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February/March 1984

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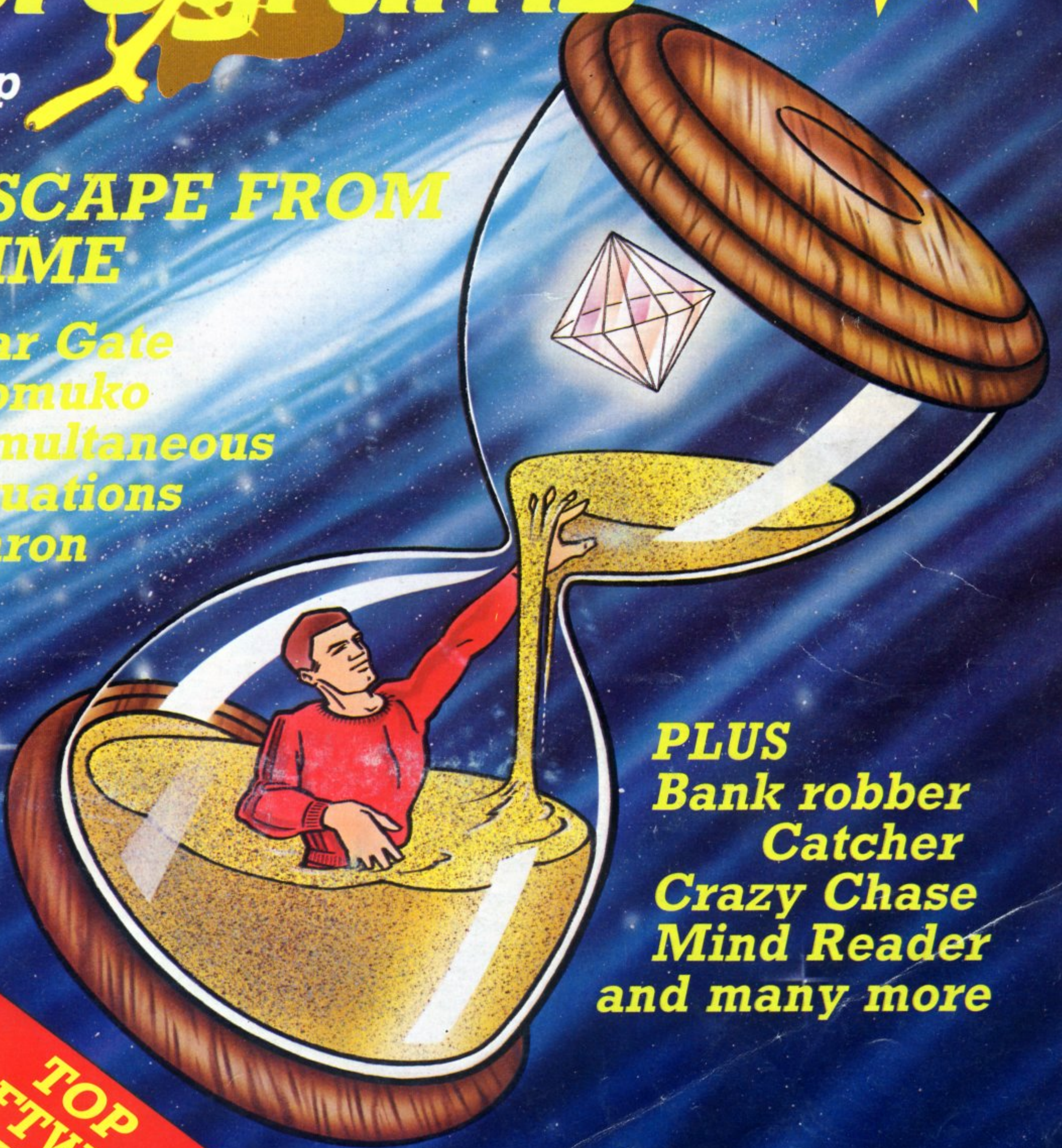
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BBC



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' 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, checkpoint 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



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(For use with KEYBOARD or JOYSTICKS).
"... very good indeed ... fast flicker-free graphics and a frog that really hops!" ... BEEBUG MAGAZINE

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Getting more adventurous on your machines

WELCOME 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
News	5
Softscope	7
Competition	15
BBC MODEL B	
Character Changer	8
Cycles	9
Gomuko	11
Cockles and Mussels	16
Cradle Song	16
Blow the man down	17
Z-Cars	17
Names	19
Star Gate	20
Baron	21
Hangman	22
Bank Robber	23
Escape From Time	25
Catcher	29
Scissors Paper Stone	31
Bingo	32
Solitaire	34
Worms	36
Simultaneous Equations	38
Crazy Chase	38
Mind Reader	39
Illusion	41
Base	43
Boxes	44
Language Tester	47

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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.

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ACORN
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SPACE ADVENTURE "Graphics, colour and sound are superb. The only problem I had was prising my friends away from it." (HomeCompWkly) "A thoroughly enjoyable game... I would strongly recommend it." (PersCompToday) A graphic adventure on a drifting spaceship. You must find the 4 power crystals - but there are many different androids protecting the ship. Amazing graphics: 90 rooms: 3 skill levels: 10 command keys: 8-way movement: JOYSTICKS O.K. (Virgin) £7.95

3D DEEP SPACE WITH FREE 3D GLASSES "Not just a game with a new gimmick it's also a classic game in its own right." (Comp&VideoGames) The first ever true 3D. It is pretty amazing. You are defending a Stargate which leads to Earth. To destroy the enemy you must move IN and OUT as well as normal 2D moves! (Postern) £7.95

TRENCH Probably the least exciting name we've heard for one of the most exciting games we've played. Remember the end of 'RETURN OF THE JEDI'? Well, how about flying your Beeb/X-Wing Fighter down the 3D Trench towards the Death Star-style target, dodging the tie-fighters as they attack. 9 skill levels: sensational graphics. Joysticks O.K. (Clare, too) (Virgin) £7.95.

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DOGFIGHT "The most original and entertaining program I have seen for a long time... the graphics and sound effects are excellent." (HomeCompWkly) "An impressive choice of options and difficulty levels." (AcornUser) You won't believe the fantastic music on this program - long before you get to the World War 1 air battle. Choose your plans and fight your friends(?) to the death. 8 difficulty levels: amazing options. Get it for the graphics and music: play it for the sheer skill! Raves everywhere. Joysticks O.K. (Opus) £9.95

ROADRUNNER "The graphics are excellent and sound is used effectively... I enjoyed the game very much." (HomeCompWkly) Race around a racetrack instead of the Galaxy! Very superior graphics and amazing sound. Avoid the cars and obstacles and collect points for checkpoints. 6 skill levels: bonuses: Hall of Fame with name: very catching. (Superior) £7.95.

747 FLIGHT SIMULATOR "The best flight simulator around that runs on the Beeb... a must for all budding pilots." (PersCompNews) By Captain Roger Selby of British Airways. You're in charge of a 747 which you may choose to land at either Heathrow or Gatwick. 11 control keys: clear instrument display: good runway view as you approach: 8-page on-screen flight briefing. The crashes are very realistic! No joysticks. (Dr Soft) £8.95

3D BOMB ALLEY This time it's a beautifully executed 3D simulation of an air-sea battle. All you have to do is defend your ships against air attack. Some of the best animated graphics we've ever seen on the BBC. JOYSTIX O.K. (Software Invasion) £7.95.

MICROBE ANOTHER BRAND-NEW GAME. A huge and monstrous alien is threatening Earth. You are in the alien's bloodstream and you must destroy it from within! Huge animated graphics: very fast: good destruction sequences! JOYSTIX O.K. (Virgin) £7.95

HUNCHBACK The object is to rescue Esmeralda from her tower. But you must jump over boulders hurled along the battlements, hurdle over arrows, and clear the spears of the guards. 3 skill levels. Superb graphics. 12 different screens, then it speeds up! Hall of Fame. JOYSTIX O.K. (Superior) £7.95

JOHNNY REB A new graphic battle game - NOT an adventure/arcade game. Fight out a struggle for a river crossing during the American Civil War. 1 or 2 players. Choose your side: equip your army: fight the battle: great battlefield display. Fight to the death or within time limits as you wish. (Lothlorien) £6.95

GREAT BRITAIN LTD "A brilliant new game." (Micro User) "About as complex as such a program can be... excellent value for money" (Which Micro?) Choose your party and run the country. Will unemployment come down or the rioters come out? Watch the results of your rule on election night. (Hessel) £5.95

KILLER GORILLA "A superb piece of programming" (Laserbug) "One of the most successful BBC games ever." (PopCompWkly) The very best of all the monkeys wandering around playing with your Beeb. Rescue the maiden crying 'HELP!'. Avoid rolling barrels, fireballs, iron beams. 4 screens on each level. Hi-score so far: 68,200. JOYSTIX O.K. (ProgramPower) £7.95

PIMANIA "This game can damage your brain." (PersCompGames) "An original and amusing game... worth the outlay." (PersCompNews) **AT PRESSTIME, YOU CAN STILL WIN THE £6,000 GOLDEN SUNDIAL** by solving this wonderfully witty adventure. Brilliant use of music and graphics. Wouldn't you like £6,000? (Automata) £10.00

PARAS New graphic battle game - NOT an adventure/arcade game. A gripping simulation of small-unit actions. Command 15 men: 10 possible actions on each move. 10 skill levels. 2-part game: secure your retreat, then destroy the bridge. (Lothlorien) £6.95

BUSINESS SOFTWARE

Our catalogue has details of the GEMINI programs, which we reckon are the easiest to understand and the safest to use - we do! **BEEBCALC, BEEBLOT, DATABASE** and **HOME ACCOUNTS** are £19.95 each. Each comes with a very helpful manual and a demo tape in a library case big enough to contain your own saved files too.

