,10);"Lives=";L
380 IF L<1 THEN PROCfinish
390 ENDPROC
400 DEF PROCfinish
410 PRINT TAB(0,15);"HIT THE SPACE-BAR FOR ANOTHER GO"
420 TIME=0:REPEAT UNTIL TIME>30
430 SOUND 1,-15,30,5:SOUND 1,-15,50,5:SOUND 1,-15,20,10:SOUND 1,-15,50,5
440 G=GET
450 IF G=32 THEN GOTO 40 ELSE GOTO 440
460 DEF PROCInstructions
470 CLS
480 PRINT TAB(11,4);CHR(141);CHR(134);"BANK ROBBER":PRINT TAB(11,5);CHR(
1);CHR(134);"BANK ROBBER"
490 PRINT TAB(3,9);CHR(129);"You and your Partner in crime"
500 PRINT TAB(0,10);CHR(129);"Fred Bloogs' have just raided a well"
510 PRINT TAB(0,11);CHR(129);"known bank."
520 PRINT TAB(3,13);CHR(130);"Fred Bloogs is at the top chucking"
530 PRINT TAB(0,14);CHR(130);"bags out of the windows."
540 PRINT TAB(3,16);CHR(131);"You get ten lives to start with and"
550 PRINT TAB(0,17);CHR(131);"you lose one life for every bag you"
560 PRINT TAB(0,18);CHR(131);"miss."
570 PRINT TAB(11,23);CHR(135);CHR(136);"PRESS ANY KEY"
580 G=GET
590 CLS
600 PRINT TAB(3,5);CHR(133);"Every bag contains one hundred"
610 PRINT TAB(0,6);CHR(133);"pounds and you must catch as much money"
620 PRINT TAB(0,7);CHR(133);"as possible before your lives reach"
630 PRINT TAB(0,8);CHR(133);"zero."
640 PRINT TAB(3,10);CHR(134);"You control your bucket with : "
650 PRINT TAB(12,12);"Z.....LEFT"
660 PRINT TAB(12,14);"/.....RIGHT"
670 PRINT TAB(10,23);CHR(135);CHR(136);"PRESS ANY KEY"
680 G=GET
690 ENDPROC

```

YOU and your friend, Fred, have just robbed a bank. Fred is throwing bags of money out of the window and you must catch them in your basket. Move left with Z and right with /. You will lose one of your 10 lives for each bag you miss. Graphics characters are underlined.

Line 100 following the first quotations mark type two spaces, control f2 and then 17 bs. Line 170 following the first quotation mark, type f5 and then a £ sign. Line 220 following the first quotation mark control f3, then upz, then shift 7. Line 410 following the first quotation mark shift f6 and then type the words as shown.

**Bank Robber** was written by Alex Segre of north London.



# Stell Software

for top quality programs

Make learning fun with these top quality educational games!

**Maths Invaders** - An educational game for 4-12 years

**Money** - An educational game for 4-10 years

**Missing Words** - An educational game for 4-10 years

**Identikit** - An educational game for 2-8 years

**Time** - An educational game for 3-10 years

**Micros for Children** - 4 educational games for 3-8 years

**Railroader** - An educational game for 4-10 years

**Maths Invaders** - answer the questions correctly or the invaders will land on you. 4-12yrs. (Spectrum 16/48k, BBC B, Electron.)

**Money** - an introduction to coins and notes and their use in shopping. 4-10 yrs. (Spectrum 48k.)

**Missing Words** - watch the train move forward when you type in the right word. 4-10 yrs. (Spectrum 48k.)

**Identikit** - choose from a range of features and build up a face on the screen. 2-8 yrs. (Spectrum 48k.)

**Time** - Can you tell the time?

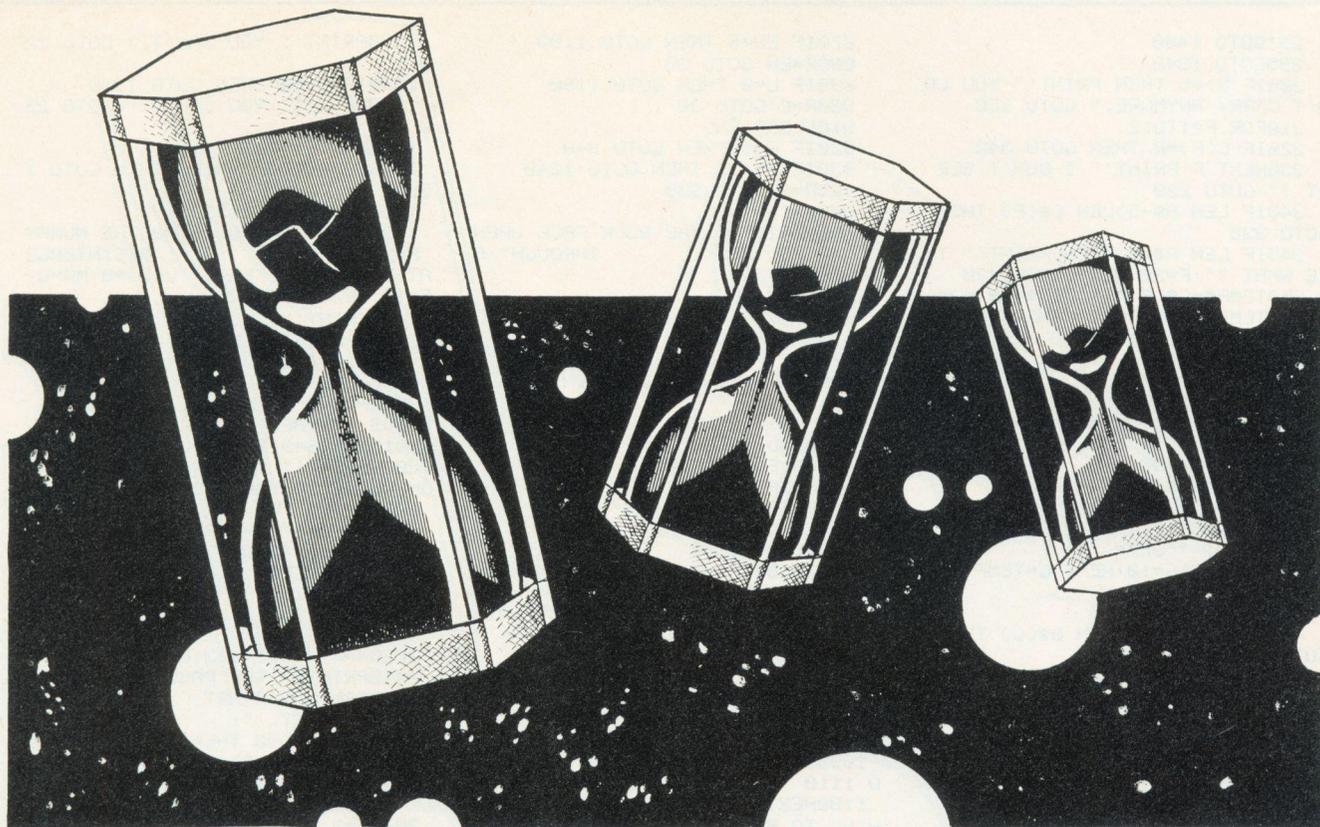
**Micros for Children 1** - learn to tell the time with this simple step by step guide. 3-10yrs (Spectrum 48k, BBC B, Electron.)

**Railroader** - lay track on the screen in any layout you want. 4-10 yrs. (BBC B, Electron.)

Spectrum programmes **£6.95** BBC/Electron programmes only **£7.95**  
 Ask for **Stell Software** at larger branches of **Boots, John Menzies, W. H. Smith**  
 and all good computer shops, where most titles are available.

# No. 1 in Education

Stell Software 36 Limefield Ave, Whalley, Lancs, BB6 9RJ.



# ESCAPE FROM TIME

**Y**OUR AIM in **Escape from Time**, an adventure game, is to escape from the time and space in which you have been stranded, to your own world. To do so you must find the crystal of power and a microchip to power your time machine. Once you

have them you must take them to the Time Room to use them.

Commands you will use most frequently are north, south, east, west, up, down, enter, leave, look, take, drop, list and open.

```

SMODE 4
10GOTO 1190
15PRINT"THE OBJECT IS TO ESCAPE
BACK INTO YOUR OWN TIME THRO
UGH A TIME MACHINE. TO FLY THE M
ACHINE, A PROGRAMED MICRO-CHIP A
ND THE CRYSTAL OF POWER ARE NEED
ED.

```

GOOD LUCK!"

```

20IF O<3>=0 THEN GOTO 155
30N=0:S=0:E=0:W=0:U=0:D=0:EN=
0:L=0:GOSUB(2000+(MR*10)+5)
40MR=0:MM=RND(8)
50IF MM=6 AND N<>0 THEN MR=N

60IF MM=5 AND S<>0 THEN MR=S
70IF MM=4 AND E<>0 THEN MR=E
80IF MM=3 AND W<>0 THEN MR=W
90IF MM=2 AND U<>0 THEN MR=U
100IF MM=1 AND D<>0 THEN MR=D
110IF MM=7 AND EN<>0 THEN MR=E

```

```

N
120IF MM=8 AND L<>0 THEN MR=L
130IF MR=0 THEN GOTO 40
140IF MR=R THEN PRINT'" IN THE
ROOM WITH YOU IS THE MUMMY!":X=
X+1

```

```

150IF X>=5 THEN GOTO 1250
155N=0:S=0:E=0:W=0:U=0:D=0:EN=
0:L=0:GOSUB(2000+(R*10))
160Z=0
170FOR F=1TO12
180IF C<F><>R THEN GOTO 210
190IF Z=0 THEN PRINT'" THERE
IS ALSO: "-
200Z=1:PRINT" "C#F)
210NEXT

```

```

220INPUT"WHAT WILL YOU DO ?
"A#RESTORE 9100:PRINT"> "A#
230FOR C=1TO29:READ D#:IF LEN
D#>2:LEN A# THEN GOTO 250
240IF MID$(D#,3)=LEFT$(A#,LEN
D#-2) THEN C=40:NEXT:GOTO 280
250NEXT C
260PRINT'"INVALID COMMAND.":GO
TO 220
270PRINT'"COMMAND CANNOT BE CA
RRIED OUT.":GOTO 220
280Z=VAL LEFT$(D#,2)
290GOTO (290+(Z*10))

```

```

291GOTO 1400
295GOTO 1340
300IF B>=5 THEN PRINT" YOU CA
N'T CARRY ANYMORE."GOTO 220
310FOR F=1TU12
320IF C<F>=R THEN GOTO 340
330NEXT F:PRINT" I DON'T SEE
IT !"GOTO 220
340IF LEN A<=5>LEN C<F> THEN
GOTO 330
345IF LEN A<6 THEN PRINT" TA
KE WHAT ?":F=20:NEXT GOTO 220
350TEMP=C<F>:IF MID<A,6>=L
EFT<TEMP,LEN A<=5> THEN TEMP=F
:F=20:NEXT F=TEMP:GOTO 370
360GOTO 330
370FOR G=1TU4
375TEMP=B<G>
380IF LEFT<TEMP,1>=" " THEN
GOTO 400
390NEXT G:END
400B<G>=C<F>
410B=B+1
420C<F>=0
430PRINT" OKAY."
440TEMP=G:G=10:NEXT G=TEMP:F=0
GOTO 220
450FOR G=1TU4
460IF LEN A<=5>LEN B<G> THEN
GOTO 480
465IF LEN A<6 THEN PRINT" DR
OP WHAT ?":GOTO 440
470TEMP=B<G>:IF MID<A,6>=L
EFT<TEMP,(LEN A<=5)> THEN GOTO
490
480NEXT PRINT" YOU DON'T HAVE
IT !"GOTO 220
490B=B-1
500FOR F=1TU12
510IF C<F>=0 THEN GOTO 530
520NEXT:END
530C<F>=R:C<F>=B<G>:B<G>="
"
540F=20:NEXT GOTO 430
550RESTORE 9200
560FOR G=1TU4
570TEMP=B<G>:IF LEN A<=4>LEN
TEMP THEN GOTO 590
575IF LEN A<5 THEN PRINT" US
E WHAT ?":G=10:NEXT GOTO 220
580IF MID<A,5>=LEFT<TEMP,(
LEN A<=4)> THEN GOTO 600
590NEXT PRINT" YOU DON'T HAVE
IT !"GOTO 220
600FOR H=1TU10:READ E#
610IF VAL LEFT<E#,2>=R THEN G
OTO 630
620NEXT PRINT" YOU CAN'T IN H
ERE."G=10:NEXT GOTO 220
630TEMP=B<G>:IF MID<E#,3><>
LEFT<TEMP,(LEN E<=2)> THEN GOT
O 620
635H=20:NEXT G=10:NEXT
640GOTO ((VAL LEFT<E#,2>)*10)
+3000
650GOTO 20
660PRINT" YOU ARE CARRYING, "
670G=1
680FOR F=1TU4
685TEMP=B<F>
690IF LEFT<TEMP,1>=" " THEN
GOTO 720
700PRINT " ";B<F>
710G=0
720NEXT F
730IF G=1 THEN PRINT" NOTHING.
"
740GOTO 220
750IF N=0 THEN GOTO 1180
760R=N:GOTO 20
770IF S=0 THEN GOTO 1180
780R=S:GOTO 20
790IF E=0 THEN GOTO 1180
800R=E:GOTO 20
810IF W=0 THEN GOTO 1180
820R=W:GOTO 20
830IF U=0 THEN GOTO 1180
840R=U:GOTO 20
850IF D=0 THEN GOTO 1180
860R=D:GOTO 20
870IF EN=0 THEN GOTO 1180
880R=EN:GOTO 20
890IF L=0 THEN GOTO 1180
900R=L:GOTO 20
910CLEAR:END
920IF R=8 THEN GOTO 940
930IF R<>11 THEN GOTO 1240
935R=8:GOTO 950
940R=11
950 PRINT" THE ROCK FACE OPEN
S AND YOU WALK THROUGH":P
ROCPAUSE(2)
960GOTO 20
970IF R<>12 THEN PRINT" YOU C
AN'T."GOTO 220
971FOR F=1TU4
980IF B<F>="WOOD" THEN GOTO 1
000
990NEXT PRINT" YOU DON'T HAVE
ANY WOOD."GOTO 220
1000B<F>="LADDER"
1010PRINT" YOU'RE A GENIUS !"
1015F=10:NEXT
1020GOTO 660
1030FOR F=1TU4
1040IF B<F>="CAN OF OIL"THEN G
OTO 1060
1050NEXT PRINT" YOU DON'T HAVE
ANY OIL."GOTO 220
1060C<5>=1
1070PRINT" THE BUTTON IS LOOSE
."F=10:NEXT GOTO 220
1080IF R<>31 THEN GOTO 270
1085FOR F=1TU4
1090IF B<F>="HAIR PIN"THEN GOT
O 1110
1100NEXT PRINT" YOU NEED SOMET
HING TO PICK THE LOCK WITH."
GOTO 220
1110C<4>=1
1120PRINT" THE DOOR IS OPEN."
EN=35:F=10:NEXT GOTO 220
1130IF R=35 OR R=43 THEN GOTO
1135
1134PRINT" I DON'T SEE A BUTTO
N !"GOTO 220
1135IF C<5>=1 THEN GOTO 1160
1140PRINT" THE BUTTON IS TOO S
TIFF TO PUSH."
1150GOTO 220
1160R=37
1170PRINT" THE LIFT RISES."G
OTO 20
1180PRINT" YOU CAN'T GO THAT W
AY."GOTO 220
1190RESTORE 9000:DIM C<5>:DIM B
<4>:DIM C<12>:DIM C<12>:FOR F=
1TU4:B<F>="":NEXT
1200Y=0:YY=0:X=0:MR=21:B=1:R=1
1210FOR F=1TU12:READ A#,G
1220C<F>=G:C<F>=A#:NEXT
1230 FOR F=1TU16:PRINT"*****
***ESCAPE FROM TIME*****"
:NEXT:PROCPAUSE(10):CLS:GOTO 15
1235DEF PROCPAUSE(T):TIME=0:RE
PEAT SET=TIME/100:UNTIL SET=T:EN
DPROC
1240PRINT" NOTHING HAPPENS."G
OTO 220
1250PROCPAUSE(2):CLEAR:PRINT"
THE MUMMY CATCHES YOU AND TAKES
YOU PRISONER OF HIS DOMAIN.
THERE IS NO ESCAPE FOR YOU..
....SORRY!":PIT=0
1260SOUND 1,-15,97+PIT,10:SOUND
1,-15,105+PIT,10:SOUND 1,-15,89
+PIT,10:SOUND 1,-15,41+PIT,12:S
OUND 1,-15,69+PIT,20:PIT=((PIT=0)
*20):PROCPAUSE(5):GOTO 1260
1270IF R=21 THEN C<3>=1
1280IF R=4 THEN C<1>=1
1290IF R<>21 AND R<>4 THEN GOTO
1330
1300IF R=21 THEN PRINT" THE MU
MMY CASE OPENS RELEASING THE
MUMMY FROM IT'S TOMB."
1310IF R=4 THEN PRINT" THE DOO
R SWINGS OPEN."
1315IF R=4 THEN EN=14
1320GOTO 220
1330PRINT" YOU CAN'T."GOTO 22
0
1340IF R=MR THEN GOTO 1360
1350PRINT" YOU CAN'T."GOTO 22
0
1360FOR F=1TU4
1370IF B<F>="KNIFE"THEN GOTO 1
390
1380NEXT GOTO 1350
1390 PRINT" YOU STAB THE MUMMY
AND IT DISINTERGR
ATES AT YOUR FEET."C<3>=0:MR=0:
F=10:NEXT GOTO 220
1400PRINT" YOU ENTER INTO ANOT
HER ROOM THROUGH THE MIRROR.
":R=29:E=0:GOTO 220
2005EN=27:RETURN
2010PRINT" YOU ARE AT A CROSS
ROADS IN THE PASSAGE."
2015N=2:5=9:W=8:E=3:RETURN
2020PRINT" YOU ARE AR A JUNCTI
ON WHERE YOU CAN GO NORTH, WEST
OR SOUTH."
2025N=5:W=7:S=1:RETURN
2030PRINT" YOU COME TO A JUNCT
ION IN THE PASSAGE WHERE THE E
XITS ARE WEST AND NORTH. AN OPE
N DOOR IS IN THE EAST END OF THE
PASSAGE."
2035N=4:W=1:EN=13:RETURN
2040PRINT" THE PASSAGE COMES T
O A DEAD END APART FROM A DOOR
TO THE EAST. "
2041IF C<1>=0 THEN PRINT"THE DO
OR IS LOCKED TIGHT."
2042IF C<1>=1 THEN PRINT"THE DO
OR IS WIDE OPEN."EN=14
2045S=3:RETURN
2050PRINT" AT A TURNING IN THE
PASSAGE, STEPS GO DOWN. THE P
ASSAGE GOES SOUTH AND EAST."
2055S=2:E=6:D=10:RETURN
2060PRINT" A HIGH WALL SEEMS T
O PREVENT YOU FROM GOING EASTW
ARDS. TO THE WEST THE WAY IS CLE
AR."
2065W=5:RETURN
2070IF C<2>=0 THEN PRINT" THE
FLOOR IS COVERED IN GREASE AND A
S YOU TRY TO GO OVER IT, YOU S
LIP BACK. IT LOOKS AS IF YOU W
ILL HAVE TO GO EAST."
2073IF C<2>=1 THEN PRINT" YOU
ARE IN A CLEAN EAST-WEST PASSAGE
."W=12
2075E=2:RETURN
2080PRINT" A SHEET OF ROCK BLO
CKS YOUR WAY TO THE WEST SO EXI
T TO THE EAST."
2085E=1:RETURN
2090PRINT" YOU COME TO A JUNCT
ION IN THE PASSAGE. DIRECTIONS
ARE NORTH, EAST, AND SOUTH."
2095N=1:5=17:E=15:RETURN
2100PRINT" AT THE BOTTOM OF TH
E STEPS IS A CELLAR. THE ROOM IS
PRETTY MUCH EMPTY AND VERY DIR
TY."
2105U=5:RETURN
2110PRINT" YOU ARE IN A ROOM W
ITH A TABLE IN THE CENTRE OF I
T. BEHIND YOU THE ROCK FACE IS
CLOSED."
2115RETURN
2120PRINT" YOU ARE IN A WORKSH
OP. TOOLS HANG AROUND THE
WALLS AND A WORKBENCH IS IN THE
CENTRE."
2125L=7:RETURN
2130PRINT" YOU ARE IN THE LIVI
NG QUARTERS OF A CREATURE. A
FIRE PLACE IS IN THE CORNER OF
THE ROOM."
2135L=3:RETURN
2140PRINT" THROUGH THE DOOR YO
U FIND THAT YOU ARE IN A LIBRAR
Y. BOOKS ARE STACKED NEATLY ON
SHELVES THAT ARE VERY HIGH."
2145L=4:RETURN
2150PRINT" YOU COME TO A RIVER

```