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.

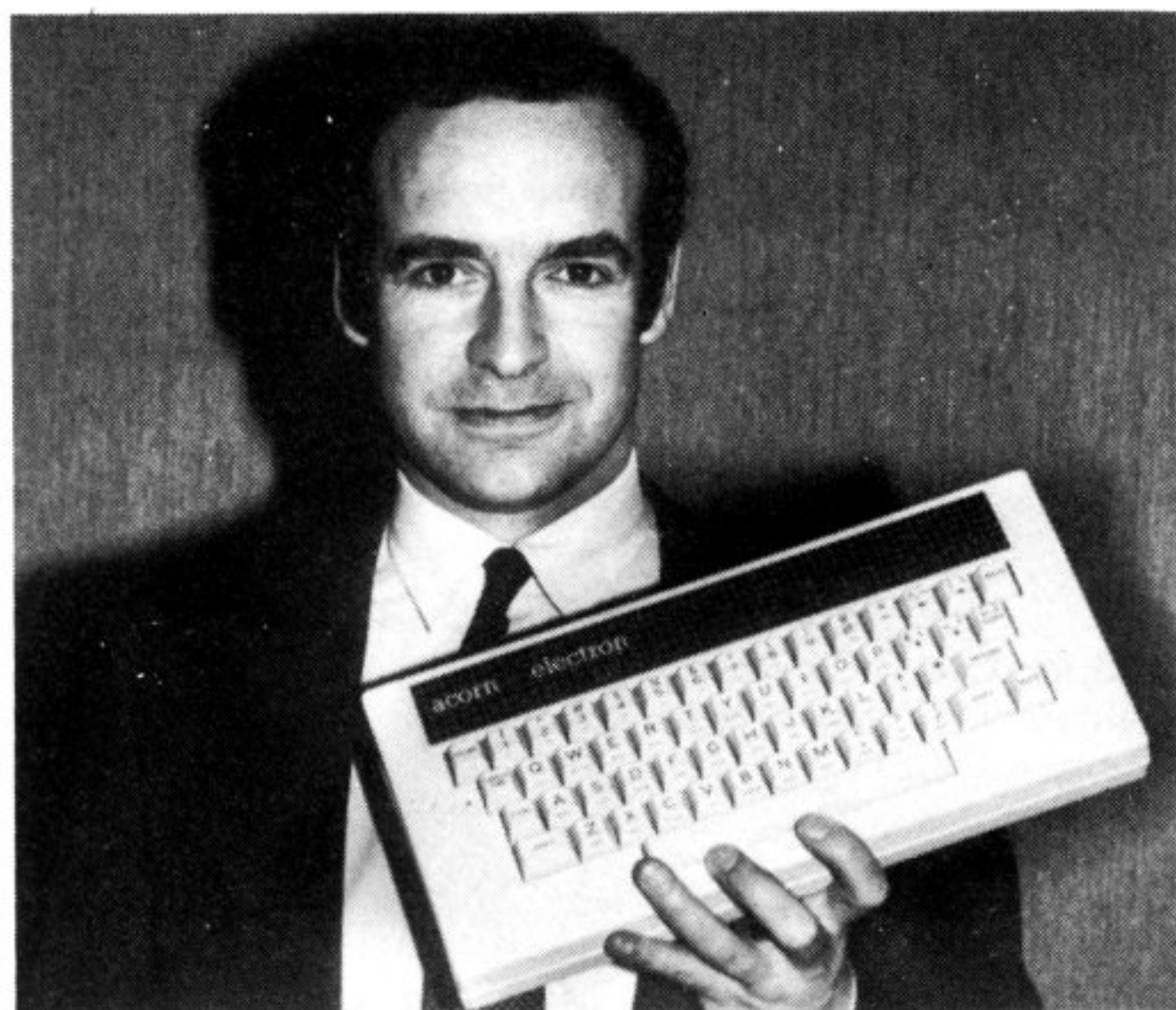
Acorn Computers is also negotiating with the People's Republic of China to sell Acorn computers there as well.

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.

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

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BBC/B GAMES

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Pointless use of the third dimension

THREE 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

PLAY 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.

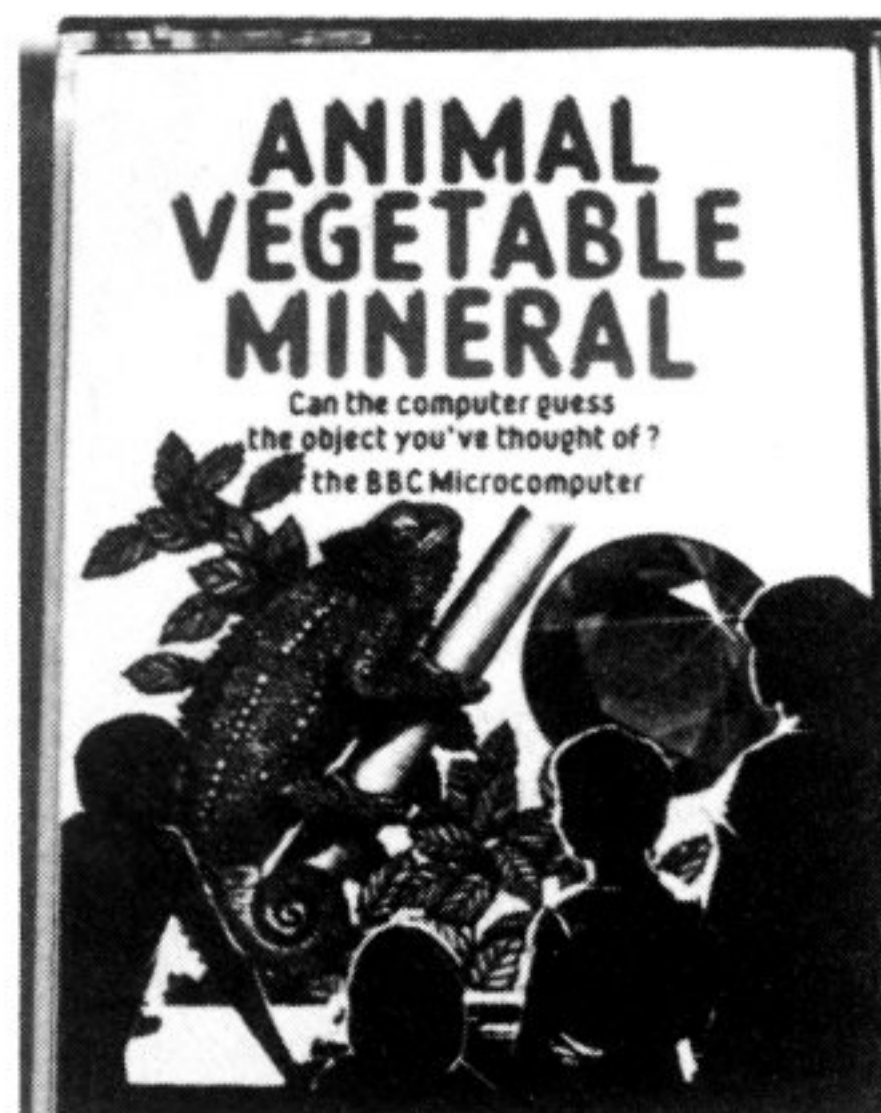
The game sounds fast and furious

Child quiz boosts reference book use

THIS 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

YOU 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 stomp 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

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

CHARACTER 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
PINALL
30 MODE 4
40 PRINT " CHARACTER HANDLI
NG"
50 PRINT " -----
--"
60 PRINT
70 PRINT "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
)."
80 PRINT "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."
90 PRINT
100 PRINT "IF YOU WANT THE CHR S
ET PRINTED THEN PRESS Q OTHER
WISE PRESS SPACE BAR."
110 A$=GET$
120 IF A$<>"Q" THEN 190
130 CLS
140 PRINT "CHARACTER SET"
150 FOR F%=227 TO 255
160 PRINT " ");CHR$(F%); " ";F%
170 NEXT F%
180 STOP
190 REM ***** DESIGN A CHARAC
TER *****
200 MODE 4
210 VDU 23, 225, 255, 129, 129, 129, 1
29, 129, 129, 255
220 VDU 23, 226, 255, 255, 255, 255, 2
55, 255, 255, 255
230 DIM A$(8)
240 DIM B$(8)
250 DIM F$(8)
260 CLS
270 PRINT "CHARACTER GENERATOR
CHARACTER"
280 PRINT "-----
-----"

```