```

L BE CLEARED.~":GOTO 220
3270IF MID$(A$,5)="MICRO-CHIP"
OR MID$(A$,5)="M" AND YY=1 THEN
GOTO 3320
3275GOTO 3380
3280PRINT" YOU CLIMB OVER THE
WALL.":R=5:GOTO 20
3290IF MID$(A$,5)="CRYSTAL" OR
MID$(A$,5)="C" AND Y=1 THEN GOTO
3350
3300IF MID$(A$,5)="CRYSTAL" OR
MID$(A$,5)="C" THEN YY=1
3310GOTO 220
3320CLEAR:PRINT" AS YOU REACH
IN AND CONNECT THE MICRO -CHIP
,POWER FROM THE CRYSTAL IMMEDIAT
LY KILLS YOU. BAD LUCK !":GOTO 2

```

```

395
3950CLEAR:PRINT" THE CRYTAL SL
IPS INTO PLACE AND THE MACHI
NE BEGINS TO SHAKE. YOU FALL
UNCONCIOUS AND WAKE UP TO FIN
D YOUR -SELF BACK HOME IN YO
UR OWN TIME. WELL DONE INDEED!"
3360FOR F=1TO15: SOUND 1,-15,F^2
,5:NEXT:GOTO 3350
3380IF MID$(A$,5)="MICRO-CHIP"
OR MID$(A$,5)="M" THEN Y=1
3390IF MID$(A$,5)="LADDER" THEN
R=6
3400GOTO 3290
9000DATAKEY,11,0ARS,12,WOOD,13,
CODE BOOK,14,BOAT,15,CRYSTAL,16,

```

```

KNIFE,29,CAN OF OIL,10,MICRO-CHI
P,40,HAIR PIN,36,MOP,20,TORCH,1
9100DATA.1GO THROUGH MIRROR,.1E
NTER MIRROR,.1THROUGH MIRROR,.5K
ILL,46NORTH,48SOUTH,50EAST,52WES
T,54UP,56DOWN,58ENTER,60LEAVE,63
OPEN SESAME,98OPEN,68MAKE LADDER
,74OIL BUTTON,79PICK LOCK,84PUSH
BUTTON,01TAKE,16DROP,26USE,36LO
OK,37LIST
9101DATA62QUIT,46N,48S,50E,52W,
56D
9200DATA23CODE BOOK,16BOAT,28LA
DDER,06LADDER,07MOP,15BOAT,27CRY
STAL,18KEY,21CODE BOOK,27MICRO-C
HIP

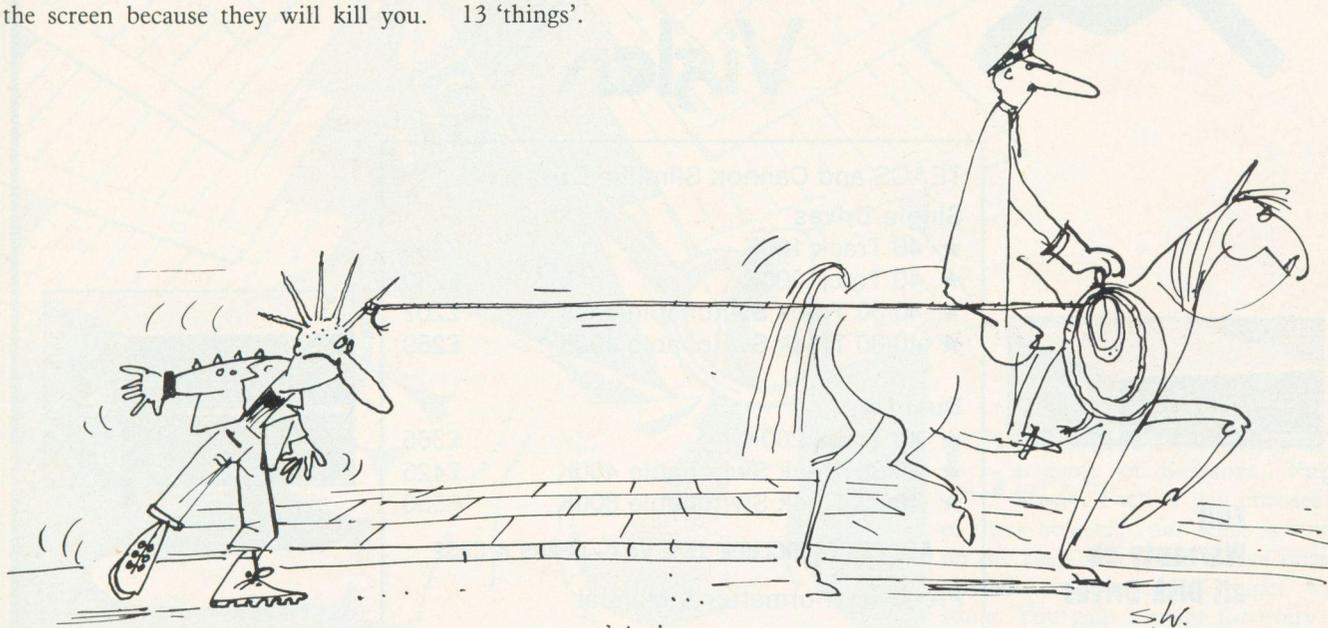
```

# CATCHER

**M**OVE ROUND the screen using keys Z, X, / and : to collect the 'things' which appear. Do not hit your trail or the edge of the screen because they will kill you.

When you reach one 'thing' another will appear.

**Catcher** was written by Alex Segre of London NW5. His highest score is 13 'things'.



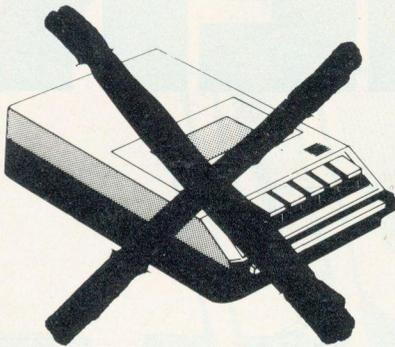
```

10 HIGH=0
20 MODE 2
30 PROCinit
40 PROCborders
50 PROCblobs
60 MOVE X,Y
70 A#=INKEY$(0)
80 IF A#="" THEN PROCcontinue
90 IF A#="Z" THEN Q=1
100 IF A#="X" THEN Q=2
110 IF A#="/" THEN Q=3
120 IF A#=":" THEN Q=4
130 DRAW X,Y
140 IF Q=1 AND POINT(X-8,Y)=3 THEN PROCfinish
150 IF Q=2 AND POINT(X+8,Y)=3 THEN PROCfinish
160 IF Q=3 AND POINT(X,Y-10)=3 THEN PROCfinish
170 IF Q=4 AND POINT(X,Y+10)=3 THEN PROCfinish
180 IF X<0 OR X>1279 OR Y<0 OR Y>1023 THEN PROCfinish
190 IF POINT(X+10,Y)=6 OR POINT(X-10,Y)=6 THEN PROCblobs
200 GOTO 60
210 DEF PROCcontinue
220 IF Q=1 THEN X=X-10
230 IF Q=2 THEN X=X+10
240 IF Q=3 THEN Y=Y-10
250 IF Q=4 THEN Y=Y+10
260 ENDPROC
270 DEF PROCborders
280 GCOLOR,1
290 MOVE 0,0
300 DRAW 0,1023
310 DRAW 1279,1023
320 DRAW 1279,0
330 DRAW 0,0
340 ENDPROC
350 DEF PROCblobs
360 IF SCORE<>-1 THEN SOUND 1,-15,150,1
370 SCORE=SCORE+1
380 VDU 5
390 GCOLOR,0
400 MOVE A,B
410 VDU 239
420 GCOLOR,6
430 A=RND(1279)
440 B=RND(1023)
450 IF A<100 OR A>1200 OR B<100 OR B>900 THEN GOTO 430
460 MOVE A,B
470 IF SCORE<3 THEN VDU 240
480 IF SCORE>2 AND SCORE<6 THEN VDU 241
490 IF SCORE>5 AND SCORE<9 THEN VDU 242
500 IF SCORE>8 THEN VDU 243
510 GCOLOR,3
520 VDU 4
530 ENDPROC
540 DEF PROCfinish
550 SOUND 0,-15,50,5
560 FOR T=1 TO 2500
570 NEXT T
580 COLOUR 5
590 CLS
600 PRINT TAB(2,12);"YOU GOT ";SCORE;" THING";
610 IF SCORE>1 THEN PRINT"S"
620 IF SCORE>HIGH THEN HIGH=SCORE
630 PRINT TAB(2,15);"HIGH SCORE.....";HIGH
640 *FX 15,0
650 G=GET
660 CLS
670 GOTO 30
680 DEF PROCinit
690 A=0
700 B=0
710 SCORE=-1
720 *FX 11,0
730 VDU 23;8202;0;0;0;
740 Q=1
750 X=600
760 Y=550
770 VDU 23,239,255,255,255,255,255,255,255,255
780 VDU 23,240,24,60,126,255,255,126,60,24
790 VDU 23,241,65,127,93,127,99,62,28,0
800 VDU 23,242,99,99,20,20,72,92,92,124
810 VDU 23,243,74,122,122,50,250,254,124,0
820 ENDPROC

```

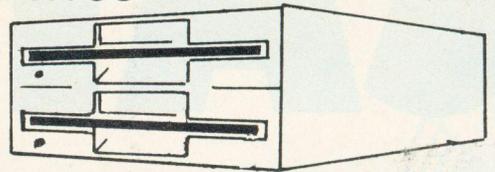
# FORGET

Cassettes



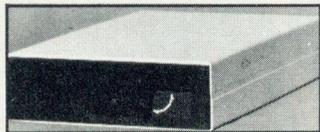
# REMEMBER

Disk Drives



There's only one **IMPORTANT** name in  
Specially Designed Computer Supplies

## Viglen



**Full  
Warranty on  
all Disk Drives**

### TEACS and Cannon Slimline Drives

#### Single Drives

★ 40 Track 100K	£166
★ 40 Track 200K	£230
★ 40/80 Track Switchable 200K	£207
★ 40/80 Track Switchable 400K	£269

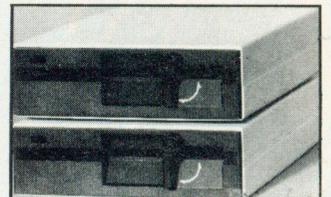
#### Dual Drives

★ 40 Track 200K	£365
★ 40/80 Track Switchable 400K	£425
★ 40/80 Track Switchable 800K	£550

**ALL PRICES INCLUDE 15% VAT—LEADS & CASE**

Free Disk Formatter & Manual

Please add £8 for Special Delivery & Packing



Complete order form and send **TOGETHER** with  
cheque or postal order made out to

**VIGLEN COMPUTER SUPPLIES**  
Unit 7 TRUMPERS WAY  
HANWELL W7 2QA

or phone in order with Barclaycard or Access number  
**01-843 9903**

#### ORDER FORM

Please supply.....

Type and make of drive.....

Quantity.....

I enclose Cheque/PO for.....

My Access/Barclaycard No.....

Name.....

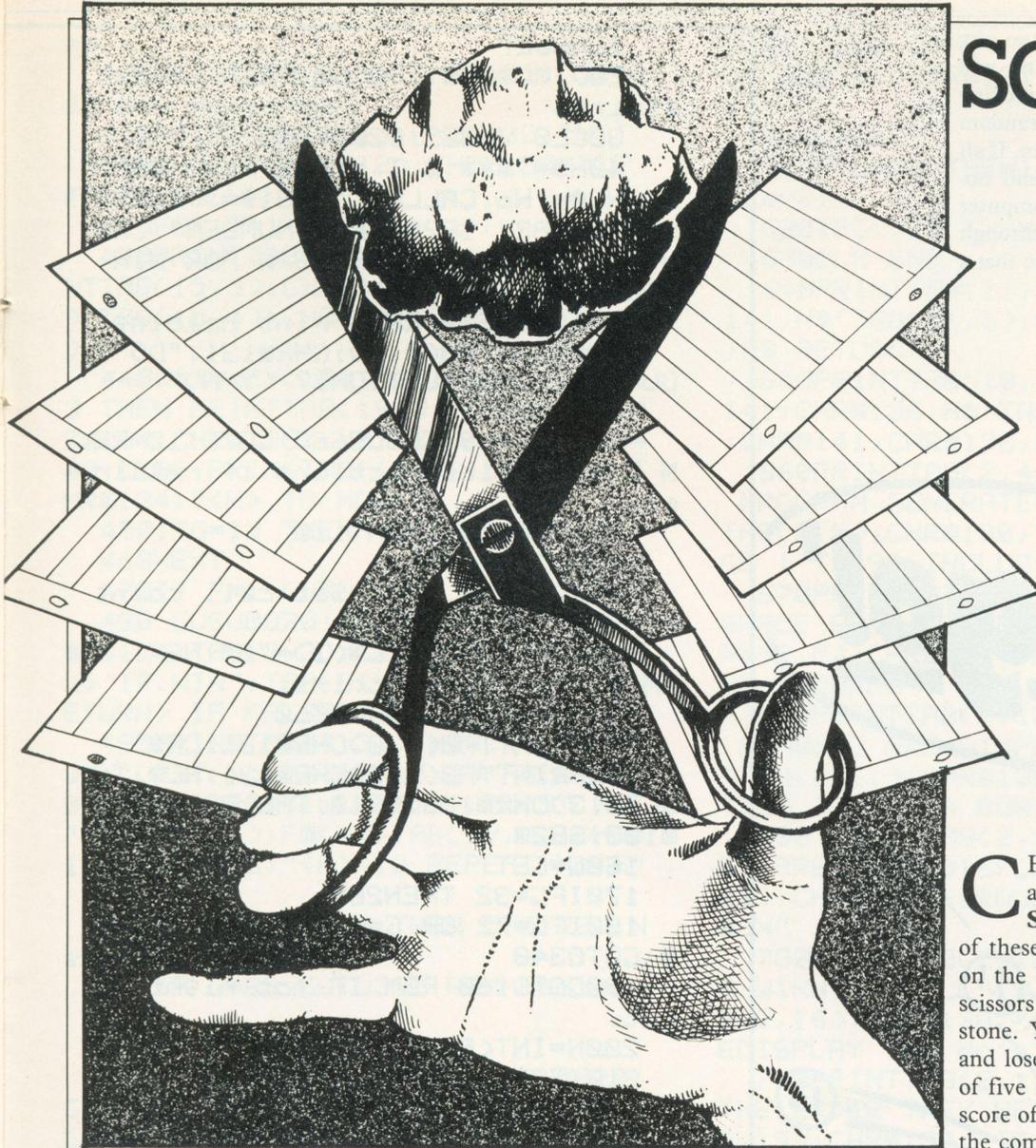
Address.....

.....

Educational establishment orders welcomed

AU3

# SCISSORS PAPER STONE



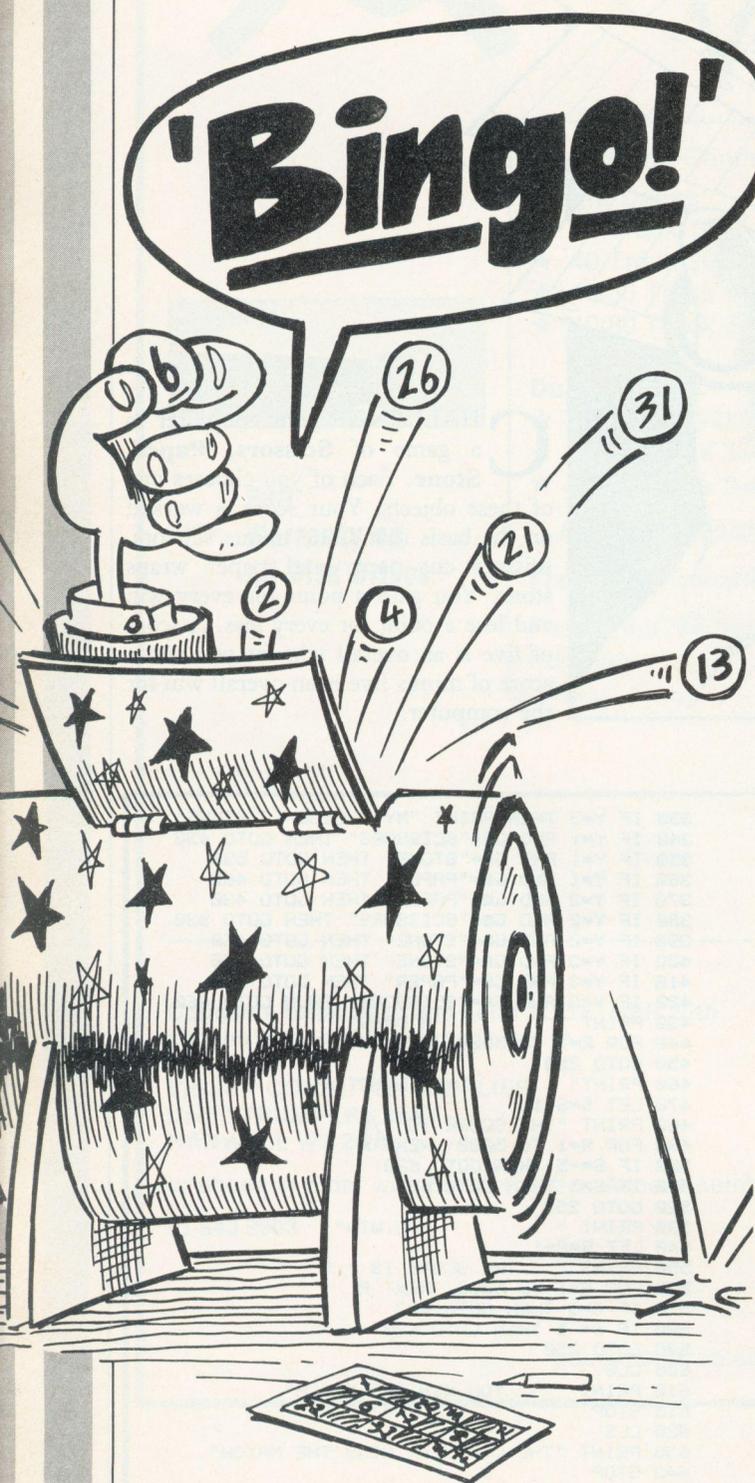
**C**HALLENGE your computer to a game of **Scissors, Paper, Stone**. Each of you chooses one of these objects. Your score is worked on the basis that stone blunts scissors, scissors cut paper and paper wraps stone. You gain a point for every win and lose a point for every loss. A score of five is an overall win for you and a score of minus five is an overall win for the computer.