```

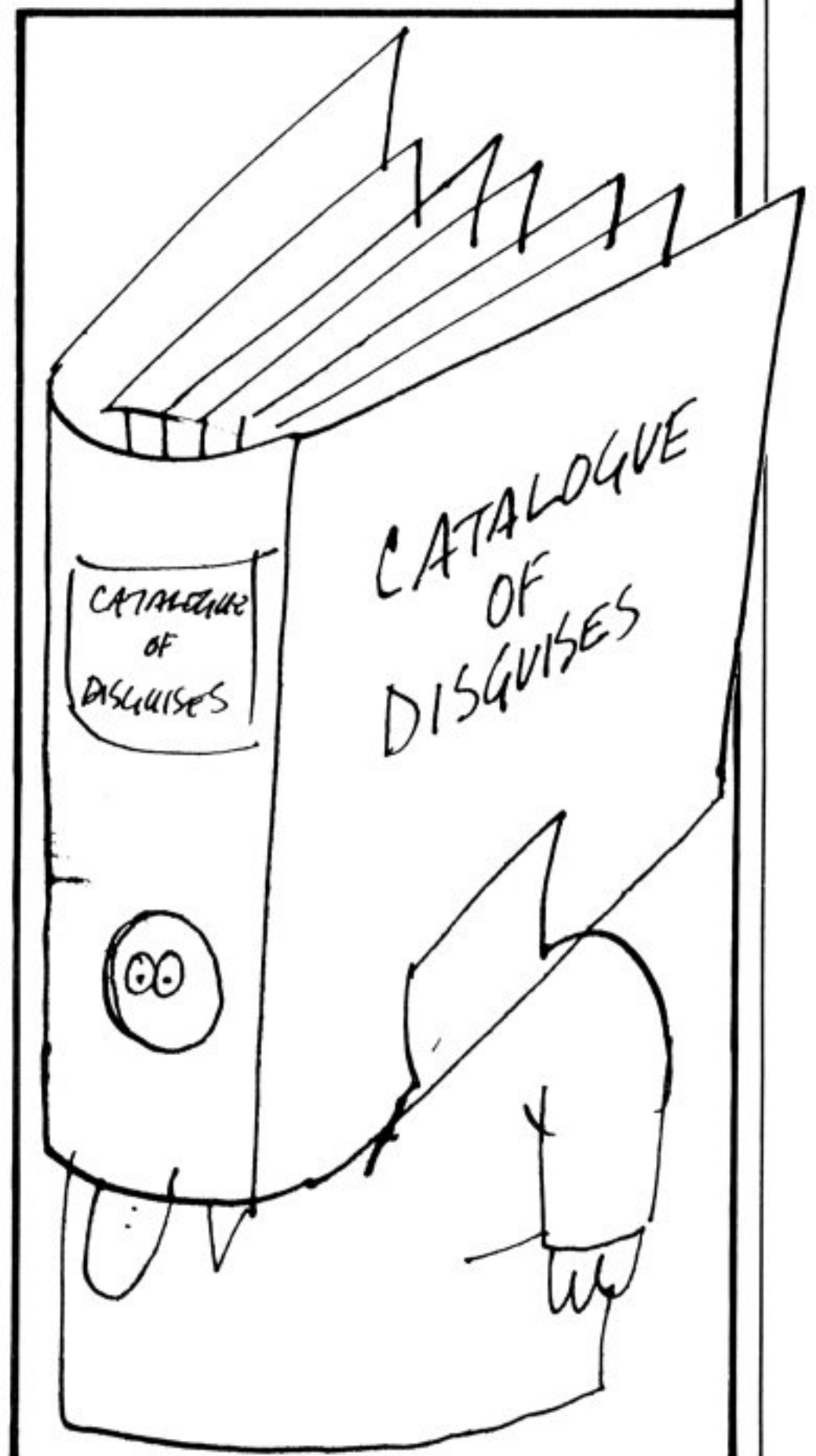
290 PRINT
300 FOR F%=1 TO 8
310 PRINT TAB(3);F%
320 VDU 225, 225, 225, 225, 225, 225
, 225, 225
330 PRINT
340 NEXT F%
350 A%(1)=145
360 A%(2)=175
370 A%(3)=205
380 A%(4)=240
390 A%(5)=275
400 A%(6)=305
410 A%(7)=340
420 A%(8)=365
430 B%(1)=910
440 B%(2)=880
450 B%(3)=840
460 B%(4)=810
470 B%(5)=780
480 B%(6)=750
490 B%(7)=720
500 B%(8)=690
510 FOR F%=1 TO 8
520 PRINT TAB(3+F%, 11);F%
530 NEXT F%
540 PRINT
550 PRINT "WHAT CHARACTER NUMBER
DO YOU WANT TO USE"
560 INPUT O%
570 IF O%<227 THEN GOTO 260
580 IF O%>254 THEN GOTO 260
590 PRINT TAB(22, 1);O%
600 PRINT TAB(0, 13);"
";
610 PRINT "
";
620 PRINT "
";
630 PRINT "
";
640 PRINT TAB(0, 13);"INPUT COORD
'S"
650 INPUT A, B
660 PRINT TAB(0, 15);"
";
670 PRINT TAB(0, 16);"
";
680 IF A=-1 THEN STOP
690 IF A<10 OR A>8 OR B<10 OR B>8 THEN PR
INT TAB(0, 14);"
";
700 IF A<10 OR A>8 OR B<10 OR B>8 THEN G
OTO 640
710 PRINT TAB(0, 15);
720 PRINT "DO YOU WANT TO DELETE
THAT SQUARE?"
730 INPUT A$
740 PRINT TAB(0, 16);"
";
750 IF A$="Y" THEN GOTO 790
760 PRINT TAB(B+3, 2+A);CHR$(226)
770 PROC DEFCHARC
780 GOTO 600
790 PRINT TAB(B+3, 2+A);CHR$(225)
800 PROC DEFCHARC
810 GOTO 600
820 DEF PROC DEFCHARC
830 FOR F%=1 TO 8
840 S(F%)=0
850 NEXT F%
860 FOR F%=1 TO 8
870 E=0
880 IF POINT(A%(1), B%(F%))=1 THEN

```

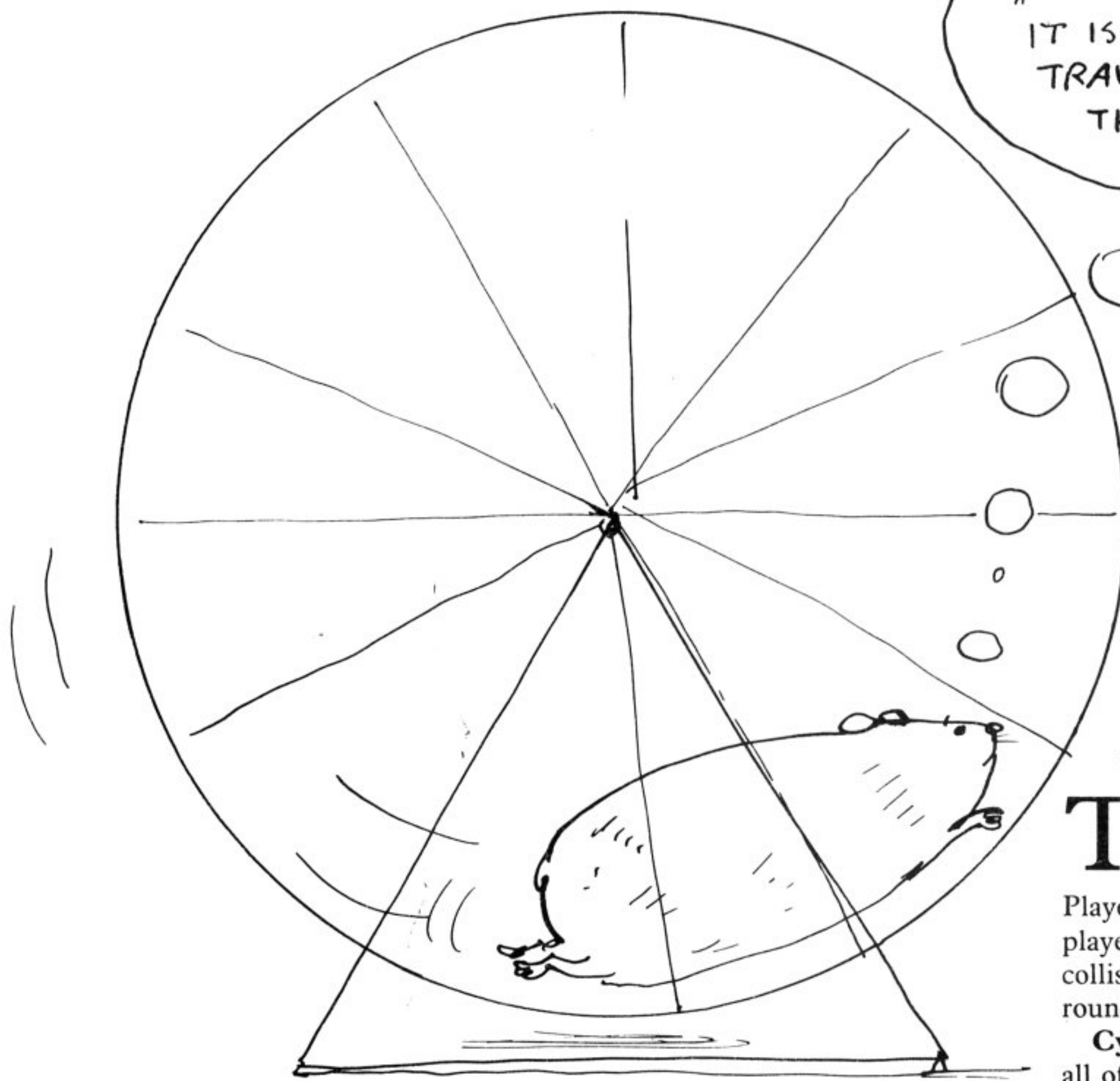
```

E=E+128
890 IF POINT(A%(2), B%(F%))=1 THEN
E=E+64
900 IF POINT(A%(3), B%(F%))=1 THEN
E=E+32
910 IF POINT(A%(4), B%(F%))=1 THEN
E=E+16
920 IF POINT(A%(5), B%(F%))=1 THEN
E=E+8
930 IF POINT(A%(6), B%(F%))=1 THEN
E=E+4
940 IF POINT(A%(7), B%(F%))=1 THEN
E=E+2
950 IF POINT(A%(8), B%(F%))=1 THEN
E=E+1
960 S(F%)=E
970 NEXT F%
980 VDU 23, 0%, S(1), S(2), S(3), S(4
), S(5), S(6), S(7), S(8)
990 PRINT TAB(32, 5);CHR$(O%)
1000 PRINT TAB(0, 22);"NO:- "
1010 FOR Y%=1 TO 8
1020 PRINT " ");S(Y%)
1030 NEXT Y%
1040 ENDPROC
1050 STOP
1060 PRINT TAB(10, 2);
1070 VDU 230, 231, 232
1080 A$=GET$
1090 VDU 235
1100 VDU 127, 11, 135, 127, 11, 135, 12
7, 8, 135, 127, 8, 135, 127, 8, 135, 127,
8, 135
1110 FOR F=1 TO 10: NEXT F
1120 GOTO 1110
1130 FOR F=7 TO 0 STEP -1
1140 MODE F
1150 VDU 230, 231, 232
1160 VDU 240, 241, 242
1170 A$=GET$
1180 NEXT F
1190 DRAW 1000, 1000
1200 VDU 19, 1, 0, 0, 0, 0
1210 A$=GET$
1220 VDU 19, 1, 1, 0, 0, 0

```



CYCLES



THE 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
20 ON ERROR GOTO 30
30 MODE4
40 CLS
50 PRINTTAB(17);"TRAPPER"
60 PRINTTAB(17);"-----"
70 PRINT
80 PRINT" by Simon AsPina
11."
90 PRINT"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 23,240,85,170,85,170,0
5,170,85,170
140 VDU 23,242,56,68,170,130,0
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 Q=0:P=0
200 CLS
210 Q%=0:W%=1:A%=0:S%=-1
220 PRINTD#
230 FORF%=1TO25
240 PRINTCHR$(240);STRING$(37,
" ");CHR$(240)
250 NEXTF%
260 PRINTD#
270 X1=10:Y1=5:X2=X1:Y2=33
280 VDU 240,240,240,240:PRINT" PLA
YER 1 ";CHR$(242);" ";
290 VDU240,240,240,240,240:PRI
NT" PLAYER 2 ";CHR$(244);" ";
VDU 240,240,240
300 PRINT:VDU240,240,240:PRINT
" ";
310 VDU240,240,240,240,240:PRI
NT" ";VDU 240,240,
240
320 PRINT
330 PRINTD#
340 PRINTTAB(9,20);P
350 PRINTTAB(28,28);Q
360 PRINTTAB(Y1,X1);CHR$(241)
370 T=FNREADCH(Y1+W%,X1+Q%)
380 IF T<>32THEN PROC CRASH
390 X1=X1+Q%:Y1=Y1+W%
400 PRINTTAB(Y1,X1);CHR$(242)
410 IF INKEY(-66)=-1THENW%=-1:Q
%=0
420 IF INKEY(-51)=-1THENW%=1:Q%
=0
430 IF INKEY(-34)=-1THENQ%=-1:W
%=0
440 IF INKEY(-67)=-1THENQ%=1:W%
=0
450 PRINTTAB(Y2,X2);CHR$(243)
460 IF SK<>1THENPROCDELAY
470 PRINTTAB(Y2,X2);CHR$(243)
480 T=FNREADCH(Y2+S%,X2+Q%)
490 IF T<>32THEN PROC SMASH
500 X2=X2+Q%:Y2=Y2+S%
510 PRINTTAB(Y2,X2);CHR$(244)
520 IF INKEY(-38)=-1THENQ%=-1:A
%=0
530 IF INKEY(-56)=-1THEN S%=1:A%
=0
540 IF INKEY(-40)=-1THENQ%=-1:S
%=0
550 IF INKEY(-87)=-1THEN A%=1:S%
=0
560 GOTO360
570 DEF FNREADCH(X,Y)
580 LOCAL A%,LASTX,LASTY,C
590 LASTX=POS
600 LASTY=VPOS
610 VDU 31,X,Y
620 A%=135
630 C=USR(&FFF4)
640 C=C AND &FFFF
650 C=C DIV 2100
660 VDU 31,LASTX,LASTY
670 =C
680 DEF PROC CRASH
690 X1=X1-Q%:Y1=Y1-W%
700 Q=Q+1:PRINTTAB(28,28);Q
710 GOTO750
720 DEF PROC SMASH
730 X2=X2-A%:Y2=Y2-S%
740 P=P+1:PRINTTAB(9,20);P
750 PRINTTAB(8,30);"PRESS SPAC
E TO RESTART"
760 #FX15,0
770 G#=GET#:IF G#<>" "THEN770
780 GOTO200
790 DEF PROCDELAY
800 FORF=1TOSK*10:NEXTF
810 ENDPROC

```


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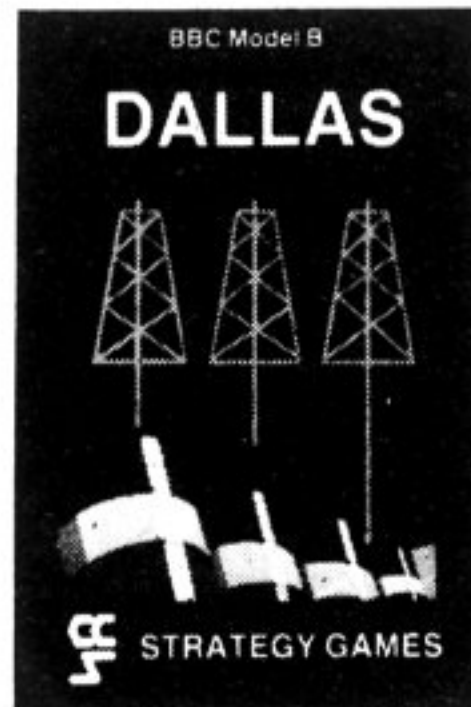
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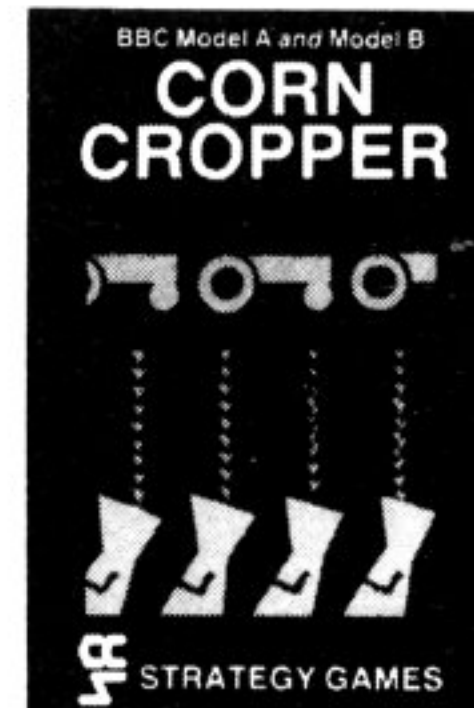
PLANE SAILING