```

10 LET S=0
20 PRINTTAB(10,3);"SCISSORS  PAPER  STONE"
30 FOR R=1 TO5000
40 NEXT R
50 CLS
60 PRINT "YOU AND THE COMPUTER CHOOSE EITHER"
70 PRINT"SCISSORS, PAPER OR STONE"
80PRINT
90 PRINT
100 PRINT "SCISSORS CUT PAPER"
110 PRINT "PAPER WRAPS STONE"
120PRINT "STONE BLUNTS SCISSORS"
130 PRINT
140 PRINT
150 PRINT "IDENTICAL CHOICES RESULT IN A DRAW"
160 PRINT
170 PRINT
180PRINT "A SCORE OF 5 IS A WIN FOR YOU"
190 PRINT " A SCORE OF-5 IS A WIN FOR THE COMPUTER"
200 PRINT
210 PRINT
220 PRINT"IF YOU CHOOSE ANY OTHER OBJECTS THE
RESULT WILL BE A DRAW"
230 PRINT "PRESS Y TO CONTINUE"
240 INPUT D#
250 CLS
260 PRINTTAB(10,0);"INPUT YOUR CHOICE"
270 INPUT G#
280 LET Y=RND(3)
290 CLS
300 PRINT "YOUR CHOICE IS ";G#
310 IF Y=1 THEN PRINT"MY CHOICE IS SCISSORS"
320 IF Y=2 THEN PRINT "MY CHOICE IS PAPER"
330 IF Y=3 THEN PRINT "MY CHOICE IS STONE"
340 IF Y=1 AND G#="SCISSORS" THEN GOTO 430
350 IF Y=1 AND G#="STONE" THEN GOTO 530
360 IF Y=1 AND G#="PAPER" THEN GOTO 460
370 IF Y=2 AND G#="PAPER" THEN GOTO 430
380 IF Y=2 AND G#="SCISSORS" THEN GOTO 530
390 IF Y=2 AND G#="STONE" THEN GOTO 460
400 IF Y=3 AND G#="STONE" THEN GOTO 460
410 IF Y=3 AND G#="PAPER" THEN GOTO 530
420 IF Y=3 AND G#="SCISSORS" THEN GOTO 460
430 PRINT "          A DRAW"
440 FOR R=1 TO 5000: NEXT R
450 GOTO 250
460 PRINT "          YOU LOSE"
470 LET S=S-1
480 PRINT "THE SCORE IS ";S
490 FOR R=1 TO 5000: NEXT R
500 IF S=-5 THEN GOTO 620
510 IF S=5 THEN GOTO 600
520 GOTO 250
530 PRINT "          YOU WIN"
540 LET S=S+1
550 PRINT "  THE SCORE IS ";S
560 FOR R=1 TO 5000: NEXT R
570 IF S=5 THEN GOTO 600
580 IF S=-5 THEN GOTO 620
590 GOTO 250
600 CLS
610 PRINT "          YOU WIN THE MATCH"
615 STOP
620 CLS
630 PRINT "THE COMPUTER WINS THE MATCH"
640 STOP

```

**T**HIS PROGRAM, written by Ken Allen and Mike Smith, will act as a **Bingo** caller, picking numbers between one and 90 at random and displaying them on the screen. If all numbers have been displayed and nobody has claimed a win, the computer will tell you and will then run through the numbers it chose, in order, so that a winner can be found.



```

10MODE7
20DIMC$(90),F$(90):REM Check
strings
30CLS:VDU23;8202;0;0;0;
40H$="*** B I N G O ***":Z$="
0":NC$="No.CALLED:":SB1$="PRESS
SPACE BAR":SB2$="FOR NUMBER":CN$
="CALL No.":W$="PRESS W FOR WIN
CALL"
50GOSUB640:REM Print heading
60PRINTTAB(5,4);CHR#131;"DO Y
OU WISH INSTRUCTIONS? (Y/N)"
70G=GET
80IF G=89 GOSUB660:GOTO110:RE
M Display instructions if requir
ed.
90IF G=78 THEN 110
100GOTO70
110CLS:K=0:REM Set call count
er
120FORI=1TO90:C$(I)="0":NEXT:R
EM Clear check string.
130GOSUB640:GOSUB760
140PRINTTAB(0,0)CHR#131;CN$
150PRINTTAB(3,3)CHR#131;NC$;TA
B(23,3)CHR#133;SB1$;TAB(23,4)CHR
#133;SB2$
160G=GET
170IFG=32 THEN200
180IFG=72 OR G=87 THEN GOSUB65
0:GOTO340
190GOTO160:REM If not right in
put.
200N=INT(RND(1)*90)+1
210IFC$(N)<>"0" THEN200
220N$=STR$(N)
230IF LEN(N$)<2 THEN N$=Z$+N$
240X$=RIGHT$(N$,1):Y$=LEFT$(N$
,1)
250IFX$="0" THEN X$="10"
260X=VAL(X$):Y=VAL(Y$)
270X=X*3+3:Y=Y*2+6
280IFN/10=INT(N/10) THEN Y=Y-2
290PRINTTAB(X,Y)CHR#134;N$
300PRINTTAB(14,3);CHR#134;N$
310C$(N)=N$
320K=K+1:F$(K)=N$:PRINTTAB(0,2
)CHR#130;K
330IF K<>90 THEN160
340GOSUB820:
350PRINTTAB(0,2);CHR#131;K;TAB
(12,2);CHR#133;"LAST No.CALLED:"
;N$
360GOSUB810
370PRINTTAB(3,3);CHR#130;"THE
SEQUENCE OF No's CALLED WILL NOW
"TAB(3,4);CHR#130;"BE DISPLAYED
.--- PRESS <S> TO START"
380G=GET:IFG<>83 THEN380
390GOSUB820:REM Wipe above fra

```

```

me.
400PRINTTAB(0,0);CHR#131;CN#R
EM New messages
410PRINTTAB(4,2);CHR#130;"HIT
<RETURN>";TAB(24,2);CHR#130;"IF
FALSE CALL"
420FOR T=1 TO K-1
430PRINTTAB(0,2);CHR#131;T;PRI
NTTAB(15,3);CHR#141;CHR#131;F#(T
);TAB(15,4);CHR#141;CHR#131;F#(T
)
440G=INKEY(100);IF G=72 OR G=8
3 THEN PRINTTAB(19,3);CHR#140;CH
R#134;CHR#136;"(No. HELD!) ";GOTO4
40 ELSE PRINTTAB(19,3);CHR#140;C
HR#134;"<H> TO HOLD"
450IFG=13 THENF=1;T=K ELSE F=0
460NEXT
470IF F=1 GOTO519
480GOSUB820;PRINTTAB(0,2);CHR
#131;K;TAB(3,2);CHR#130;"PRESS <
W> IF WIN";TAB(21,2);CHR#130;"<R
ETURN> IF FALSE"
485PRINTTAB(4,3);CHR#141;CHR#1
31;"LAST No.";TAB(15,3);F#(K);TA
B(4,4);CHR#141;CHR#131;"LAST No.
";TAB(15,4);F#(K);TAB(19,3);CHR#
140;CHR#130;"<R> TO REPEAT No's"

490G=GET;IFG=87 THEN 570;REM N
ew game?
500IF G=82 GOTO390;REM RedisP.
No's.
510IF G<>13 GOTO490
515IF G=13 AND K<>90 GOSUB820;
GOSUB640;GOSUB790;GOTO150 ELSE C
LS;GOSUB640
520PRINTTAB(10,8);CHR#141;CHR#
134;CHR#136;"NO NUMBERS LEFT";TA
B(10,9);CHR#141;CHR#134;CHR#136;
"NO NUMBERS LEFT";TAB(8,12);CHR#
141;CHR#134;CHR#136;"SOMEONE MUS
T HAVE WON!";TAB(8,13);CHR#141;C
HR#134;CHR#136;"SOMEONE MUST HAV
E WON!"
530PRINTTAB(2,16);CHR#131;"PRE
SS";TAB(0,15);CHR#130;"<R> TO RE
VIEW THE NUMBERS";TAB(8,17);CHR#
133;"<A> TO FINISH WITH GAME"

540G=GET;IF G=82 THEN CLS;GOSU
B640;GOTO400;REM RedisPlay No's.
550IF G=65 THEN 590;REM New ga
me?
560GOTO540
570GOSUB650;REM Flash heading
for win
580FOR Y=6TO22;FOR X=0TO39;PRI
NTTAB(X,Y);CHR#32;CHR#134;NEXT;N
EXT
590PRINTTAB(12,19);CHR#141;CHR

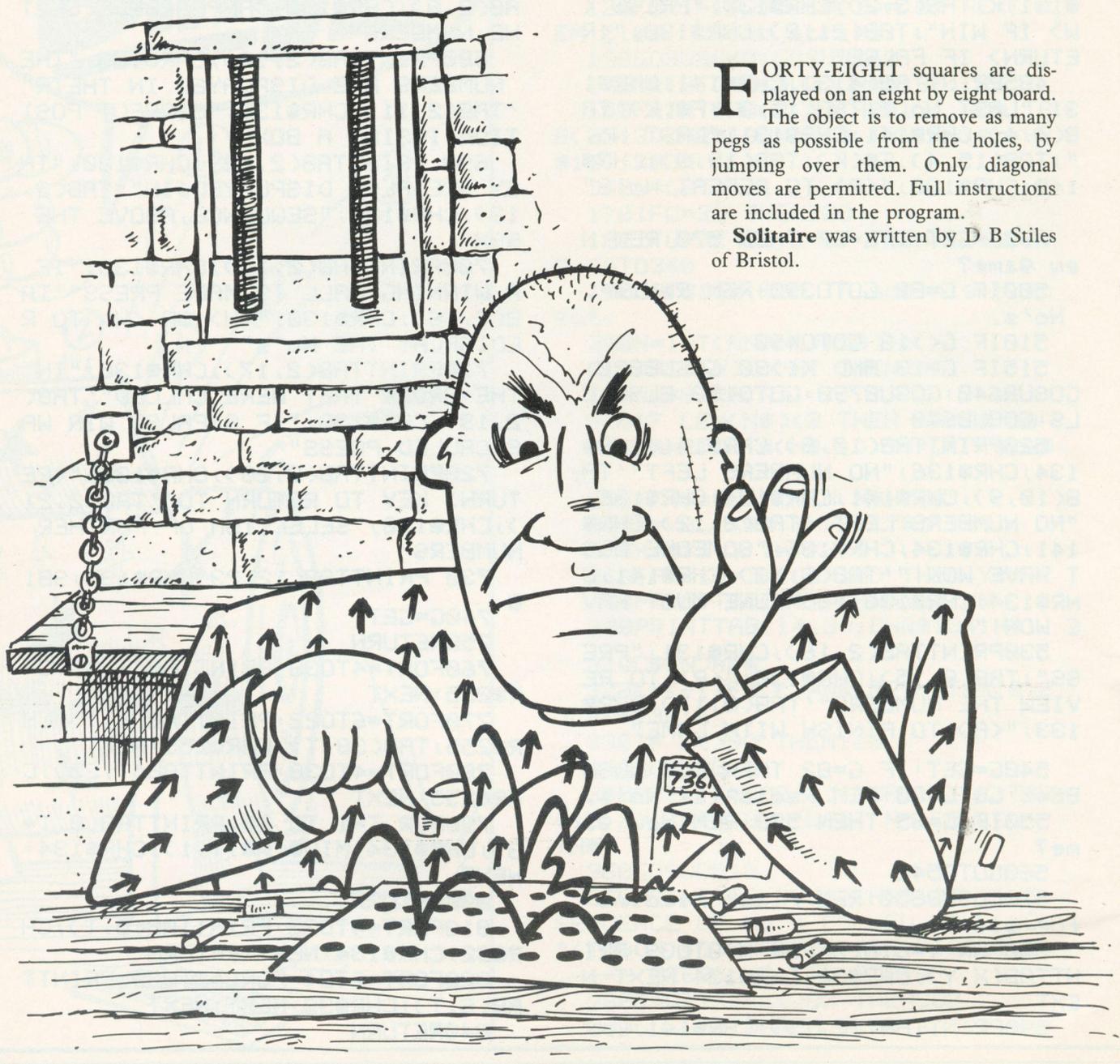
```

```

#131;"NEW GAME? (Y/N)";TAB(12,20
);CHR#141;CHR#131;"NEW GAME? (Y/
N)"
600G=GET
610IFG=89 THEN110;REM Back to
start.
620IFG<>78 THEN600
630CLS;END
640PRINTTAB(11,0);CHR#129;CHR#
141;H#;TAB(11,1);CHR#129;CHR#141
;H#;RETURN
650PRINTTAB(10,0);CHR#131;CHR#
141;CHR#136;H#;TAB(10,1);CHR#131
;CHR#141;CHR#136;H#;RETURN
660PRINTTAB(2,4);CHR#130;"THIS
PROGRAM GENERATES RANDOM No's";
TAB(2,5);CHR#130;"WITHIN THE RAN
GE 1 TO 90 INCLUSIVE"
670PRINTTAB(2,7);CHR#130;"THE
SPACE BAR IS USED TO TIME THE";T
AB(2,8);CHR#130;"APPEARANCE OF T
HE NUMBERS"
680PRINTTAB(2,10);CHR#130;"THE
NUMBERS ARE DISPLAYED IN THEIR"
;TAB(2,11);CHR#130;"CORRECT POSI
TION INSIDE A BOX"
690PRINTTAB(2,12);CHR#130;"TH
EY ARE ALSO DISPLAYED,IN";TAB(2,
13);CHR#130;"SEQUENCE,ABOVE THE
BOX"
700PRINTTAB(2,15);CHR#130;"IF
A WINNING CALL IS MADE PRESS";TA
B(2,16);CHR#130;"<H> OR <W> TO R
EDISPLAY THE No's"
710PRINTTAB(2,17);CHR#130;"IN
THE ORDER THEY WERE CALLED";TAB(
2,19);CHR#130;"IF A FALSE WIN WA
S CALLED PRESS"
720PRINTTAB(2,20);CHR#130;"<RE
TURN> KEY TO RETURN TO";TAB(2,21
);CHR#130;"SELECTION OF FURTHER
NUMBERS"
730PRINTTAB(12,23);CHR#136;SB1
# 740G=GET
750RETURN
760FORT=4TO38;PRINTTAB(T,5);CH
R#255;NEXT
770FORT=6TO22;PRINTTAB(4,T);CH
R#255;TAB(30,T);CHR#255;NEXT
780FORT=4TO38;PRINTTAB(T,23);C
HR#255;NEXT
790FOR T=1 TO 20;PRINTTAB(0,T+
3);CHR#134;MID$(W#,T,1);CHR#134;
NEXT
800RETURN
810FORT=4TO23;PRINTTAB(0,T);CH
R#32;CHR#134;NEXT;RETURN
820FORT=2TO4;FORS=0TO39;PRINTT
AB(S,T);CHR#32;NEXT;NEXT
840RETURN

```

# SOLITAIRE



**F**ORTY-EIGHT squares are displayed on an eight by eight board. The object is to remove as many pegs as possible from the holes, by jumping over them. Only diagonal moves are permitted. Full instructions are included in the program.

**Solitaire** was written by D B Stiles of Bristol.

# TANTRIE