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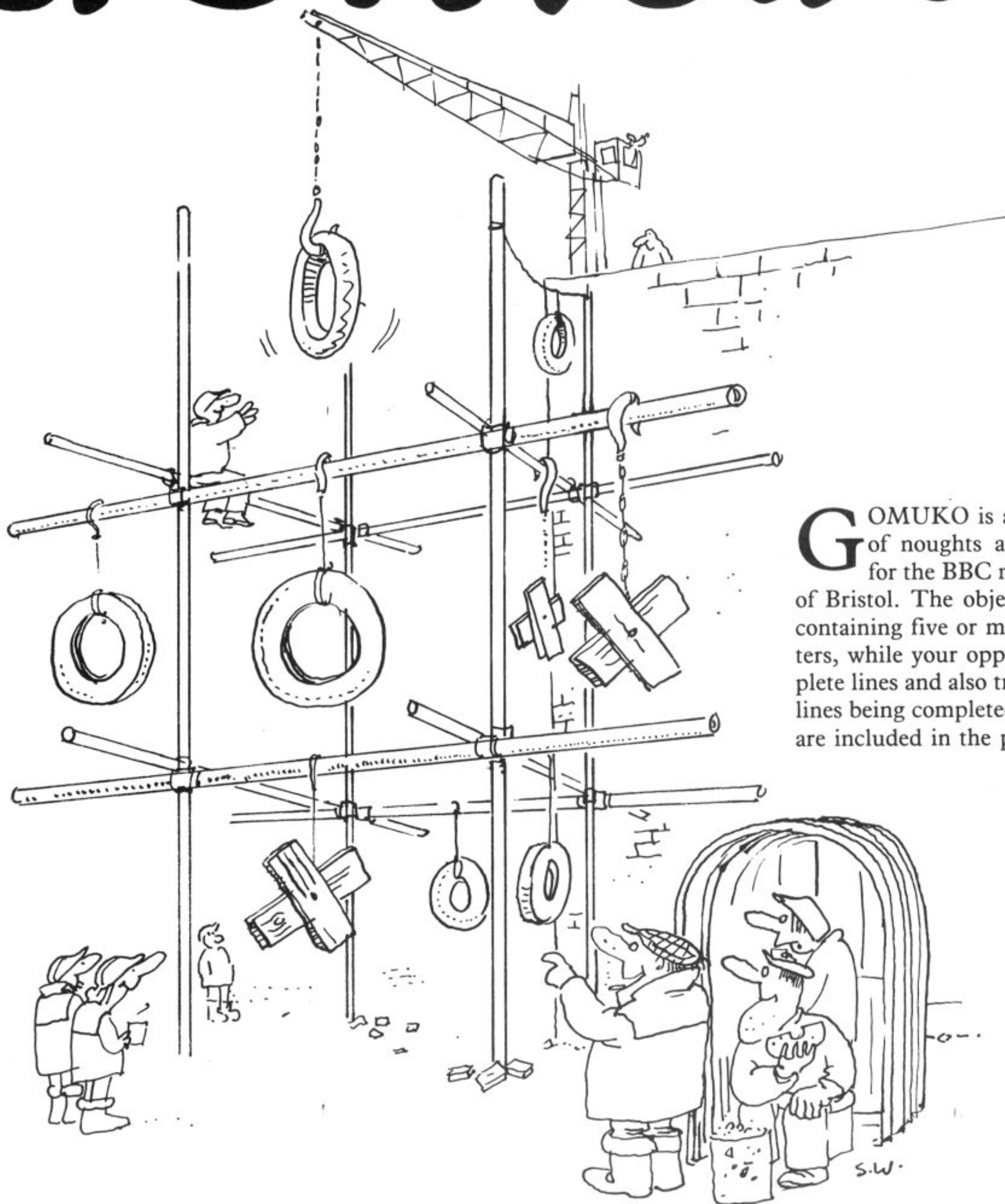


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GOMUKO



GOMUKO 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 " D 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(18,18): REM state of board
280xincr=48: yincr=48
290xbase=140: ybase=0
300offsx=24: offsy=16: ex=18
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
400PROCMKED(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 T%
1060IF A(Px+s9nx*T%,Py+s9ny*T%)
=plyr THEN T%=T%+1 ELSE GOTU 109
0
1070IF Px+s9nx*T%<0 OR Px+s9nx*
T%>19 THEN 1090
1080IF Py+s9ny*T%>-1 AND Py+s9n
y*T%<19 THEN 1060
1090tote=tote+T%
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

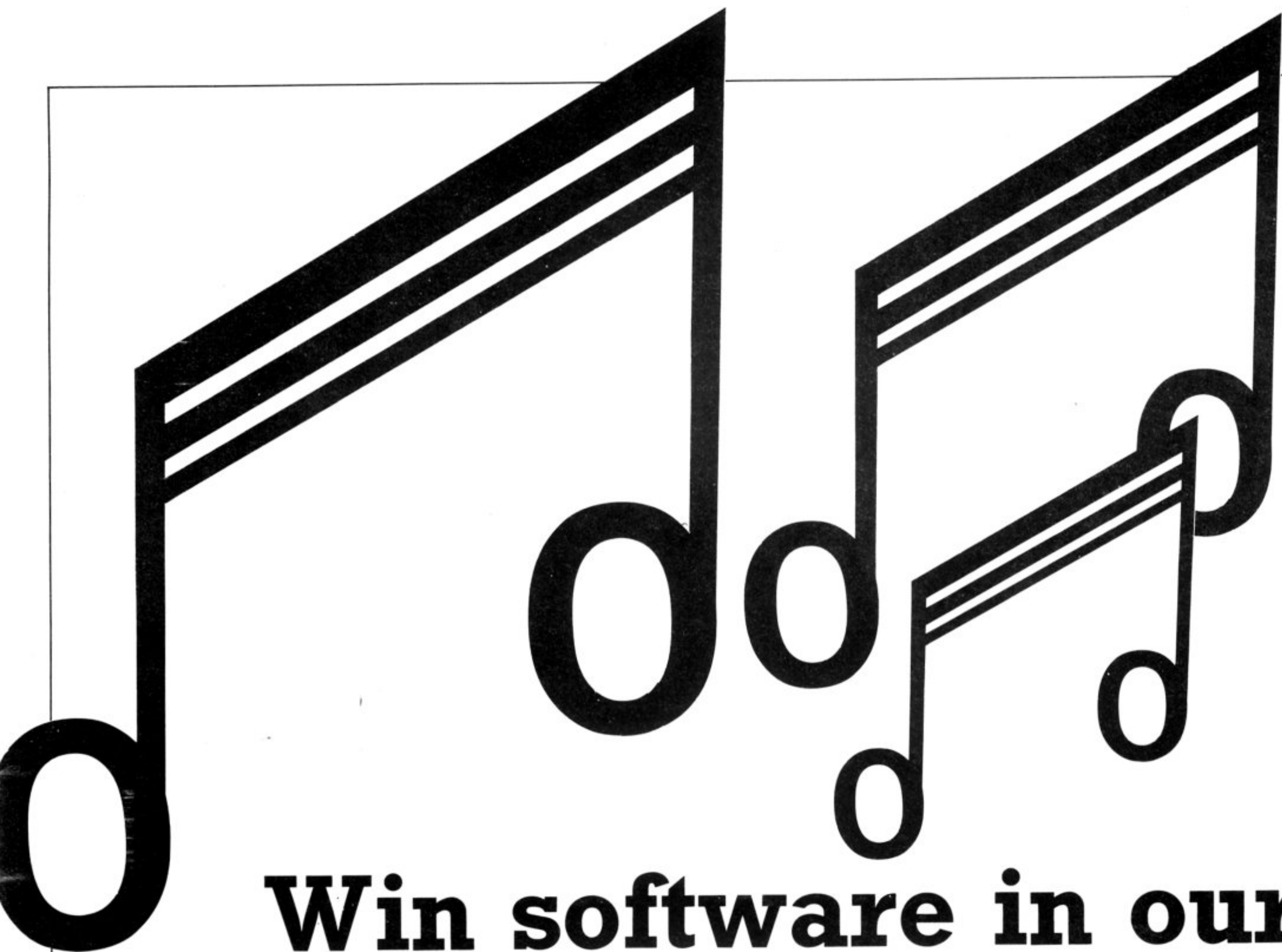
```


GOMUKO

```

1460ENDPROC
1470REM
1480REM"*****"
"*****"
1490REM XCURS,OCURS use MAKEX,M
AKEO
1500REM to Place and remove cur
sors
1510REM
1520DEFPROC CURSOR
1530IF plyr THEN PROCXCURS ELSE
PROCCURS
1540ENDPROC
1550REM
1560REM"*****"
"*****"
1570DEFPROCXCURS
1580PROCMAKEX(X1,Y1)
1590PROCMAKEX(X,Y)
1600ENDPROC
1610REM
1620REM"*****"
"*****"
1630DEFPROCMAKEX(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
1710PROCMAKEO(X1,Y1)
1720PROCMAKEO(X,Y)
1730ENDPROC
1740REM
1750REM"*****"
"*****"
1760DEFPROCMAKEO(X,Y)
1770GCOL 4,3
1780MOVE X-offsx,Y+offsy
1790VDU5: PRINT CHR$(241)
1800ENDPROC
1810REM
1820REM"*****"
"*****"
1830REM PROCX,PROCO fix marks t
o grid
1840REM
1850DEFPROCX
1860PROCMAKEX(X,Y)
1870GCOL 0,2
1880MOVE X+ex,Y+ex: DRAW X-ex,Y
-ex
1890REM
1900MOVE X+ex,Y-ex: DRAW X-ex,Y
+ex
1910PROCMAKEO(X,Y)
1920A(Px,Py)=1
1930ENDPROC
1940REM
1950REM"*****"
"*****"
1960DEFPROCO
1970PROCMAKEO(X,Y)
1980GCOL 0,2
1990MOVE X-offsx,Y+offsy
2000VDU5: PRINT CHR$(240)
2010PROCMAKEX(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
nchr*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.

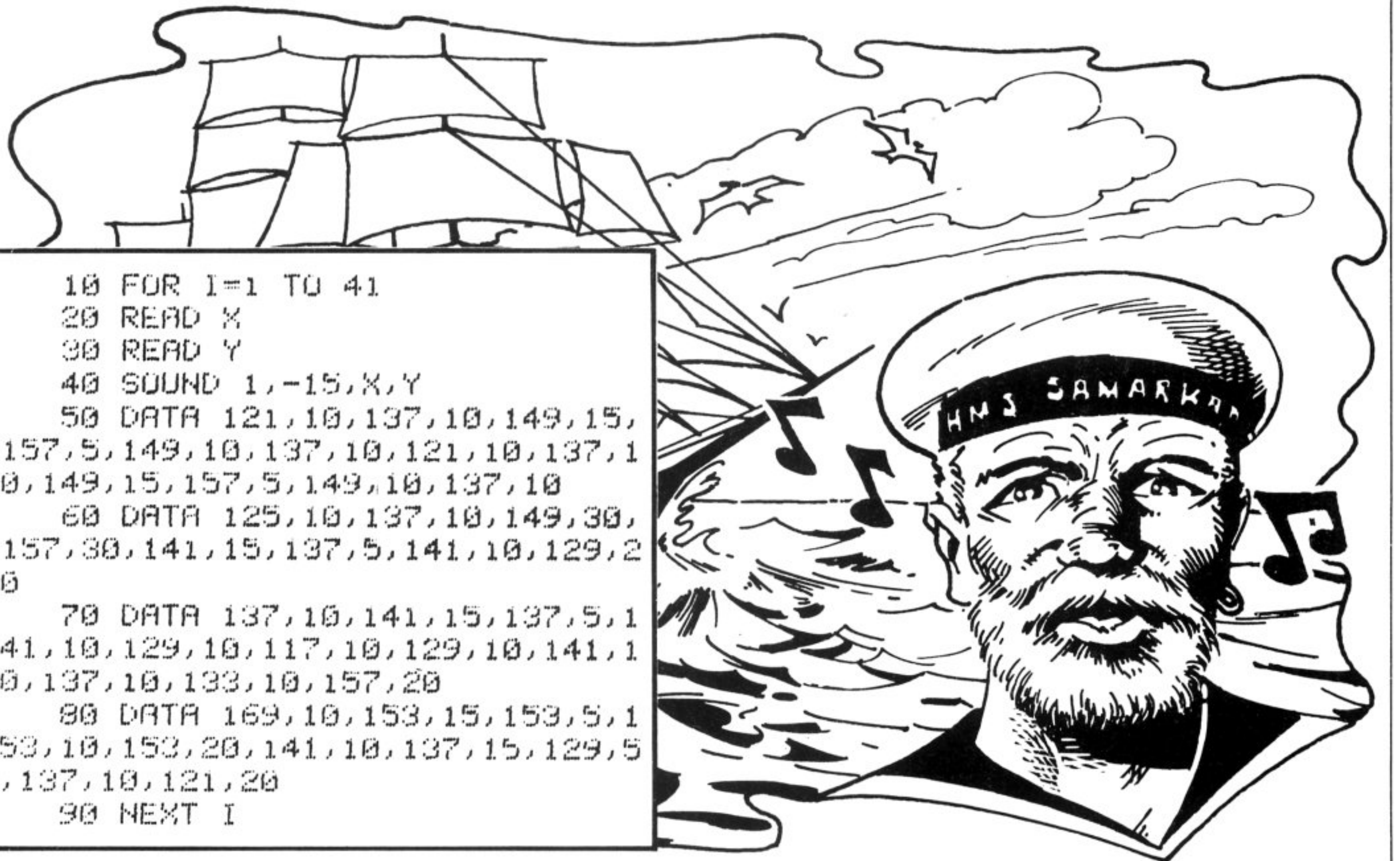
Complete the entry form below and send it, together with a recording of your program and a brief description of it, to the address on the form.

Name

Address

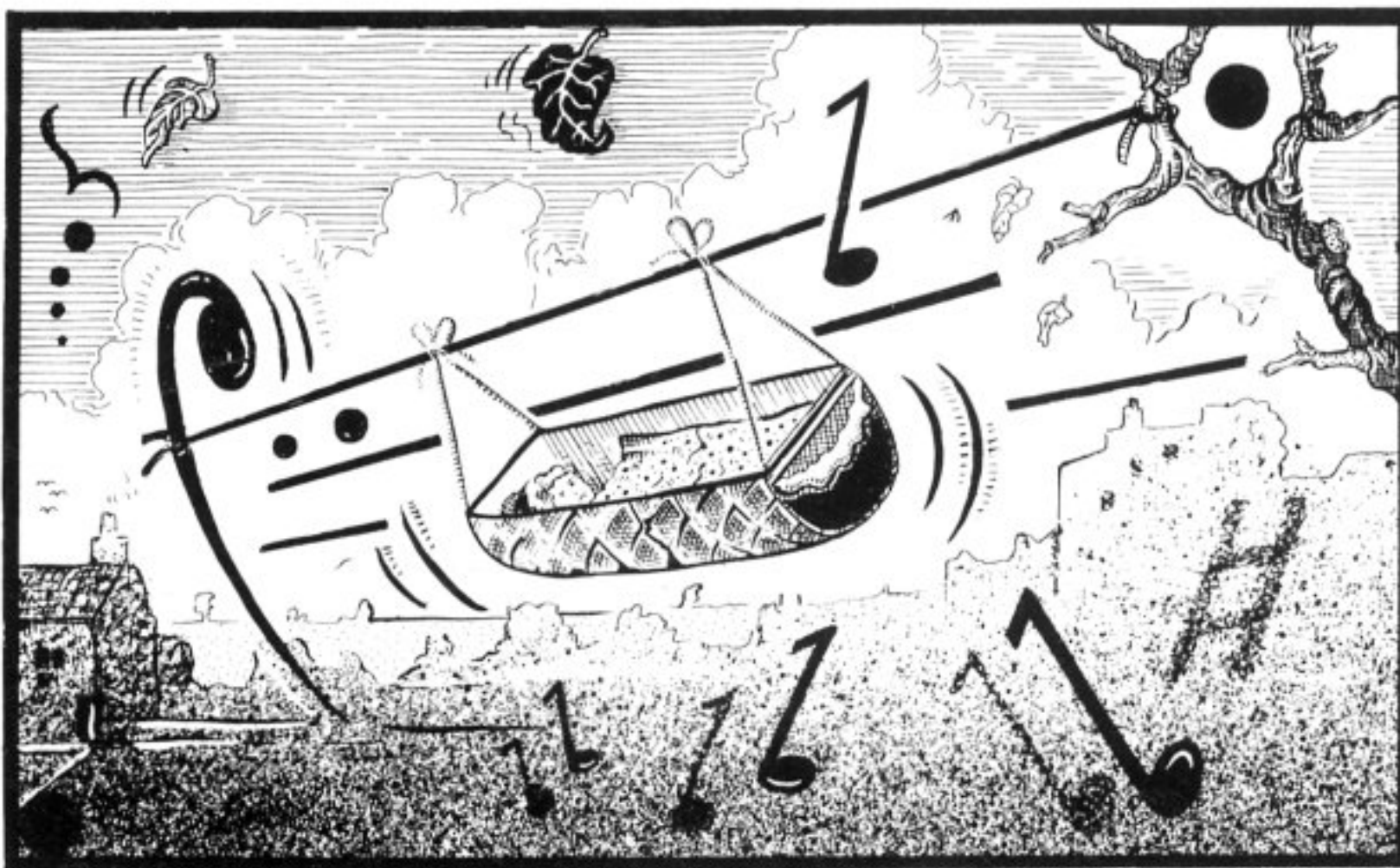
.....
 Send your entries, marked Music Competition; to
 Acorn Programs, 196-200 Balls Pond Road, London N1
 4AQ to arrive not later than March 28, 1984.