```

10REM ***** SQUARE SOLITAIRE
*****
20REM
30REM C. BY D.B. AND S.M.K. 3
TITLES
40REM
50REM
60REM SOME COMPUTERS PRINT VA
RIABLES
70REM WITH LEADING AND TRAILI
NG
80REM SPACES. THE BBC MODEL D
OLS NOT
90REM SO THIS PROGRAM HAS EXT
RA
100REM SPACES ON EACH SIDE OF
110REM VARIABLES WHEN THEY NEE
D IT.
120REM
130REM THE STATEMENT TAB(N,L)
IS USED
140REM TO MOVE THE CURSOR ON T
HE
150REM SCREEN. IF SIMILAR STAT
EMENT
160REM IS NOT AVAILABLE THEN A
RRANGE
170REM FOR LINES TO FOLLOW EAC
H OTHER
180REM ON THE SCREEN INSTEAD.
190REM
200REM SOME COMPUTERS REQUIRE
A " "
210REM AFTER AN "INPUT" STATEM
ENT.
220REM
230REM *****
*****
240REM DESCRIPTION AND OPERATI
ON
250REM
260CLS: PRINT
270K$="XXXXXXXXXX"
280PRINT TAB(9);K$;K$
290PRINT K$;" SQUARE SOLITAIRE
";K$
300PRINT TAB(9);K$;K$
310PRINT: PRINT
320PRINT "THERE ARE 48 PEGS IN
AN 8 BY 8 BOARD."
330PRINT
340PRINT "THE OBJECT IS TO REM
OVE PEGS BY JUMPING"
350PRINT "OVER THEM."
360PRINT
370PRINT "ONLY DIAGONAL MOVES
ARE PERMITTED."
380PRINT
390PRINT "'1' INDICATES A PEG,
'0' AN EMPTY HOLE."
400PRINT
410PRINT "ENTER 2 SETS OF CO-OR
DINATES IN ANY"
420PRINT "ORDER" E.G. 2D3C 3

```

```

B F5"
430PRINT
440PRINT "IF THERE ARE NO MORE
POSSIBLE JUMPS"
450PRINT "THEN TYPE * AND PRES
S RETURN."
460PRINT: PRINT
470DIM A(64): GOSUB 1240
480INPUT "PRESS RETURN KEY TO
START" K$
490REM
500REM *****
*****
510REM DISPLAY THE BOARD
520REM
530CLS: PRINT
540PRINT TAB(5);
550PRINT"! A B C D E F
G H"
560PRINT TAB(2);"---!"
570FOR N=1 TO 26: PRINT "--";
NEXT N
580M=1: FOR N=1 TO 8
590PRINT TAB(3);N;"!"
600FOR M=M TO M+7: PRINT SPC(2
);A(M);
610NEXT M: PRINT
620PRINT TAB(5);"!" : NEXT N
630PRINT TAB(3,10);"MOVES"
640PRINT TAB(3,11);T
650PRINT TAB(1,20);
660REM SOME MACHINES MAY NEED
K$=""
670INPUT "ENTER 2 SETS OF CO-0
RDINATES: " K$
680IF K$="*" THEN 1110
690REM
700REM *****
*****
710REM CHECK THAT MOVE IS LEGA
L
720REM
730P=0: FOR N=1 TO LEN(K$)
740IF VAL(MID$(K$,N,1))<1 THEN
780
750IF VAL(MID$(K$,N,1))>8 THEN
780
760IF P=0 THEN P=VAL(MID$(K$,N
,1)): GOTO 780
770Q=VAL(MID$(K$,N,1)): N=99
780NEXT N
790IF N<90 THEN 1050
800R=0: FOR N=1 TO LEN(K$)
810IF ASC(MID$(K$,N,1))<65 THE
N 780
820IF ASC(MID$(K$,N,1))>72 THE
N 780
830IF R=0 THEN R=ASC(MID$(K$,N
,1))-64: GOTO 780
840S=ASC(MID$(K$,N,1))-64: N=9
9
850NEXT N
860IF N<90 THEN 1050
870IF ABS(P-Q)>2 THEN 1050

```

```

880IF ABS(R-S)>2 THEN 1050
890C=(P-1)*8+R: D=(Q-1)*8+S: E
=(C+D)/2
900IF A(C)=0 THEN 1050
910IF A(C)=0 AND A(D)=0 THEN 1
050
920IF A(C)=1 AND A(D)=1 THEN 1
050
930REM
940REM *****
*****
950REM * UPDATE BOARD
960REM
970IF A(C)=1 THEN A(C)=0: A(D)
=1: GOTO990
980A(C)=1: A(D)=0
990A(E)=0: T=T+1
1000GOTO 530
1010REM
1020REM *****
*****
1030REM ERROR ROUTINE
1040REM
1050PRINT "YOU CAN'T DO THAT; T
RY AGAIN"
1060GOTO650
1070REM
1080REM *****
*****
1090REM TELL END OF GAME RESULT
S
1100REM
1110S=0: FOR N=1 TO 64: S=S+A(N
): NEXT N
1120PRINT "YOU TOOK ";T;" MOVES
AND HAVE ";S;" PEGS LEFT"
1130PRINT TAB(3,23);
1140INPUT "WOULD YOU LIKE ANOTH
ER GAME? " K$
1150IF LEFT$(K$,1)="Y" THEN GOS
UB 1240: GOTO 530
1160IF LEFT$(K$,1)<>"N" THEN 11
30
1170CLS
1180PRINT TAB(7,10);"THANK YOU
FOR PLAYING"
1190END
1200REM
1210REM *****
*****
1220REM SUB-ROUTINE TO INITIALI
ZE BOARD
1230REM
1240FOR N=1 TO 64: A(N)=1: NEXT
N
1250FOR N=19 TO 46 STEP 8
1260FOR M=0 TO 3
1270A(N+M)=0: NEXT M: NEXT N
1280T=0: RETURN
1290REM
1300REM THAT'S IT FOLKS!!
1310REM *****
*****

```

# Worms



**T**HE OBJECT of **Worms** is to join all the dots on the screen. The catch is that only two lines may touch each dot. You may move only one dot horizontally or vertically once you have defined your starting point and each line must be from one end of your 'worm'.

Written by D Stiles of Bristol.

```

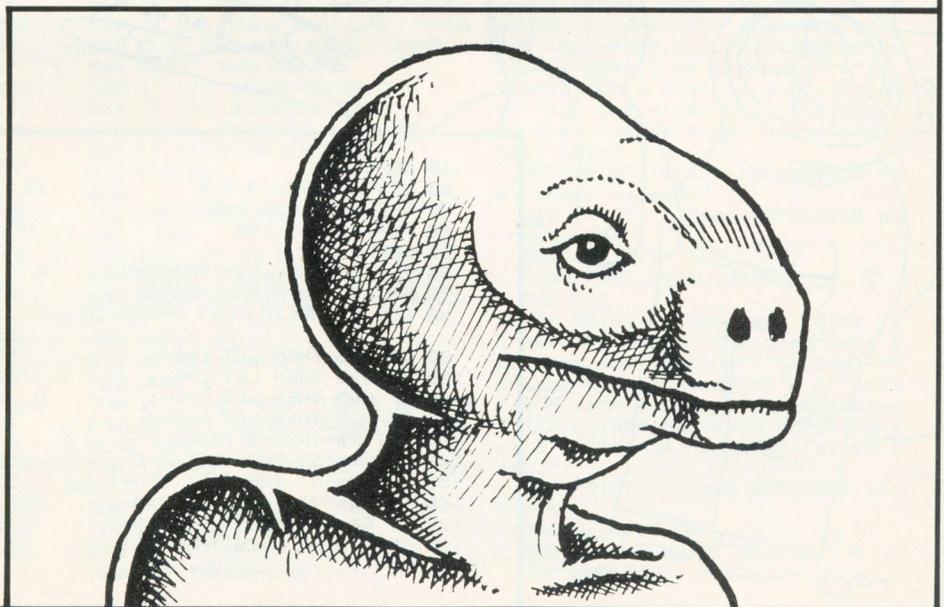
10REM ##### BBC WORMS ####
££
20REM
30REM C. BY D.B.STILES
40REM 5-FEB-83
50REM
60REM FORMATTED FOR BBC MODEL
B GRAPHICS
70REM
80MODE 6: D$="#####
90PRINT TAB(12,1)D$;D$
100PRINT TAB(5)D$" BBC WORMS
"D$
110PRINT TAB(12)D$;D$
120PRINT "The object is to join
all the dots, but"
130PRINT "only two lines may
touch each dot."
140PRINT "You may only move one
dot horizontally"
150PRINT "or vertically after
fixing a starting"
160PRINT "Point, and every new
line must start"
170PRINT "from one end of the
worm."
180PRINT "To draw a line Proceed
as follows:"
190PRINT "'1: Move the cursor
on the grid (using"
200PRINT "the cursor arrows)
to where the line"
210PRINT "is to start and Press
the 'copy' key"
220PRINT "to fix it."
230PRINT "'2: Move the cursor
to the desired end"
240PRINT "Point and Press 'copy'
to draw a line."
250PRINT "'3: Repeat moves 1 and
2 until no more"
260PRINT "moves are Possible;
Press # to finish."
270PRINT "Press any key to start
the game";
280K=GET
290REM
300REM"#####
#####
310REM set up variables etc.
320REM
330VDU 23,242,192,192,0,0,0,0,
0,0
340DIM A(9,9): REM state of board
350xincr=100: yincr=80
360xbase=140: ybase=40
370ex=20
380REM
390REM"#####
#####
400REM set up new grid
410REM
420MODE 5
430moves=0: start=0
440PROCGRID
450X=0: Y=9
460PROCMAKE(X,Y,4,3)
470*FX4,1

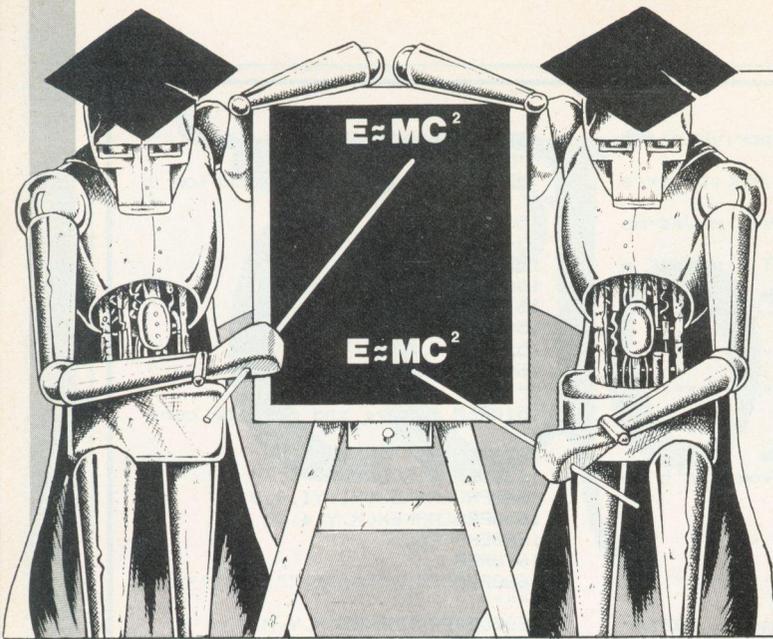
```

```

400REM
490REM"*****
*****
500REM Play Game: arrows and
copy'
510REM
520REPEAT
530K=GET
540IF K=135 THEN PROCPUT
550IF K=136 THEN PROCLEFT
560IF K=137 THEN PROCRIGHT
570IF K=138 THEN PROCDOWN
580IF K=139 THEN PROCUP
590UNTIL K=ASC("#")
600REM
610REM"*****
*****
620REM terminate game
630REM
640PRINT TAB(0,3);10*10-moves"
dots left"
650PRINT " Press space bar "
)
660REPEAT UNTIL GET$=" "
670MODE 7:
680PRINT TAB(2,10);
690PRINT "Would you care for a
nother game? ";
700K=GET$: IF K$="Y" OR K$="y
" THEN 420
710IF K$("<"N" AND K$("<"n" THEN
680
720PRINT TAB(6,15)"THANK YOU F
OR PLAYING"
730T=TIME: REPEAT UNTIL TIME-T
>200
740MODE 7: *FX4,0
750END
760REM >>>) THE END
<<<<
770REM
780REM"*****
*****
790REM 'copy' key fixes mark 1
n
800REM Place and adds up sco
re
810REM
820DEFPROCPUT
830IF start=0 THEN PROCFIX: EN
DPROC
840IF start=1 THEN PROCFIXNXT:
ENDPROC
850IF start=2 THEN PROCLINE: E
NDPROC
860ENDPROC
870REM
880REM"*****
*****
890REM fix starting Point of l
ine
900REM
910DEFPROCFIX
920startx=X: starty=Y: start=2
930PROCMAKEX(X,Y,3,2)
940ENDPROC
950REM
960REM"*****
*****
970REM
980DEFPROCFIXNXT
990IF A(X,Y)=1 THEN PROCFIX EL
SE PROCERRR
1000ENDPROC
1010REM
1020REM"*****
*****
1030REM draw the line
1040REM
1050DEFPROCLINE
1060IF ABS(X-startx)+ABS(Y-star
ty)>1 OR A(X,Y) THEN PROCERRR:
ENDPROC
1070PROCMAKEX(startx,starty,3,2
)
1080GCOL 0,2
1090MOVE xbase+startx*xincr,yba
se+starty*yincr
1100DRAW xbase+X*xincr,ybase+Y*
yincr
1110A(startx,starty)=A(startx,s
tarty)+1
1120A(X,Y)=1: start=1: moves=mo
ves+1
1130VDU4: CLS: PRINT ;moves" m
ove";
1140IF moves=1 THEN PRINT ELSE
PRINT "s"
1150ENDPROC
1160REM
1170REM"*****
*****
1180REM
1190DEFPROCERRR
1200PRINT TAB(0,4)"you can't do
that";
1210ENDPROC
1220REM
1230REM
1240REM"*****
*****
1250REM left arrow moves cursor
left
1260REM
1270DEFPROCLEFT
1280X1=X: Y1=Y
1290IF X>0 THEN X=X-1
1300PROCCURSUS
1310ENDPROC
1320REM
1330REM"*****
*****
1340REM right arrow moves curso
r right
1350REM
1360DEFPROCRIGHT
1370X1=X: Y1=Y
1380IF X<9 THEN X=X+1
1390PROCCURSUS
1400ENDPROC
1410REM
1420REM"*****
*****
1430REM down arrow moves cursor
down
1440REM
1450DEFPROCDOWN
1460X1=X: Y1=Y
1470IF Y>0 THEN Y=Y-1
1480PROCCURSUS
1490ENDPROC
1500REM
1510REM"*****
*****
1520REM up arrow moves cursor u
p
1530REM
1540DEFPROCUP
1550X1=X: Y1=Y
1560IF Y<9 THEN Y=Y+1
1570PROCCURSUS
1580ENDPROC
1590REM
1600REM"*****
*****
1610REM remove and rePlace curs
or
1620REM
1630DEFPROCCURSOR
1640PROCMAKEX(X1,Y1,4,3)
1650PROCMAKEX(X,Y,4,3)
1660ENDPROC
1670REM
1680REM"*****
*****
1690DEFPROCMAKEX(X,Y,M,C)
1700GCOL M,C
1710X=xbase+X*xincr: Y=ybase+Y*
yincr
1720MOVE X+ex,Y+ex: DRAW X-ex,Y
-ex
1730MOVE X+ex,Y-ex: DRAW X-ex,Y
+ex
1740ENDPROC
1750REM
1760REM"*****
*****
1770REM create grid and init. a
rray
1780REM
1790DEFPROCGRID
1800VDU 23,0202;0;0;0
1810VDU 24,xbase,ybase;xbase+10
*xincr,ybase+10*yincr;
1820VDU 28,0,5,19,1: CLS
1830GCOL 0,1: CLG: VDU 5
1840FOR X=0 TO 9: FOR Y=0 TO 9
1850MOVE xbase+X*xincr,ybase+Y*
yincr
1860VDU242
1870A(X,Y)=0: NEXT Y: NEXT X
1880ENDPROC
1890REM
1900REM"*****
*****
1910REM %%%% THE ABSOLUTE END %
%%%"

```





# Simultaneous Equation

**S**OLVE your mathematical problems or test your computer with this program which will solve **Simultaneous Equations**. Enter the two equations and the computer will find the value of the two variables.

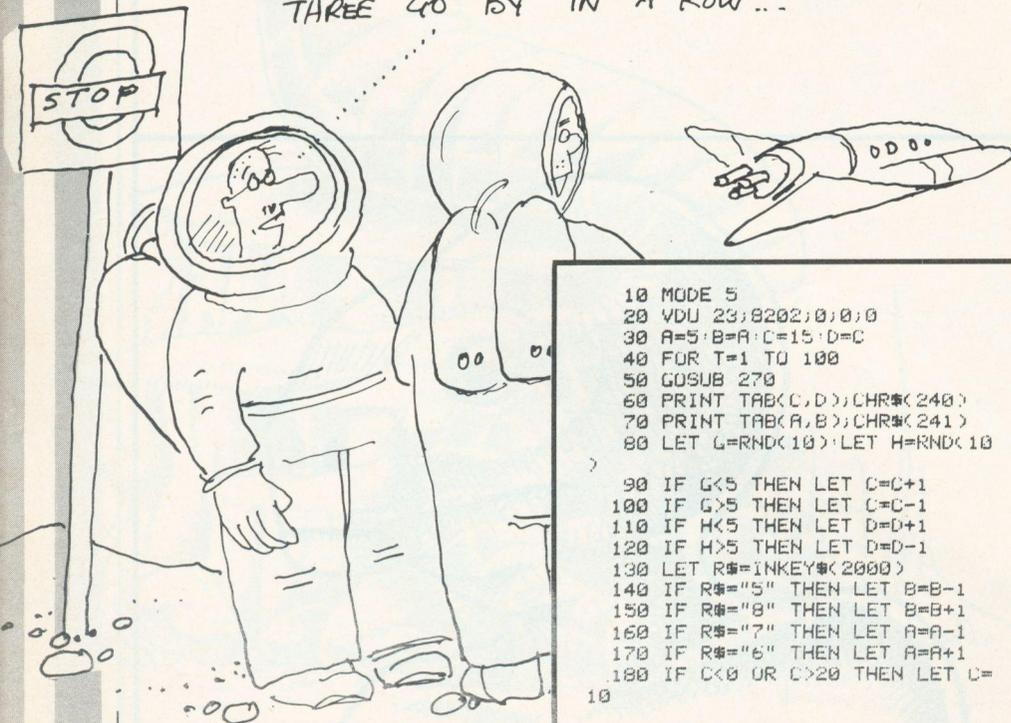
```

1 CLS
2 PRINT "SIMULTANEOUS EQUATIONS SOLVER"
3 PRINT "  AX+BY=C"
4 PRINT "  DX+EY=F"
5 PRINT "ENTER A, B, C"
6 INPUT A
7 INPUT B
8 INPUT C
9 PRINT "ENTER D, E, F"
10 INPUT D
11 INPUT E
12 INPUT F
13 LET DET=A*E-B*D
14 LET N=C*E-B*F
15 LET A#="X"
16 GOSUB 25
17 LET N=A*F-C*D
18 LET A#="Y"
19 GOSUB 25
20 PRINT "AGAIN? Y OR N"
21 INPUT A#
22 IF A#="Y" THEN RUN
23 STOP
25 LET G=N/DET
26 LET N=N-DET*G
27 PRINT A#;"=";"G"
28 FOR P=1 TO 3
29 LET G=10*N/DET
30 LET N=10*N-G*DET
31 PRINT G
32 NEXT P
33 PRINT
34 RETURN
  
```

# CRAZY CHASE

IT'S ALWAYS THE SAME - YOU  
WAIT FOR HOURS THEN  
THREE GO BY IN A ROW... ☆

**C**HASE a bus driver round the screen. Move with keys 5, 6, 7 and 8 but beware, because your controls are crazy. If you or the face move off the side of the screen you reappear in unexpected places. You have 100 moves in which to catch him.



```

10 MODE 5
20 VDU 23;8202;0;0;0
30 A=5:B=A:C=15:D=C
40 FOR T=1 TO 100
50 GOSUB 270
60 PRINT TAB(C,D);CHR*(240)
70 PRINT TAB(A,B);CHR*(241)
80 LET G=RND(10);LET H=RND(10)

90 IF G<5 THEN LET C=C+1
100 IF G>5 THEN LET C=C-1
110 IF H<5 THEN LET D=D+1
120 IF H>5 THEN LET D=D-1
130 LET R#=INKEY*(2000)
140 IF R#="5" THEN LET B=B-1
150 IF R#="8" THEN LET B=B+1
160 IF R#="7" THEN LET A=A-1
170 IF R#="6" THEN LET A=A+1
180 IF C<0 OR C>20 THEN LET C=
190 IF D<0 OR D>30 THEN LET D=
15
200 IF A=C AND B=D THEN CLS:PR
INT;"YOU DID IT":END
210 IF A<0 OR A>20 THEN LET A=
4
220 IF B<0 OR B>30 THEN LET B=
7
230 NEXT T
240 CLS
250 PRINT TAB(0,10);"YOU FAILE
D.....COMPLETELY"
260 END
270 VDU 23,241,255,255,153,153
,255,255,255,255
280 VDU 23,240,170,85,170,85,1
70,85,170,85
290 CLS
300 RETURN
  
```



# Mind Reader



**M**IND READER, written by Dr J Evans of Plymouth, Devon challenges you to read the mind of the computer. The computer has developed a code in which each of the letters A to E is assigned one of the numbers between one and five. For those readers lacking telepathic powers the computer will perform simple sums to allow the player to work out the code. Full instructions are included in the program.

```

10 MODE7
20 XX=RND(-TIME)
30 DIM ALPHA$(5),NUM$(5),X(5)
40 PROCinstruct
50 REPEAT
60 Z=0:SCORE=30
70 MUDES
80 PROCdisplay
90 PROCrandom
100 PROCplay
110 PROCscore
120 UNTIL Z=0
130 MODE7
140 END
150:
160 DEF PROCdisplay
170 COLOUR 129:CLS:COLOUR3
180 K1=0:K2=0
190 PRINT TAB(10,5)"ADD"TAB(0,
16)"SUB"TAB(0,25)"ADD(+)"SUB(-)
TEST"
200 PRINT TAB(7,10)"A B C D E"
210 PRINT TAB(5,12)"A"TAB(5,14)
)"B"TAB(5,16)"C"TAB(5,18)"D"TAB(
5,20)"E"
220 FOR I1=7 TO 15 STEP 2:K1=K
I1+1
230 FOR I2=12 TO 20 STEP 2:K2=
K2+1
240 IF K1=K2 PRINT TAB(I1,I2)"
*"
250 NEXT K2=0:NEXT
260 ENDPROC
270:
280 DEF PROCrandom
290 RESTORE
300 FOR I=1 TO 5
310 READ ALPHA$(I)
320 X(I)=RND(1):NUM(I)=I
330 NEXT I
340 DATA A,B,C,D,E
350 N%=6
360 REPEAT
370 N%=N%-1
380 FOR I%=1 TO N%-1
390 IF X(I%)<X(N%) THEN XN=X(N
%):X(N%)=X(I%):X(I%)=XN:NUMN=NU
M(N%):NUM(N%)=NUM(I%):NUM(I%)=NU
MN
400 NEXT I%
410 UNTIL N%=2
420 ENDPROC
430:
440 DEF PROCplay
450 COLOUR2
460 X2=0
470 REPEAT
480 PRINT TAB(6,20)SPC(10)
490INPUT W$
500 IF W$="TEST" PROCtest
510 IF X2>0 GOTO 610
520 N1=ASC(LEFT$(W$,1))-64:N2=
ASC(RIGHT$(W$,1))-64
530 IF N1=N2 OR N1>5 OR N2>5 O
R N1<1 OR N2<1 GOTO 480
540 IF MID$(W$,2,1)="+":L=1:C=N
UM(N1)+NUM(N2) ELSEIF MID$(W$,2,
1)="-":L=2:C=NUM(N1)-NUM(N2) ELS
E GOTO 480
550 IF C<0 C=-C
560 IF N1>N2 N3=N1:N1=N2:N2=N3
570 IF L=1 THEN X=5+2*N2:Y=10
+2*N1 ELSE X=5+2*N1:Y=10+2*N2
580 PRINT TAB(X,Y):C
590 IF L=1 SCORE=SCORE-2
600 IF L=2 SCORE=SCORE-1
610 UNTIL SCORE<=0 OR X2>0
620 IF SCORE<0 SCORE=0
630 ENDPROC
640:
650 DEF PROCtest
660 Y1=0
670 FOR I=1 TO 5
680 PRINT TAB(6,20);SPC(10)
690 PRINT TAB(6,20);ALPHA$(I);
"="
700 INPUT X1
710 IF X1<NUM(I) Y1=Y1+1
720 NEXT I
730 IF Y1>0 PRINT TAB(0,20)"YO
U FAILED. TRY AGAIN":SCORE=SCORE-
3 ELSE X2=1
740 TIME=0:REPEAT UNTIL TIME>
300
750 PRINT TAB(0,20);SPC(20)
760 ENDPROC
770:
780 DEF PROCscore
790 COLOUR 130:CLS:COLOUR 0
800 PRINT TAB(0,8)"YOU'VE CRAC
KED THE""CODE"
810 PRINT TAB(0,13)"YOUR SCORE
IS ";SCORE
820 INPUT TAB(0,20)"PLAY AGAIN
(Y/N)";DEC$
830 IF DEC$<>"Y" AND DEC$<>"N"
PRINT TAB(0,20)SPC(20):GOTO 82
0
840 IF DEC$="N" Z=1
850 ENDPROC
860:
870 DEF PROCinstruct
880 PRINT"" "This program crea
tes a simple code""for you to c
rack. The numbers 1 to 5""are a
ssigned randomly to the letters"
""A to E. Your task is to discov
er the""code by asking for piec
es of ""information."
890 PRINT"" "You may ask the co
mputer to add""or subtract any
two letters,e.g.type""A+B or E-
C. The result is displayed""in
a grid. Note that on subtraction
s""you are given only the size
of the""difference, you cannot
tell which "
900 PRINT"letter represents th
e larger number."
910 PRINT"" "Press SPACEBAR to
continue"
920 *FX15,1
930REPEAT UNTIL GET=32
940 CLS
950 PRINT"" "When you think yo
u have cracked""the code type T
EST and you will be""tested. Yo
ur score is reduced by 1""Point
t for each subtraction requested
,"""2 Points for each addition a
nd 3 ""Points for each failed t
est."
960 PRINT"" "Press SPACEBAR to
start"
970 *FX15,1
980 REPEAT UNTIL GET=32
990 ENDPROC

```

# ORBIT FOR THE ELECTRON ACORN

JOIN NOW  
FOR A  
FREE  
CASSETTE

## Join the Electron User Group

Members receive 10 copies of the magazine **ORBIT** each year. **ORBIT** is devoted **EXCLUSIVELY** to the **ELECTRON MICRO**. It is packed with News, Reviews, Hints, Tips, Programming ideas, Major articles, plus Regular program features including games and useful utilities.

**ORBIT** is produced by **BEEBUG** Publications Ltd., publishers of **BEEBUG**, the magazine of the National User Group for the BBC Micro. **BEEBUG** now has some 20,000 members and has achieved a high reputation both in this country and abroad.

The formula which makes **BEEBUG** an invaluable companion for users of the BBC micro, will be applied to **ORBIT**.

By subscribing to **ORBIT** you gain all the advantages of a single-micro magazine, with no

space wasted on programs and articles for other computers.

### BENEFITS OF MEMBERSHIP

#### ORBIT MAGAZINE

Ten copies a year mailed free of charge.

#### DISCOUNT SCHEME

Extensive discount scheme with major retailers.

#### SOFTWARE LIBRARY

A growing range of software titles at budget prices for members.

#### SOFTWARE CLUB

Substantial discounts on software from major software houses.

#### LOCAL USER GROUPS

Lists of local affiliated user groups.

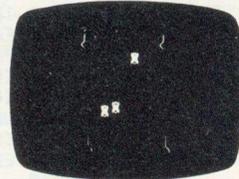
### SPECIAL OFFER 8 FREE PROGRAMS

*Subscribe now, and get a free introductory cassette containing 8 tested programs for the Electron.*

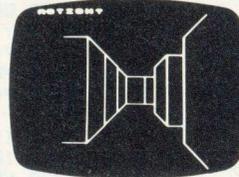
1. **SPACE CITY**. Defeat the invading Aliens with your laser, and save the city
2. **3D NOUGHTS AND CROSSES**. Pit your wits against the **ELECTRON** on a 4x4x4 board
3. **RACER**. Guide your racing car to victory, avoiding other cars and obstacles on the track
4. **3D MAZE**. In this challenging game, you must escape from the maze - The screen displays a 3D view from inside the maze
5. **PATCHWORK**. A multicoloured display of continuously changing patterns
6. **KEY SET ROUTINE**. A program to set up the user function keys
7. **MEMORY DISPLAY**. An efficiently written utility to display the contents of memory (ROM and RAM)
8. **CHARACTER DEFINER**. Define individual graphics characters with this useful utility for use in your own programs.



SPACE  
CITY



RACER



3D MAZE

#### HOW TO JOIN

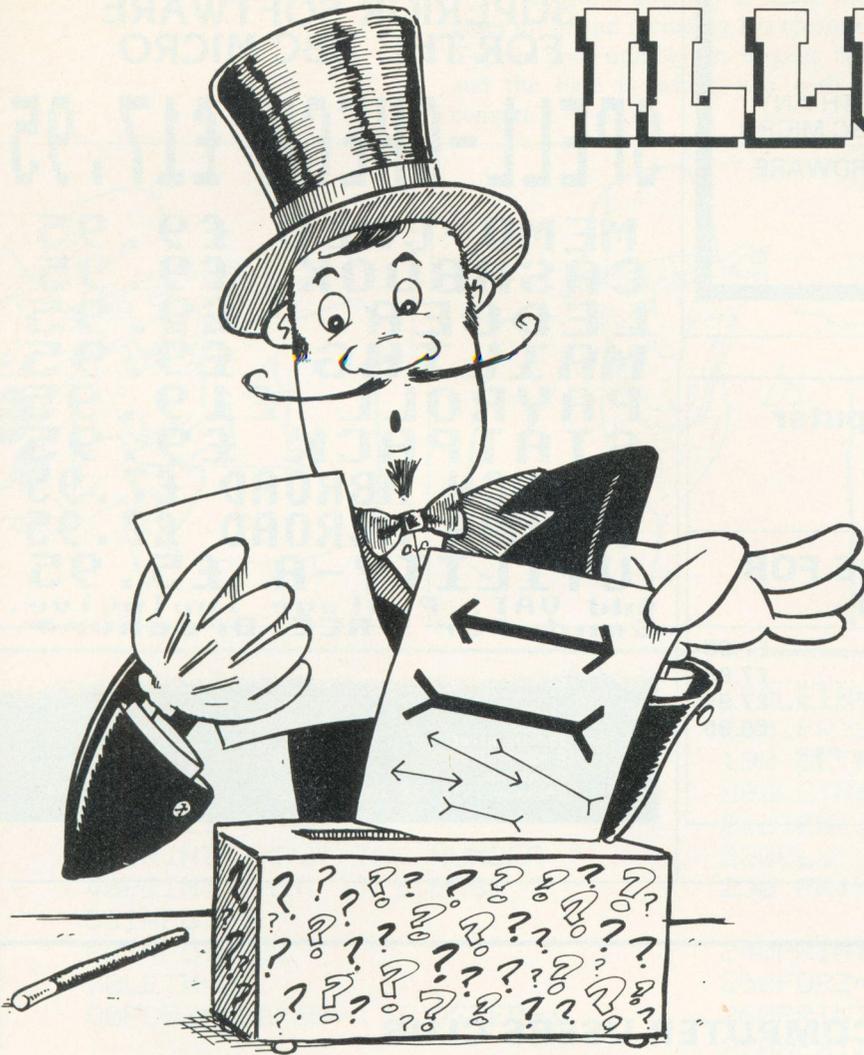
To subscribe for one year, and get your **FREE CASSETTE**, send £9.90 (payable to Orbit) plus a strong stamped addressed envelope (for the cassette) to:

**ORBIT, PO BOX 50, ST ALBANS, HERTS**

Six month trial subscription (5 issues) UK only £5.90 - **FREE CASSETTE OFFER STILL STANDS.**

Membership outside UK (one year only): Eire and Europe £16.00, Middle East £19.00, Americas and Africa £21.00, other countries £23.00

# ILLUSION



**I**LLUSION, by Dr J Evans of Plymouth, Devon demonstrates a visual illusion. Fins on the ends of two straight lines distort the viewer's visual impression of their length. The length of the lower of the two lines can be altered until the two lines are judged to be equal. The fins are then removed to show the lengths of the lines accurately.