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
    
```



```

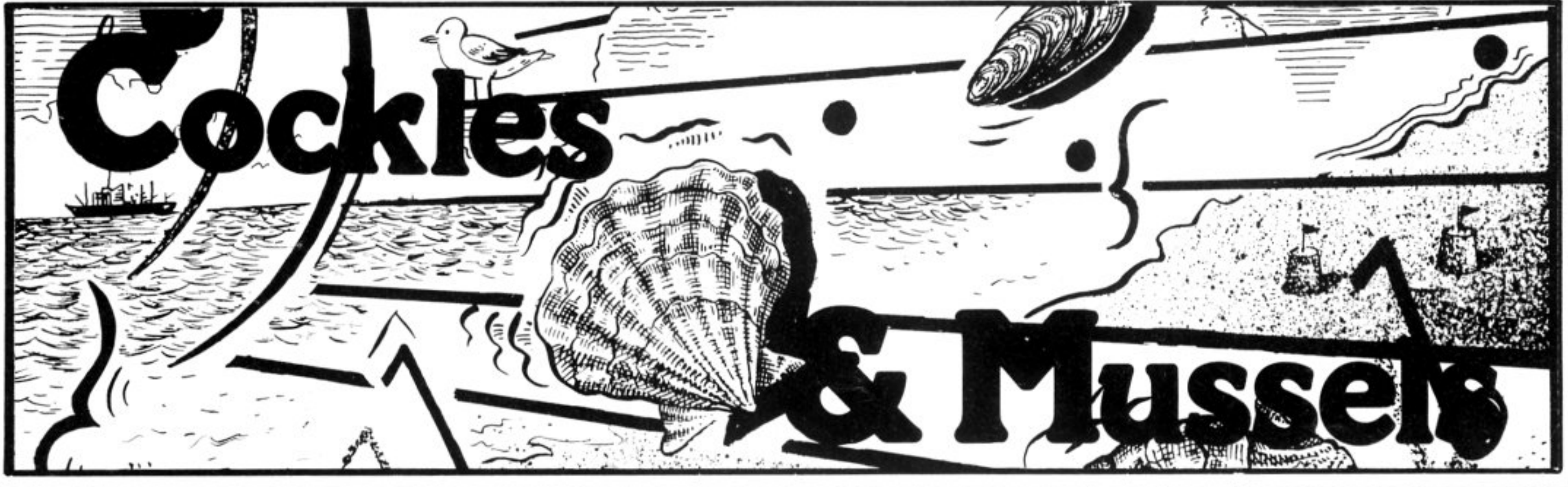
10 FOR I=1 TO 92
20 READ X
30 READ Y
40 SOUND 1,-15,X,Y
50 DATA 129,10,149,15,2000,1,
149,4,2000,1,149,10,2000,1,149,1
0,165,10,149,10,157,15,2000,1,15
7,5,2000,1,157,10,2000,1,157,10,
169,10,157,10,165,10,157,10,149,
10
60 DATA 177,10,169,10,165,10,
2000,1,165,10,157,15,149,5,157,2
0
70 DATA 129,5,2000,1,129,5,14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

```

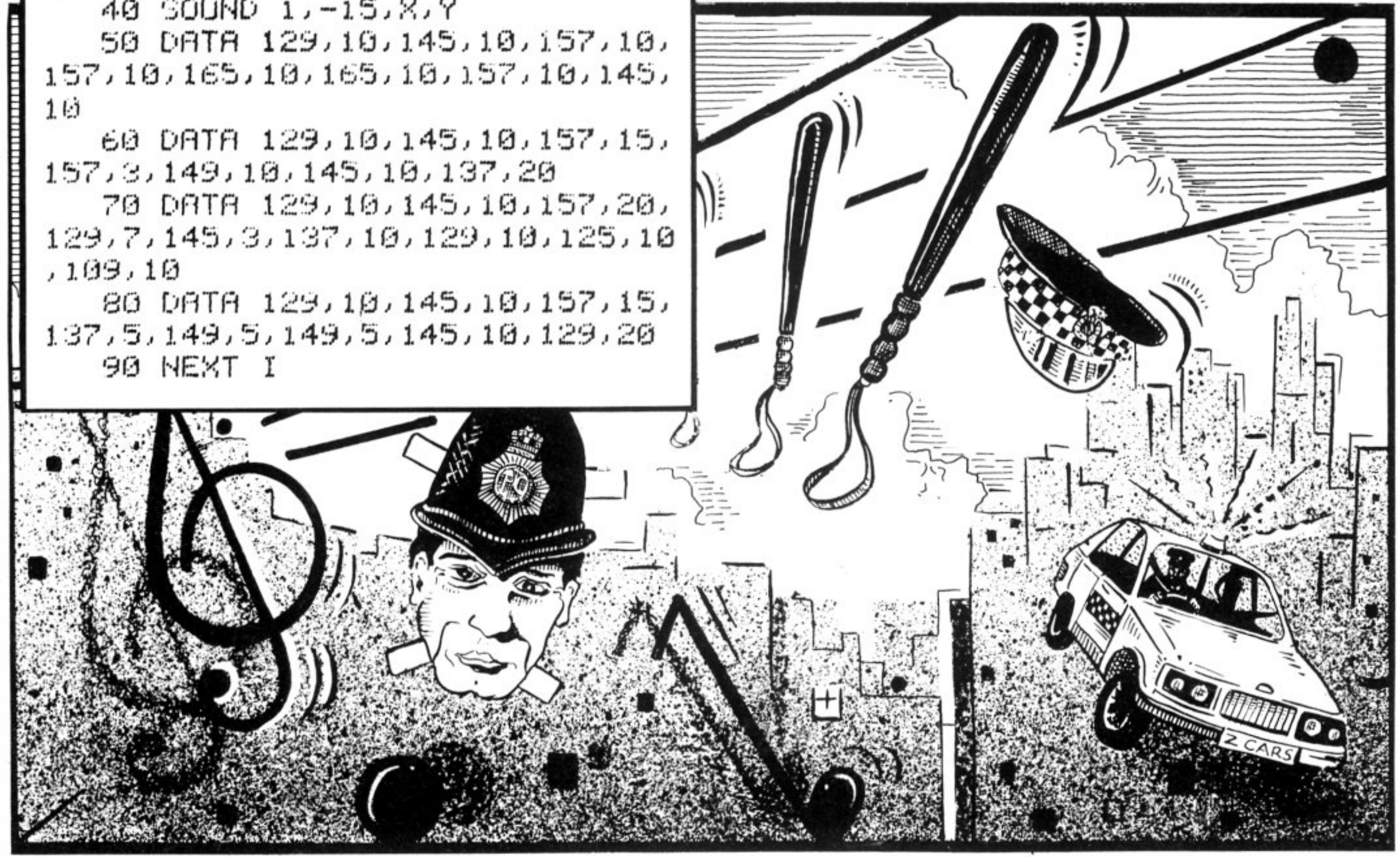


```

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

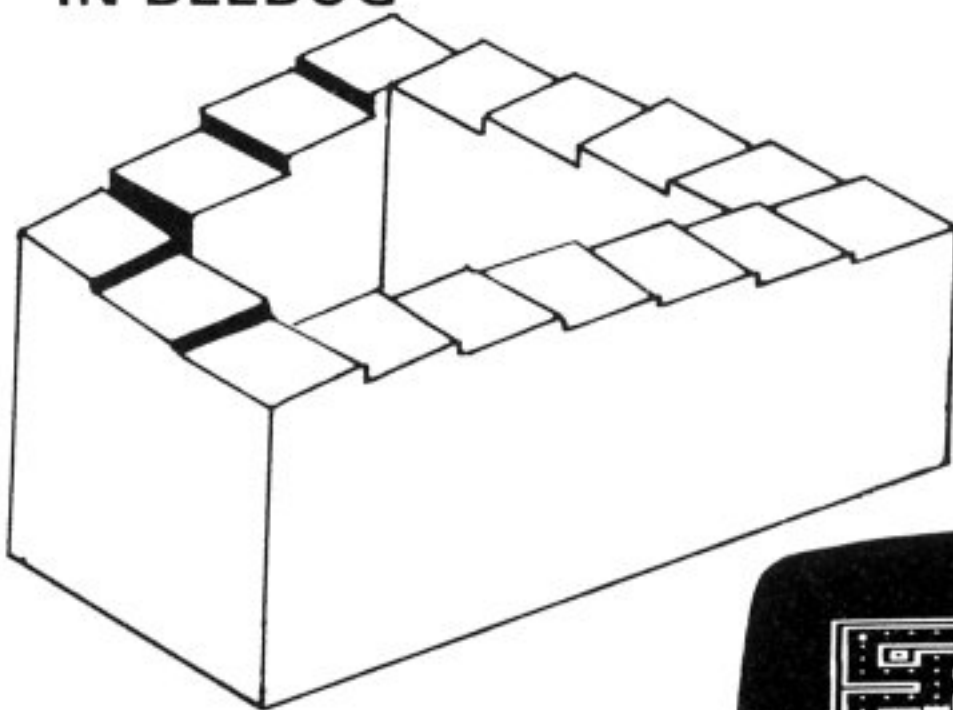
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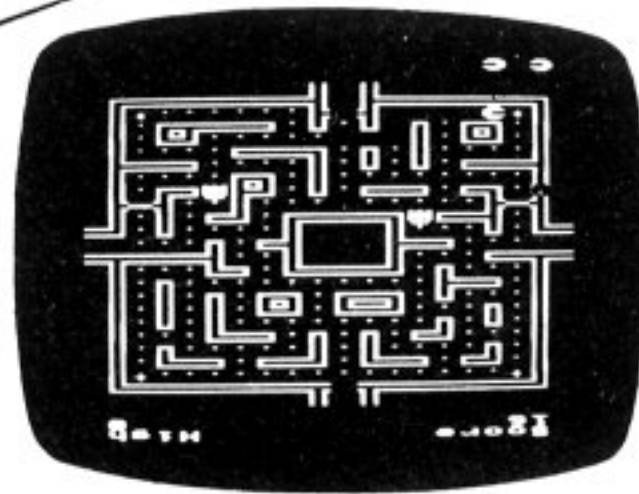
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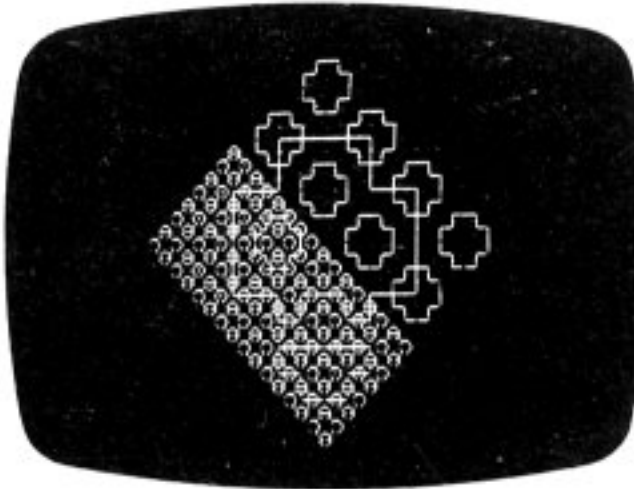


ILLUSIONS
OCT 1983

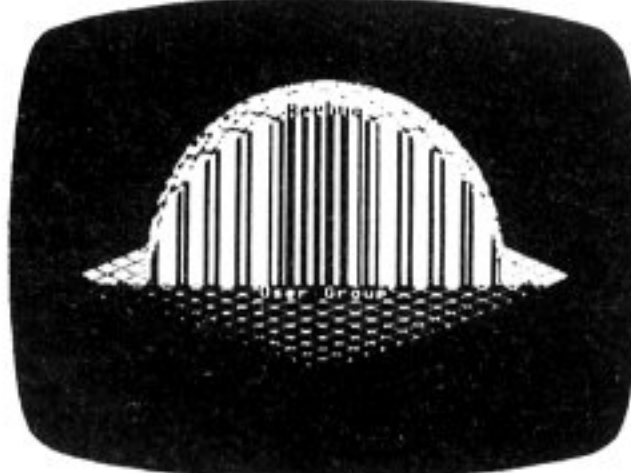
MUNCHMAN
OCT '83



SPIDERS WEB
AUGUST 1983



3D SURFACES
OCTOBER 83



GIANT SCREEN
CHARACTERS
AUG/SEPT 1983



ELIPTO 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" **REVIEWS of – 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 **Renumber** 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.