```

10 REM MULLER-LYER ILLUSION
30 ON ERROR IF ERR=17 MODE? : E
ND ELSE MODE? : PRINT ERL : REPORT E
ND
40 MODE? : PROCinstruct
50 K=00
60 MODE1
70 GCOL 0,130 : GCOL 0,0 : CLG
80 COLOUR 129
90 L=RND(80)+600
100 XR=RND(1)
110 REPEAT
120 CLG
130 VDU20,10,30,30,22 : CLS
140 REM CREATES TEXT WINDOW
150 PRINT TAB(4,2)"BOTTOM LINE
"" S SHORTENS"" L LENG
HENS"" E EQUALS"
160 Y1=800 : Y2=600
170 PROCcentre(640) : PROCline(Y
1)
180 IF XR>.5 THEN PROCifin(X1,
Y1) : PROCrfin(X2,Y1) ELSE PROCrfi
n(X1,Y1) : PROCifin(X2,Y1)
190 REM DRAWS UPPER ARROW
200 PROCcentre(L) : PROCline(Y2
)
210 IF XR>.5 THEN PROCrfin(X1,
Y2) : PROCifin(X2,Y2) ELSE PROCif
n(X1,Y2) : PROCrfin(X2,Y2)
220 REM DRAWS LOWER ARROW
230 *FX15,1
240 A#=GET#
250 IF A#="L" THEN L=L+8 : GOTO
290
260 IF A#="S" THEN L=L-8 : GOTO
290
270 IF A#<"E" GOTO 240
280 CLG : TIME=0 : REPEAT UNTIL TI
ME>20
290 UNTIL A#="E"
300 CLG : CLS
310 PROCcentre(640) : PROCline(Y
1)
320 PROCcentre(L) : PROCline(Y2)
330 PRINT "THESE ARE YOUR LINE
S"" WITHOUT THE FINS"" AGAIN
(Y/N)"
340 *FX15,1
350 D#=GET#
360 IF D#="Y" CLS : GOTO 90
370 IF D#<"N" CLS : GOTO 330
380 MODE?
390 END
400 :
410 DEF PROCcentre(L1)
420 X1=(1280-L1)/2-1
430 X2=X1+L1
440 ENDPROC
450 :
460 DEFPROCline(Y)
470 MOVE X1,Y
480 DRAW X2,Y
490 ENDPROC
500 :
510 DEF PROCifin(X,Y)
520 MOVE X,Y
530 DRAW X+K,Y+K
540 MOVE X,Y
550 DRAW X-K,Y+K
560 ENDPROC
570 :
580 DEF PROCrfin(X,Y)
590 MOVE X,Y
600 DRAW X-K,Y+K
610 MOVE X,Y
620 DRAW X+K,Y+K
630 ENDPROC
640 DEF PROCinstruct
650 PRINT ""This program demon
strates a visual"" illusion know
n to Psychologists as"" the Mull
er-Lyer. The fins on the end of""
"" two straight lines distort one
's visual"" impression of their
length."
660 PRINT ""The program draws t
he lines initially"" with fins o
n and at randomly varying"" leng
ths. You can shorten or lengthen
"" the lower line by repeated Pr
essing "" of the S and L keys. W
hen you think"
670 PRINT ""they look equal Pres
s E and the "" computer will sho
w you the true "" of your lines.
"
680 PRINT ""Press SPACEBAR to s
tart"
690 REPEAT UNTIL GET=32
700 ENDPROC

```

**FAIRHURST INSTRUMENTS LTD  
OF WILMSLOW**

FACT 90% OF OUR CUSTOMERS ARE  
RECOMMENDED TO US . . .

**WHY?**

PHONE OUR SALES TEAM NOW WITH ANY  
QUERIES ON ALL ASPECTS OF THE BBC MICRO.

WE ARE TRUE SPECIALISTS IN HARDWARE  
AND SOFTWARE.

MAIL ORDER AVAILABLE  
PHONE (0625-525694)



FIRST BYTE COMPUTERS

**First Byte Computer**

10 Main Centre, Derby  
Tel: (0332) 365280

**FIRST BYTE SOFTWARE FOR  
THE BBC MICRO**

Space Adventure 1 .....	Adventure .....	£7.95
Star Trader .....	Galactic Trading Game .....	£7.95
Valley Of The Pharoahs .....	Adventure .....	£7.95
Starforce Lander .....	Arcade Game .....	£6.95

All Prices include VAT, add 50p for P&P

Dealer enquiries welcome

# Micro-Aid

**SUPERIOR SOFTWARE  
FOR THE BBC MICRO**

**SPELL-CHECK £17.95**

**MEMO-CALC £9.95**

**CASHBOOK £9.95**

**LEDGER £9.95**

**MAILING £9.95**

**PAYROLL £19.95**

**STATPACK £9.95**

**FRENCH ABROAD £7.95**

**GERMAN ABROAD £7.95**

**UTILITY-A £5.95**

Add VAT. Postage inclusive.  
Send for FREE Brochure.

25 Fore street,  
Praze-an-Beeble,  
Camborne,  
Cornwall. TR14 OJX. England.

Tel: (0209) 831274

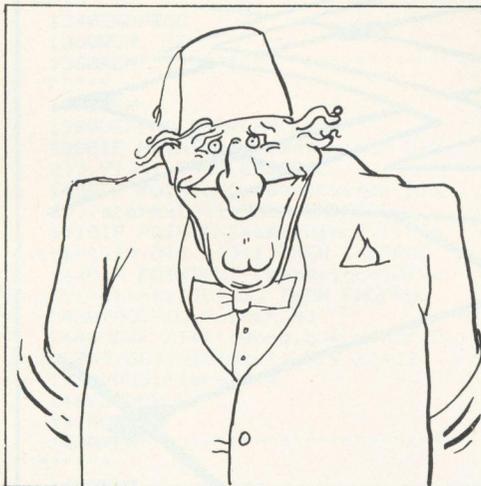
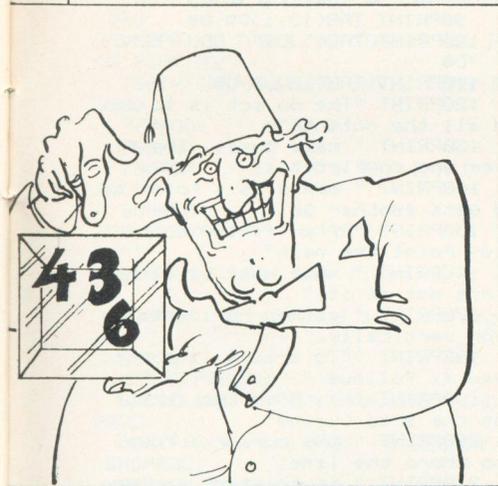
AP2

**THE COMPUTER USERS CLUB  
69 HADLOW ROAD,  
WELLING,  
KENT.  
DA16 1AX.  
TEL: 01-311 2555**

At our Hadlow Road premises we stock a complete range of accessories for the BBC micro including monitors, printers, plotters, cassette recorders and a wide selection of disc drives and other peripherals from leads to dust covers at very competitive prices. This service is provided to compliment the facilities provided by the Computer Users Club and both members and the general public are always assured of a warm welcome and helpful assistance. Obviously some of our present and hopefully future members and clients live some distance from us so we have available a mail order service. Postal/telephone, assistance, ordering and sales is available worldwide.

Our software available on both tape and disc comprises a wide selection from games to business programs. We currently have available Torch Z80 Disc Packs complete with a free comprehensive software package comprising Perfect Calc:- Spread sheet analysis. Perfect Writer and Perfect Speller:- A word processing with a spelling checker facility. Perfect Filer:- A database package. To compliment this a utilities disc, a complete package in its own right is included. The Disc Pack transforms the BBC Computer into a competitive business machine providing a total storage capacity of 800k on dual drives and the facility to run CP/M business software through the built in compatible CP/N Operating System making it a very worthwhile package at £730 + VAT. This package can be seen connected to the BBC Computer and demonstrated with the other systems currently available an open invitation without obligation is extended to all and we look forward to seeing you at our Hadlow Road premises in the very near future.

**T**HIS SHORT utility program will convert numbers from one base into another. It deals with bases up to and including hexadecimal. Type-in your number, its original base and the base to which you wish to convert it.



```

10REM THIS IS A UTILITY PROGR
AM TO CONVERT A NUMBER IN ANY BA
SE TO ANY OTHER BASE INCLUDING H
EX
20MODE1
30PRINT"INPUT THE NUMBER "
40PRINT"THEN IT'S BASE "
50INPUTA#
60INPUTBASE
70LETN=0
80FORZ=(LENA#-1)TO0STEP-1
90LETT=ASC(MID$(A#,LENA#-Z,1)
)-48
100IFT>9THENLETT=T-7
110LETN=N+(BASE^Z*#T)
120NEXTZ
130PRINT"WHAT BASE DO YOU WANT
IT "
140PRINT"CONVERTED TO "
150INPUTBASE2
160LETN#=""

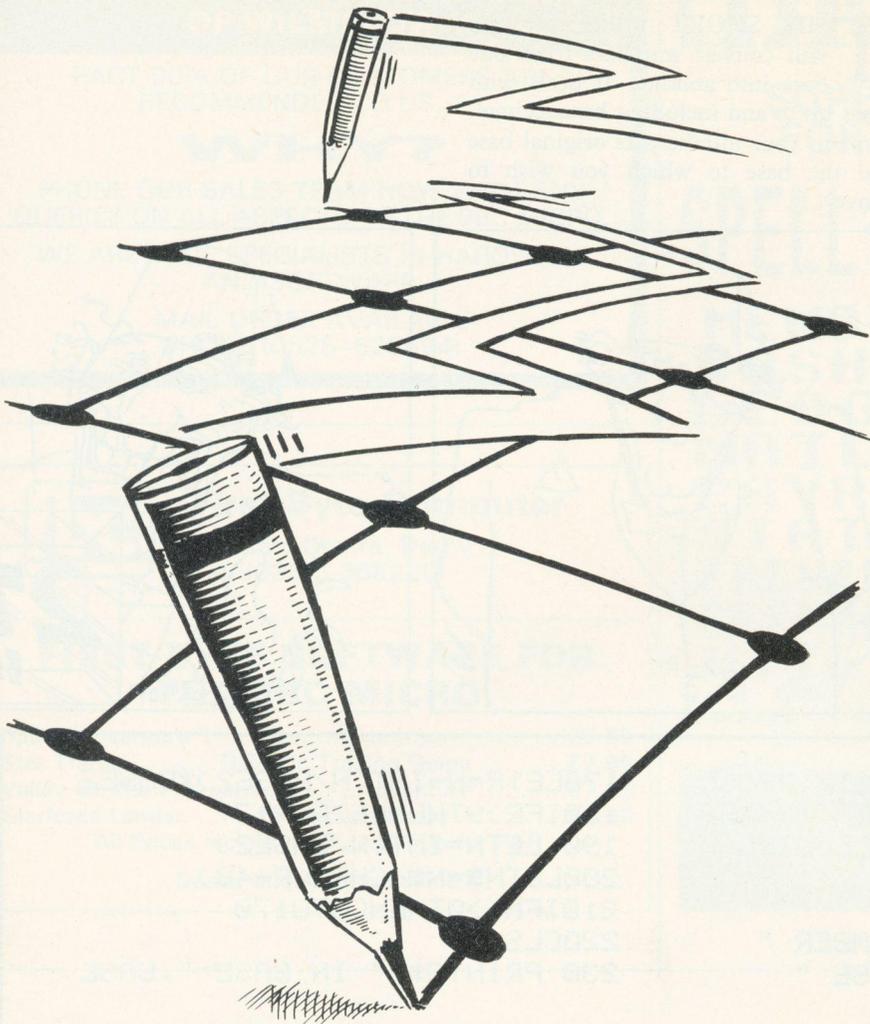
```

```

170LETR=N-INT(N/BASE2)*BASE2
180IFR>9THENLETR=R+7
190 LETN=INT(N/BASE2)
200LETN#=#N#+CHR$(R+48)
210IFN<>0THENGOTO170
220CLS
230 PRINTA#;" IN BASE ";BASE
240PRINT"IS EQUAL TO "
250FORZ=LENN#TO1STEP-1
260PRINTMID$(N#,Z,1)
270NEXTZ
280PRINT" IN BASE ";BASE2
290PRINT
300PRINT" DO YOU WANT ANOTHER
GO ?"
310PRINT" ( Y OR N )"
320LETQ#=GET#
330IFQ#="Y"THENCLS:RUN
340IFQ#<>"N"THENPRINT"ONLY Y O
R N":GOTO290
350END

```

# B A S E



```

10REM ##### BBC BOXES #####
11
20REM
30REM C. BY D.B.STILES
40REM 7-FEB-83
50REM
60REM FORMATTED FOR BBC MODEL
B GRAPHICS
70REM
80MODE 6: D$="#####"
90PRINT TAB(12,1)D$;D$
100PRINT TAB(5)D$" BBC BOXES
"D$
110PRINT TAB(12)D$;D$
120PRINT "The object is to join
all the dots to"
130PRINT " make boxes. The player
who completes a"
140PRINT " box wins a point and
gets another go."
150PRINT "After fixing a start
ing point the next"
160PRINT " move must be within
one dot of it,"
170PRINT " either horizontally
or vertically."
180PRINT "'To draw a line proceed
as follows:"
190PRINT "'1: Move the cursor
on the grid (using"
200PRINT " the cursor arrows)
to where the line"
210PRINT " is to start and press
the 'copy' key"
220PRINT " to fix it."
230PRINT "'2: Move the cursor
to the desired end"
240PRINT " point and press 'copy'
to draw a line."
250PRINT "'3: Repeat moves 1 and
2 until no more"
260PRINT " moves are possible;
press # to finish."
270REM
280REM"#####
"#####
290REM set up variables etc.
300REM
310VDU 23,242,192,192,0,0,0,0,
0,0
320DIM A(9,9): REM state of board
330DIM P(9): REM players score
340xincr=88: yincr=72
350xbase=200: ybase=40
360ex=20
370REM
380REM"#####
"#####
390REM set up new grid
400REM
410PRINT TAB(0,23);
420PRINT "'Enter the number of
players from 2 to 9";
430num=GET-ASC("0")
440IF num<2 OR num>9 THEN 410
450MODE 5
460moves=0: start=0: plyr=0: s
qr=0: box=0
470PROCGRID
480X=0: Y=9
490PROCMAKE(X,Y,4,3)
500FX4,1
510PROCDISPSCUR
520REM
530REM"#####
"#####
540REM Play game: arrows and '
copy'
550REM
560REPEAT
570K=GET
580IF K=135 THEN PROCUP
590IF K=136 THEN PROCLEFT
600IF K=137 THEN PROCRIGHT
610IF K=138 THEN PROCDOWN
620IF K=139 THEN PROCUP
630UNTIL K=ASC("#") OR box=81
640REM
650REM"#####
"#####
660REM terminate game

```

# BOXES

A GAME for two to nine players written by D Stiles of Bristol. Players of **Boxes** take turns to draw a line between two dots on the screen. The player who draws the fourth side of a box gains that box. The winner is the player with the most boxes when the screen has been filled.

```

680PRINT TAB(0,7)"press space
bar ";
690REPEAT UNTIL GET$=" "
700MODE 7:
710PRINT TAB(2,10);
720PRINT "Would you care for a
nother game? ";
730K$=GET$: IF K$="Y" OR K$="y
" THEN 450
740IF K$<>"N" AND K$<>"n" THEN
710
750PRINT TAB(6,15)"THANK YOU F
OR PLAYING"
760T=TIME: REPEAT UNTIL TIME-T
>200
770MODE 7: *FX4,0
780END
790REM >>> T H E E N D
<<<<
800REM
810REM"*****
*****
820REM 'copy' key fixes mark i
n
830REM Place and adds up sco
re
840REM
850DEFPROCPUT
860IF start THEN PROCLINE: END
PROC
870IF A(X,Y)>3 THEN PROCERRR:
ENDPROC
880A(X,Y)=A(X,Y)+1
890startx=X: starty=Y: start=1
900PROCMAKEX(X,Y,3,2)
910ENDPROC
920REM
930REM"*****
*****
940REM draw the line
950REM
960DEFPROCLINE
970IF ABS(X-startx)+ABS(Y-star
ty)>1 OR A(X,Y)>3 THEN PROCERRR:
ENDPROC
980IF POINT((xbase+startx*xinc
r)+(xbase+X*xincr)) DIV 2,((yba
se+starty*yincr)+(ybase+Y*yincr)
) DIV 2) THEN PROCERRR: ENDPROC
990PROCMAKEX(startx,starty,3,2
)
1000GCOL 0,2
1010MOVE xbase+startx*xincr,yba
se+starty*yincr
1020DRAW xbase+X*xincr,ybase+Y*
yincr
1030A(X,Y)=A(X,Y)+1
1040PROCSCORE
1050start=0: moves=moves+1
1060IF sqr=0 THEN Plyr=(Plyr+1)
MOD num ELSE sqr=sqr-1
1070PROCDISPSCOR
1080ENDPROC
1090REM
1100REM"*****
*****
1110REM display the score
1120REM
1130DEFPROCDISPSCOR
1140VDU4: COLOUR 4: COLOUR 129:
CLS
1150PRINT "Score in ":moves" mo
ve";
1160IF moves=1 THEN PRINT " " E
LSE PRINT "s:"
1170FOR N=1 TO num
1180PRINT ;N" has ";P(N-1)": ";
1190IF N MOD 2 THEN PRINT TAB(10
); ELSE PRINT
1200NEXT N
1210PRINT TAB(1,7)"Player ";Ply
r+1" is next";
1220ENDPROC
1230REM
1240REM"*****
*****
1250REM check to see if box was
made
1260REM
1270DEFPROCSCORE
1280XI=xbase+X*xincr: startxI=x
base+startx*xincr

```

```

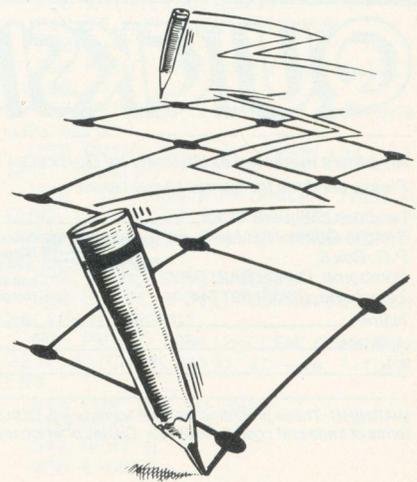
1290YI=ybase+Y*yincr: startyI=y
base+starty*yincr
1300IFX=startx THEN PROCSEARCHX
(1)
1310IFX=startx THEN PROCSEARCHX
(-1)
1320IFY=starty THEN PROCSEARCHY
(1)
1330IFY=starty THEN PROCSEARCHY
(-1)
1340ENDPROC
1350REM
1360REM"*****
*****
1370REM
1380DEFPROCSEARCHX(sgn)
1390IF POINT(XI+(sgn*(xincr DIV
2)),YI)<1 THEN ENDPROC
1400IF POINT(XI+(sgn*(xincr DIV
2)),startyI)<1 THEN ENDPROC
1410IF POINT(XI+sgn*xincr,((YI+
startyI) DIV 2)>1 THEN ENDPROC
1420IF POINT(XI+(sgn*xincr)DIV2
,(YI+startyI)DIV2) THEN ENDPROC
1430PROCFILL(xincr,0)
1440MOVE XI+((sgn-0.5)*(xincr D
IV 2)),((YI+startyI) DIV 2)+12
1450VDU5: Plyr+49;4
1460ENDPROC
1470REM
1480REM"*****
*****
1490REM
1500DEFPROCSEARCHY(sgn)
1510IF POINT(XI,YI+(sgn*(yincr
DIV 2))>1 THEN ENDPROC
1520IF POINT(startxI,YI+(sgn*(y
incr DIV 2))>1 THEN ENDPROC
1530IF POINT((XI+startxI) DIV 2
,YI+sgn*yincr)>1 THEN ENDPROC
1540IF POINT((XI+startxI)DIV2,Y
I+(sgn*yincr)DIV2) THEN ENDPROC
1550PROCFILL(0,yincr)
1560MOVE ((XI+startxI)DIV2)-24,
YI+((sgn+0.3)*(yincr DIV 2))
1570VDU5: Plyr+49;4
1580ENDPROC
1590REM
1600REM"*****
*****
1610REM box was made, fill it i
n
1620REM
1630DEFPROCFILL(xin,yin)
1640P(Plyr)=P(Plyr)+1: sqr=sqr+
1: box=box+1
1650PROCMAKEX(X,Y,4,3)
1660MOVE startxI,startyI
1670MOVE XI,YI
1680GCOL 0,129
1690PLOT 87,XI+sgn*xin,YI+sgn*y
in
1700MOVE startxI+sgn*xin,starty
I+sgn*yin
1710PLOT 87,startxI,startyI
1720GCOL 0,129
1730PROCMAKEX(X,Y,4,3)
1740ENDPROC
1750REM
1760REM"*****
*****
1770REM
1780DEFPROCERRR
1790PRINT TAB(0,6)"you can't do
that";
1800ENDPROC
1810REM
1820REM
1830REM"*****
*****
1840REM left arrow moves cursor
left
1850REM
1860DEFPROCLEFT
1870X1=X: Y1=Y
1880IF X>0 THEN X=X-1
1890PROCCURSOR
1900ENDPROC
1910REM
1920REM"*****
*****
1930REM right arrow moves curso

```

```

r right
1940REM
1950DEFPROCRIGHT
1960X1=X: Y1=Y
1970IF X<9 THEN X=X+1
1980PROCCURSOR
1990ENDPROC
2000REM
2010REM"*****
*****
2110REM up arrow moves cursor u
p
2120REM
2130DEFPROCUP
2140X1=X: Y1=Y
2150IF Y<9 THEN Y=Y+1
2160PROCCURSOR
2170ENDPROC
2180REM
2190REM"*****
*****
2200REM remove and replace curs
or
2210REM
2220DEFPROCCURSOR
2230PROCMAKEX(X1,Y1,4,3)
2240PROCMAKEX(X,Y,4,3)
2250ENDPROC
2260REM
2270REM"*****
*****
2280REM
2290DEFPROCMAKEX(X,Y,M,C)
2300GCOL M,C
2310X=xbase+X*xincr: Y=ybase+Y*
yincr
2320MOVE X+ex,Y+ex: DRAW X-ex,Y
-ex
2330MOVE X+ex,Y-ex: DRAW X-ex,Y
+ex
2340ENDPROC
2350REM
2360REM"*****
*****
2370REM create grid and init. a
rray
2380REM
2390DEFPROCGRID
2400VDU 23;820;0;0;0
2410VDU 24,xbase,ybase;xbase+11
*xincr;ybase+11*yincr;
2420VDU 28,0,0,19,1: CLS
2430GCOL 0,1: CLG: VDU 5
2440FOR X=0 TO 9: FOR Y=0 TO 9
2450MOVE xbase+X*xincr,ybase+Y*
yincr
2460VDU242
2470A(X,Y)=0
2480IF X=0 OR X=9 THEN A(X,Y)=A
(X,Y)+1
2490IF Y=0 OR Y=9 THEN A(X,Y)=A
(X,Y)+1
2500NEXT Y: P(X)=0: NEXT X
2510ENDPROC
2520REM
2530REM"*****
*****
2540REM *** THE ABSOLUTE END ***

```



# QUICKSILVA ARE THE GAME LORDS...

## SPECTRUM PROGRAMS

- ANT ATTACK\* 6.95   
Sandy White
- GAMES DESIGNER\* 14.95   
John Hollis
- BUGABOO\* 6.95   
Indescomp
- TRAXX\* 6.95   
Jeff Minter/Salamander
- GRIDRUNNER\* 6.95   
Jeff Minter/Salamander
- SMUGGLERS COVE\* 6.95   
John Keneally
- VELNOR'S LAIR\* 6.95   
Derek Brewster
- 3D STRATEGY\* 6.95   
Freddy Vachha
- XADOM\* 6.95   
Mike Moscoff
- AQUAPLANE\* 7.95   
John Hollis
- ZX-81 PROGRAMS**
- QS DEFENDA 3.95   
Nick Lambert
- QS ASTEROIDS 3.95   
John Hollis
- QS INVADERS 3.95   
Dave Edwards
- QS SCRAMBLE 3.95   
Dave Edwards

## COMMODORE 64

- PURPLE TURTLES\* 7.95   
Mark & Richard Moore
- AQUAPLANE\* 7.95   
John Hollis & Steve Hickman
- RING OF POWER\* 7.95   
Mc Clemont & Fred Preston
- QUINTIC WARRIOR\* 7.95   
T.P. Watts
- ULTISYNTH\*‡ 14.95   
Nalin Sharma
- BBC PROGRAMS**
- THE GENERATORS\* 6.95   
Dave Mendes
- MINED OUT\* 6.95   
Ian Andrew & Ian Rowlings
- BEEB ART\*‡ 14.95   
Dave Mendes
- PROTECTOR 7.95   
Andy Green
- WIZARD 6.95   
A.R. Buckley
- MUSIC PROCESSOR 14.95   
Andy Williams
- VIC20 PROGRAMS**
- TORNADO 14.95   
CHARTEC
- SKYHAWK 14.95   
CHARTEC
- TRADER‡ 14.95

PIXEL POWER 7.95   
PIXEL

## ATARI PROGRAM

MAGIC WINDOW 8.95   
M. Walker

## DRAGON PROGRAM

MINED OUT 5.95   
I. & C. Andrew

## ELECTRON PROGRAM

MINED OUT\* 6.95

\* NEW RELEASES

‡ SUPPLIED IN A BOX WITH BOOKLET

...and 1984  
is the year of  
The Game Lords

# QUICKSILVA

All games marketed exclusively by Quicksilva Limited.

Please send me the games I have ticked.

I enclose cheque/P.O. for

Send to Quicksilva Mail Order, P.O. Box 6,

Wimborne, Dorset BA21 7PY.

Telephone: (0202) 891744

Name \_\_\_\_\_

Address \_\_\_\_\_

WARNING: These programs are sold according to QUICKSILVA Ltd's terms of trade and conditions of sale. Copies of which are available on request.

# CHEMIPLANT



## H&H SOFTWARE H

PRESENTS 3 NEW TAPES

for the

**BBC 32K COMPUTER**

to add to their existing range of games and educational software.

### LOONEY LIFT

A new action packed arcade game with hi-res graphics, full colour and sound. Keep your guests jumping, operate the lift and watch out for the luggage. The alternative is the sack!

£7.50

### CHEMIPLANT

Another first? A chemical plant simulation. Avoid explosions, spills and other disasters on your way to your first million. Plant manual included. Hi-res graphics.

£7.50

### STORY

Electronic storytelling!

First make up some scenes using pictures from the computer bank or use your own drawing skills. Then write your story. Up to 7 screens can be displayed, saved and printed.

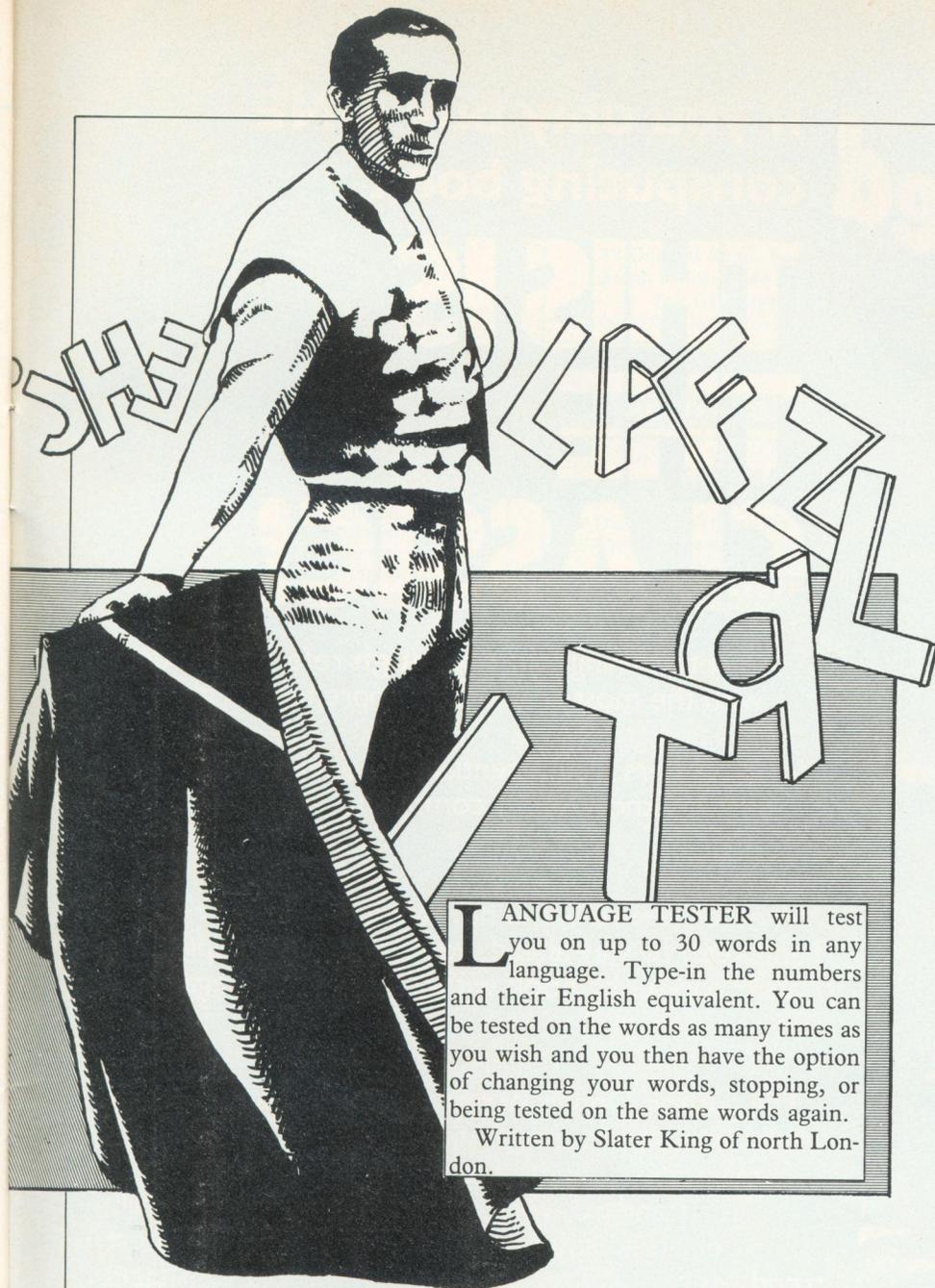
£6.50

To get more information about our new and existing software, ask for a catalogue. Please send a s.a.e.

★★ Disc versions available: please add £1.50★★

Please send orders and cheques/PO to:

**H & H Software, Dept AP2, 53 Holloway,  
Runcorn, Cheshire WA7 4TJ.  
Tel: 09285 65566**



**L**ANGUAGE TESTER will test you on up to 30 words in any language. Type-in the numbers and their English equivalent. You can be tested on the words as many times as you wish and you then have the option of changing your words, stopping, or being tested on the same words again.  
Written by Slater King of north London.

# LANGUAGE TESTER

```

10 X=RND(-TIME)
20 DIM AN$(30)
30 CLS
40 REMEEEEEVERBEEEE
50 PROCInPut
60 PROCno
70 IF A=1 THEN PROCFORREN ELSE
E PROCno
80 CLS:PRINT TAB(10,10)"Do you
U want another go"
90 INPUT A$:IF A$="NO" THEN EN
D
100 PRINT TAB(11,12)"with the
same words":INPUT A$
110 IF A$="NO" THEN RUN ELSE G
OTO 60
120 END
130 DEF PROCInPut
140 PRINT TAB(13,3)"by SLATER
KING"
150 PRINT TAB(15,5);CHR$(130);
CHR$(141)"VERBS":PRINT SPC(15);C

```

```

HR$(130);CHR$(141)"VERBS"
160 PRINT TAB(3,8); SPC(3);CHR
$(129)"How many verbs do you wa
nt to be"
170 PRINT TAB(0,9);CHR$(129)"t
ested on ";CHR$(131);
180 INPUT NUM
190 IF NUM>1 AND NUM<31 THEN G
OTO 220
200 PRINT TAB(13,9)"
"
210 GOTO 170
220 PRINT TAB(3,12);CHR$(130);
"And now,type in the foreign ver
b"
230 PRINT;CHR$(130);"followed
by the ENGLISH equivalent."
240 DIM for$(30):DIM eng$(30)
250 B=1
260 REPEAT
270 PRINT TAB(16,14);CHR$(129)
"VERB ";B

```

```

280 PRINT;CHR$(131);
290 INPUT for$(B)
300 PRINT;CHR$(133);
310 INPUT eng$(B)
320 PRINTTAB(0,15)"
":PRINT"
330 IF LEN(for$(B))>16 OR LEN(
eng$(B))>16 THEN GOTO 270
340 B=B+1
350 UNTIL B=NUM+1
360 ENDPROC
370 DEFPROCno
380 PRINT TAB(3,18);CHR$(134);
"Do you want to be tested on:"
390 PRINT SPC(15);CHR$(131);"1
...FOREIGN":PRINT SPC(15);CHR$(1
31);"2...ENGLISH"
400 PRINT TAB(0,21);:INPUT A
410 IF A=1 OR A=2 THEN GOTO 44
0
420 PRINT TAB(0,21)"
"
430 GOTO 400
440PRINT SPC(10);CHR$(131);"An
d how many times do"
450 PRINT SPC(10);CHR$(131);"w
ant to be tested":INPUT D
460 ENDPROC
470 DEF PROCENG
480 E=0
490 FOR B=1 TO D
500 CLS
510 PRINT TAB(18,6);CHR$(129);
"TEST"
520 PRINT TAB(13,8);CHR$(131);
"Question No.":B
530 R=INT(RND(NUM))
540 IF E=R THEN GOTO 530
550 E=R
560 PRINT TAB(15,10);CHR$(131)
;for$(R)
570 PRINT SPC(12);"And the Eng
lish?"
580 PRINT SPC(14);CHR$(134);:I
NPUT AN$(R)
590 IF AN$(R)=eng$(R) THEN SO
UND 1,-15,150,2:PRINT SPC(15);"W
ell done":FOR T=1 TO 1000:NEXT G
OTO 650
600 SOUND 0,-15,50,10
610 PRINT SPC(17);CHR$(129);CH
R$(136);"WRONG"
620 PRINT TAB(12+(LEN(eng$(R))
/2),16);CHR$(131);"It was ";eng$(
R)
630 FOR T=1 TO 3000
640 NEXT T
650 NEXT B
660 ENDPROC
670 DEF PROCFORREN
680 E=0
690 FOR B=1 TO D
700 CLS
710 PRINT TAB(18,6);CHR$(129)
"TEST"
720 PRINT TAB(13,8)"Question N
o.":B
730 R=INT(RND(NUM))
740 IF E=R THEN GOTO 730
750 E=R
760 PRINT TAB(15,10);CHR$(131)
;eng$(R)
765 PRINT SPC(10)"And the fore
ign word"
770 PRINT SPC(14);CHR$(134);:I
NPUT AN$(R)
780 IF AN$(R)=for$(R) THEN S
OUND 1,-15,150,2:PRINT SPC(15);"
Well done":FOR T=1 TO 1000:NEXT
GOTO 840
790 SOUND 0,-15,50,10
800 PRINT SPC(17);CHR$(129);CH
R$(136);"WRONG"
805 PRINT TAB(12+(LEN(for$(R))
/2),16);CHR$(131);"It was ";for$(
R)
810 FOR T=1 TO 3000
820 NEXT T
840 NEXT B
850 ENDPROC

```

Second Edition Just published

If you only buy ONE computing book

# THIS IS THE CLASSIC!

An entertaining, but **thorough** reference source with the most readable, comprehensive glossary you'll find anywhere. The Good Computing Book for Beginners is an essential A-Z of all the facts you need to know about computing — and none you don't!

Whether you're brand new to computing, or an old hand keen to stay ahead, you'll score by keeping this classic, top-selling book within reach to use again and again.

The author, Dennis Jarrett, is a successful journalist who was also founder editor of Which Computer? magazine — so his first edition quickly became a standard work. Now this new, substantially enlarged and revised edition covers the latest trends, terms and technology with the relevant facts — and **ONLY** the relevant facts — in **plain English**.

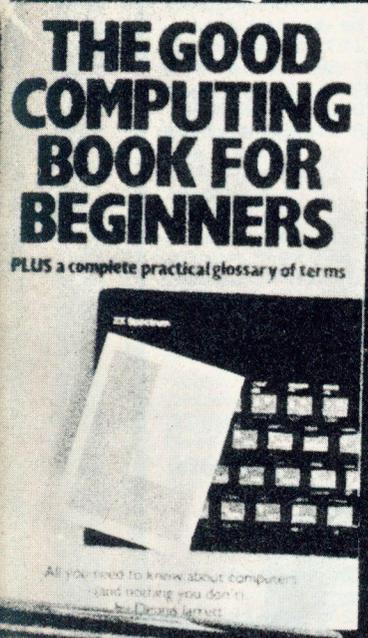
Here's another fact you'll find fascinating: it will only cost you £2.95!

Use the coupon below to get your copy right away — or buy it soon from your bookshop. It's the **one** book you'll turn to again and again.

Please send me \_\_\_\_\_ copy(ies) of The Good Computing Book for Beginners by Dennis Jarrett at £2.95 each plus 50p post and packing. I enclose a cheque for \_\_\_\_\_  
account Visa/Access/Diners/Amex number \_\_\_\_\_ / Please debit my credit card

Signature \_\_\_\_\_  
Name \_\_\_\_\_  
Address \_\_\_\_\_

Send to: ECC PUBLICATIONS LIMITED  
196-200 Balls Pond Road  
London N1 4AQ  
(please print clearly)



**CHESHIRE**

**FAIRHURST INSTRUMENTS**

Complete range of BBC equipment including Econets, Printers, Plotters, Colour Monitors, Graphic Tablets, Upgrades, Disc Drives, Disc Controller chips, Torch Computers, Z80 Discpack. Extensive range of Software. Free expert advice.

Dean Court, Woodford, Wilmslow, Cheshire Tel: 0625 533741

**HUMBERSIDE**

Everything for the BBC Microcomputer — Your local dealer

**MICROSERVE (HUMBERSIDE) LTD**  
39 Oswald Road, Scunthorpe, South Humberside DM15 7PN  
Tel: 0724 849696

SPECIALISTS IN MICROCOMPUTER NETWORKS

**SHETLAND ISLES**

We stock a wide range of software books and peripherals



Local service and northern mail order centre

20 Commercial Road, Lerwick, Shetland (0595) 2145  
BBC

**DEVON**

**COMPUTERLAND (A & D COMPUTERS)**

BBC Micros, Disc Drives, Printers, Cumana Drives, Microvitec Monitors. Software by Acorn, Gemini, Program Power. Bugbyte Software for all etc.

6 City Arcade, Fore Street, Exeter. TEL: 77117

**HERTFORDSHIRE**

**STEVENAGE**

Computers for home and business.  
• Disc Drive/Upgrades • Printers • Monitors • Business Packages • Games • Service Contracts

**Q-TEK SYSTEMS**

119 High St, Old Town Stevenage. Tel: 0433 60011



**SUFFOLK**

**Suffolk Computer Centre**

BBC Microcomputer Service & Information Centre  
Microcomputers • Disc Drives • Monitors Matrix & Daisywheel Printers • Joysticks Cassettes • Light Pens • Graphics Tablet Books & Software

3 Garland St., Bury St Edmunds. Telephone: 0284 - 705503  
Open: Mon - Sat 9 - 5.30

**ESSEX**

**ESTUARY HOME COMPUTER CENTRE**

Estuary Software Products now have BBC's in stock together with a wide range of software and accessories.

261 Victoria Ave., Southend-on-Sea.

Credit Card Holders may phone their orders (0702) 43558

**LEICESTERSHIRE**

**D. A. COMPUTERS LTD.**

Official BBC dealer and service centre. Everything you require for the BBC computer inc. Epson Printers, Selection of Disc Drives, P.L. Digitiser, Colour and Monochrome Monitors. Full range of games software and books.

104 LONDON ROAD, LEICESTER. TEL: (0533) 549407

**SURREY**

**THE COMPUTER SHOP**

J. S. Simnett Computers Ltd., official BBC dealer and service centre. Everything for the BBC and Torch Computers plus peripherals

91 Acre Road, Kingston-on-Thames, Surrey Tel: 01-549 0173  
ACCESS/BARCLAYCARD WELCOME

**SAFETY & SECURITY WITH THE NEW TIDYBASE MICROCOMPUTER HOUSING**



Designed around the BBC model B but suitable for various models.

For School, College, home and business use this compact housing offers special safety and security features. Made up of individual modules—available separately — if you already own the original Tidybase you can upgrade it.

With the processor 'locked' in place; plugs and sockets inaccessible there is little opportunity for tampering or pilfering.

- Optional and unique security bar locks equipment in place.
- 3 or 4 way socket accommodates monitor, processor, drive, printer etc. One external lead only for mains input — no multi-plugging, no adaptors.
- Strong metal construction with safety edges, stoved finished Brown or Cream.

- All individual modules interlock to provide complete housing.
- Alternative housings for various disk drives available.
- Optional trolley for ease of movement or unlock and carry the system.



**remedian**

For full details  
REMEDIAN INSTRUMENTS LIMITED  
3 Over Links Drive, Poole, Dorset BH14 9QU  
Tel: Canford Cliffs (0202) 708404

**CARRYING CASE FOR BBC & TAPE/DISK UNIT**

Made of highly durable, extremely rugged ABS material. Briefcase style construction. Moulded compartments to house units. Lid detaches for use as TV/Monitor stand. £29.95p.

**EXTRON SOFTWARE**  
99 WESTGATE, GRANTHAM, LINCS.  
TEL: (0476) 70907

**ORDER COUPON**

**3 ISSUES OF ADVERTISING FOR ONLY £30**  
**3 FOR 2 OFFER**

PLEASE PLACE A BOX IN YOUR DEALER ACORN PROGRAMS

NAME.....

ADDRESS .....

CHEQUE/PO ENCLOSED FOR £30

**BBC 32K**  
All operating system.

# 747 FLIGHT SIMULATOR

"THE BEST SIMULATION AROUND,  
A MUST FOR ALL BUDDING PILOTS", PCN

from DOCTOR SOFT,  
258 Coneygree Rd., Peterborough



Pilot written, instruments and 3D visual runway view (Heathrow, Gatwick). Banks and pitches with realistic motion. Now with full Instrument Landing System (ILS). Briefing program, charts, notes and flight plan. Fantastic!  
ONLY £8.95 inc. VAT & P&P. Joystick control option in 4 program package.

\* Available from  
W.H. SMITH  
JOHN MENZIES AND ALL LEADING DEALERS  
\* Direct mail order  
\* Micronet 800 (Prestel)

**DISC VERSION NOW AVAILABLE £11.95**

**DEALERS CONTACT (0903) 206076**  
**GENEROUS ROYALTIES PAID FOR GOOD MATERIAL**

## 3 DOUBLE ACTS FOR CHRISTMAS

- Spook, Spook (MUNCHER: 20 mazes, 3 skills, Hall of Fame/GHOST MINE: dig for gold, watch for ghosts & snake) £6.95
- Space, Space (WOLKPACK III: amazing colour graphics, 3 ships, 4 galaxies, aliens galore!/MISSION ALPHA: 3D & music) £6.95
- Spy, Spy (KREMLIN: escape from 3D maze in Kremlin/BONDSKI: lethal action on ski slopes!) £6.95

## GAMES DISC PACKAGE

- Muncher, Ghost Mine, Misson Alpha, Kremlin, Bondski & Fireman (the building burns, the people jump, the helicopter bombs?!) £15.95
- EDUCATIONAL,  COLOUR-SHAPE MATCH (2-4 yr old) £5.95 cass.  747 SIMULATOR £8.95  DISC VERSION £11.95

- WORD PERFECT (Friendly & versatile full facility 40 80 column word processor £8.95 + £2.95 Disc version)
- TALKING TABLES TEACHER (Speaks when speech ROM fitted, teaches multiplication with games & questions) £6.95 (cassette)
- FAMILY DISC PACKAGE: Tables Teacher, Colour Shape Match, Harmony, Home Office & Word Perfect £15.95

ROYALTIES... DOC PAYS THE BEST FOR THE BEST!!



**DOCTOR SOFT**  
ADVANCED SOFTWARE



All prices include VAT & P&P. Cheque or PO to:  
"Doctor Soft", 258 Coneygree Road, Peterborough PE2 8LR

NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_

EDUCATIONAL ACTION

## THE BEST RANGE of SOFTWARE for HOME MICROS

Also  
**VIDEO  
GAMES**  
for ATARI  
COLECO  
INTELLIVISION  
VECTREX

NOW IN STOCK:

Vast Number of Titles for  
ATARI 400/800 · SPECTRUM ZX 81 · APPLE  
BBC MICRO · VIC 20 · DRAGON · LYNX  
ORIC · TEXAS T199 · COMMODORE 64

**THE LARGEST SELECTION  
OF GAMES IN THE WORLD**

**GAMES  
CENTRE**

Branches: BRIGHTON 52 Western Road  
NOTTINGHAM 31 Lister Gate  
BIRMINGHAM 141 New Street  
BOURNEMOUTH 60 Commercial Road  
BRISTOL 15 Broadmead LONDON 22 Oxford Street

Send NOW for  
**FREE  
MAIL  
ORDER  
CATALOGUE**

Main Computer & Mail Order Branch:

**22k Oxford St · London W1A 2LS**

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_



1/84

## MAIL ORDER ADVERTISING British Code of Advertising Practice

Advertisements in this publication are required to conform to the British Code of Advertising Practice. In respect of mail order advertisements where money is paid in advance, the code requires advertisers to fulfil orders within 28 days, unless a longer delivery period is stated. Where goods are returned undamaged within seven days, the purchaser's money must be refunded. Please retain proof of postage/despatch, as this may be needed.

### Mail Order Protection Scheme

If you order goods from Mail Order advertisements in this magazine and pay by post in advance of delivery, *Sinclair User* will consider you for compensation if the Advertiser should become insolvent or bankrupt, provided:

- (1) You have not received the goods or had your money returned; and
- (2) You write to the Publisher of *Sinclair User* summarizing the situation not earlier than 28 days from the day you sent your order and not later than two months from that day.

Please do not wait until the last moment to inform us. When you do write, we will tell you how to make your claim and what evidence of payment is required.

We guarantee to meet claims from readers in accordance with the above procedure as soon as possible after the Advertiser has been declared bankrupt or insolvent (up to a limit of £4,250 per annum for any one Advertiser so affected and up to £10,000 per annum in respect of all insolvent Advertisers. Claims may be paid for higher amounts, or when the above procedure has not been complied with at the discretion of *Sinclair User*, but we do not guarantee to do so in view of the need to set some limit to this commitment and to learn quickly of readers' difficulties).

This guarantee covers only advance payment sent in direct response to an advertisement in this magazine (not, for example, payment made in response to catalogues etc, received as a result of answering such advertisements). Classified advertisements are excluded.

# GAME TO EARN £1,000?



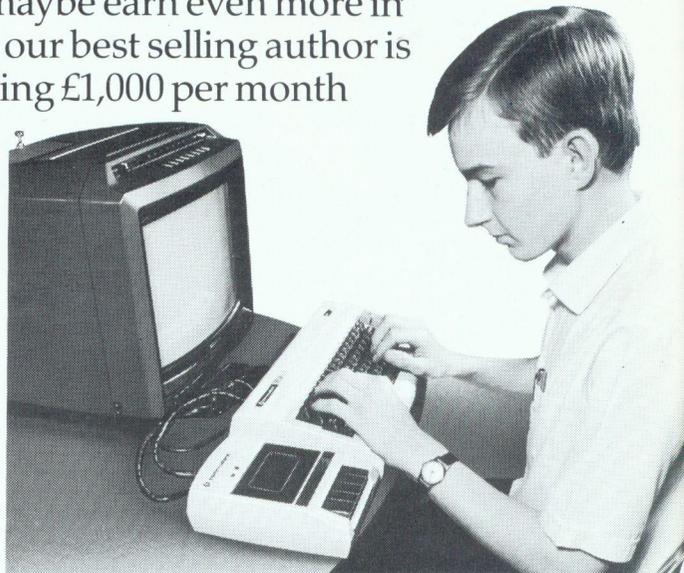
Just one good marketable game, educational or strategic simulation program could earn you, as author, up to £1,000 as a lump sum if you sell the rights in it to Logic 3 – Britain's fastest-growing company in home computer software.

Or keep the copyright, take a royalty on sales, and maybe earn even more in the long run – our best selling author is currently earning £1,000 per month in royalties.

Logic 3 is now looking for new high quality entertainment and educational software products to run on the leading home computers – particularly Sinclair Spectrum, Commodore 64, Acorn Electron and Dragon.

Write or phone Andrew Goltz at Logic 3, Mountbatten House, Victoria Street, Windsor (07535-57181) to know more.

But soon.

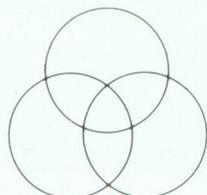


Or send the coupon for the Logic 3 software catalogue.

Name \_\_\_\_\_

Address \_\_\_\_\_  
\_\_\_\_\_

Type of computer \_\_\_\_\_

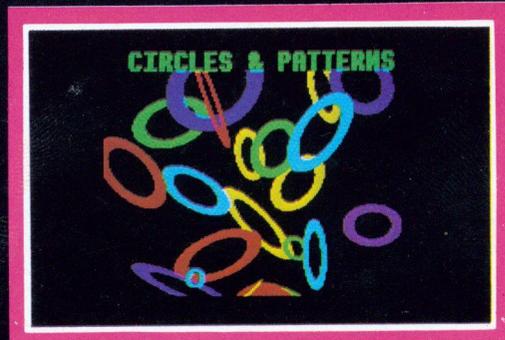
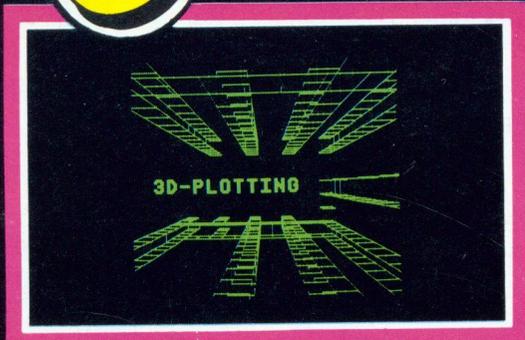


## LOGIC 3

THE KEY TO THE WORLD OF TOMORROW. Logic 3 Ltd., Mountbatten House, Victoria Street, Windsor SL4 1HE. Telephone: (07535) 57181

# Software for the BBC micro

# Graphics ROM



## The Graphic Extension ROM for the BBC Micro 32K

Our latest utility ROM includes over 28 new graphics related commands. These can be typed in like any normal commands and can of course, be included in BASIC programs. The commands are split into 3 distinct areas:-

1. **Sprite graphics**  
These are multi-coloured shapes up to 24 x 24 pixels in size.  
Once a sprite has been designed (using in-built routine) it can be plotted at any position on the screen and easily moved around. A sprite can also be part of a 'film' — a sequence of frames allowing animation. Up to 32 sprites or 'films' can be active on the screen at any time. A 'film' can contain up to 47 frames, each frame being any sprite image.
2. **LOGO 'turtle' graphics**  
By using simple FORWARD, BACKWARD, LEFT and RIGHT commands a 'turtle' can be moved very quickly around the screen, producing intricate patterns by the most user-friendly means. Including these commands in structured BBC BASIC programs provides a system faster and more powerful than many of the packages currently used to demonstrate the LOGO language.
3. The third section consists of a large number of general purpose commands, such as:-
  - ★FILL which will fill ANY area on screen.
  - Fast circle and arc drawing
  - 3D graphics routines allowing X, Y, Z co-ordinate plotting
  - Large character printing in a range of patterns
  - Scaling — allowing any part of the screen to be expanded or diminished
  - A rotate command that will rotate all plotting by any angle around the originBecause this is a ROM, all the commands are instantly available, and has a built-in help menu showing the syntax of all commands. Supplied with a comprehensive manual and step-by-step fitting instructions, suitable even for the inexperienced. This ROM represents extremely good value for money.

Available directly from us, mail order only, or from all good dealers  
£28.00 plus £1.00 p&p plus VAT

CASH OR ROYALTIES. We specialise in quality software for the BBC machine and can offer the best rates around. We are always interested in obtaining new programs to add to our range and offer either a cash payment for the outright purchase or alternatively pay a royalty on each one sold.

**COMPUTER  
ONCEPTS**



16 Wayside, Chipperfield, Herts WD4 9JJ. Telephone (09277) 69727