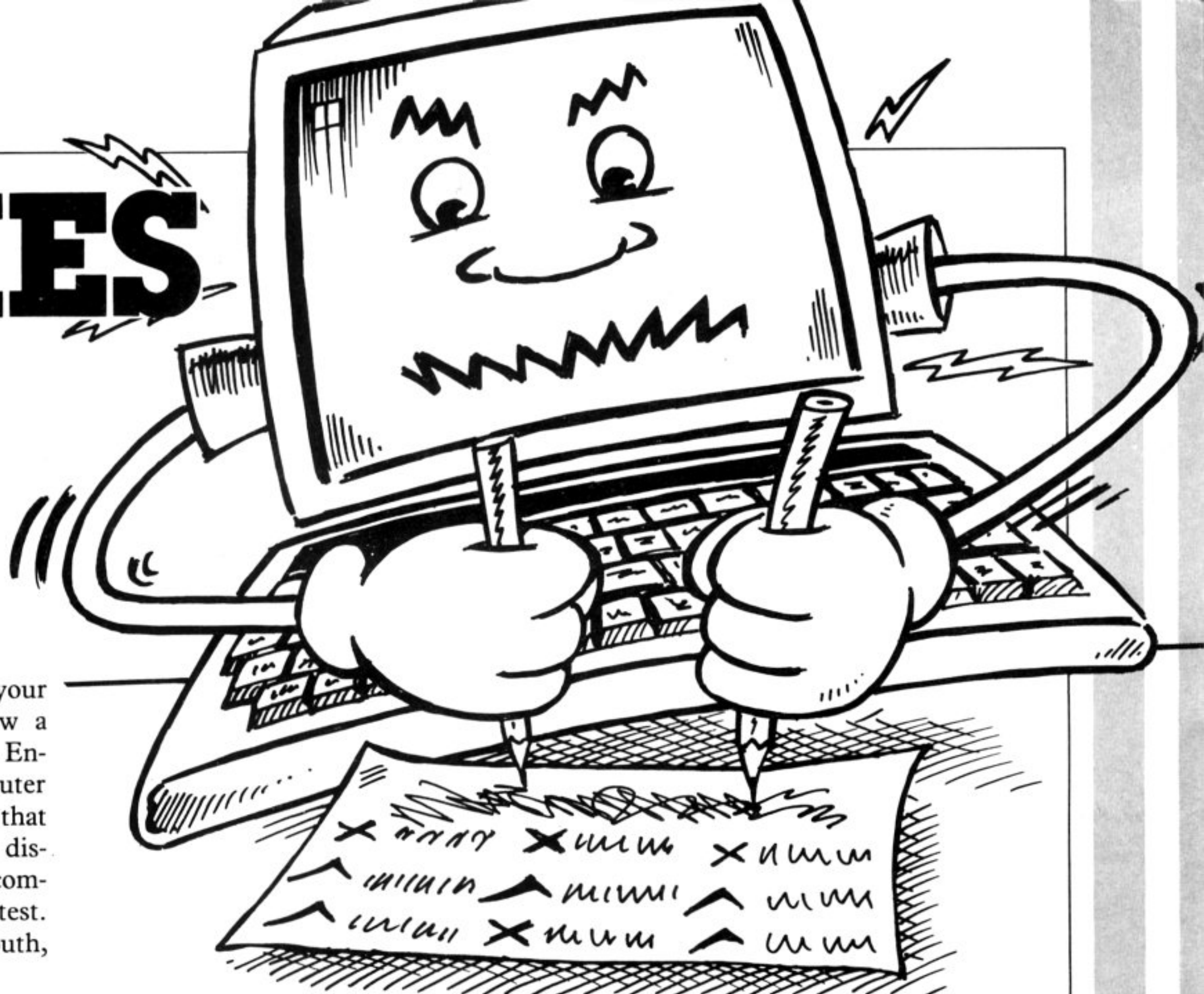
1. Starfire (32K).
 2. Moonlander (16K).
 3. 3D Noughts and Crosses (32K).
 4. Shape Match (16K).
 5. Mindbender (16K).
 6. Magic Eel (32K).
 7. Cylon Attack (32K).
 8. Astro-Tracker (32K).
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Applications: 1. Superplot (32K). 2. Masterfile (32K).
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NAMES



TYPE-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

```

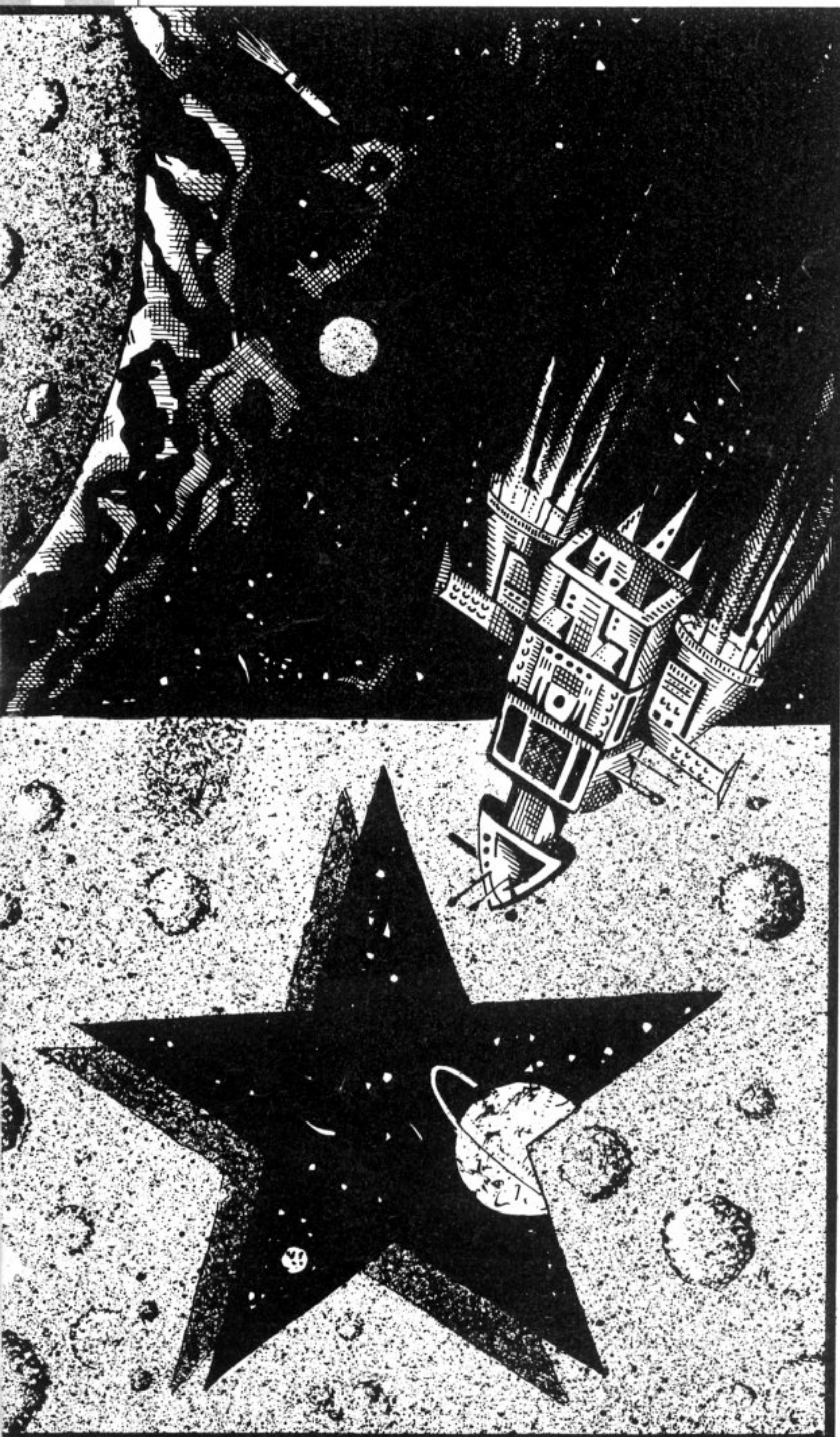
```

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

YOUR 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

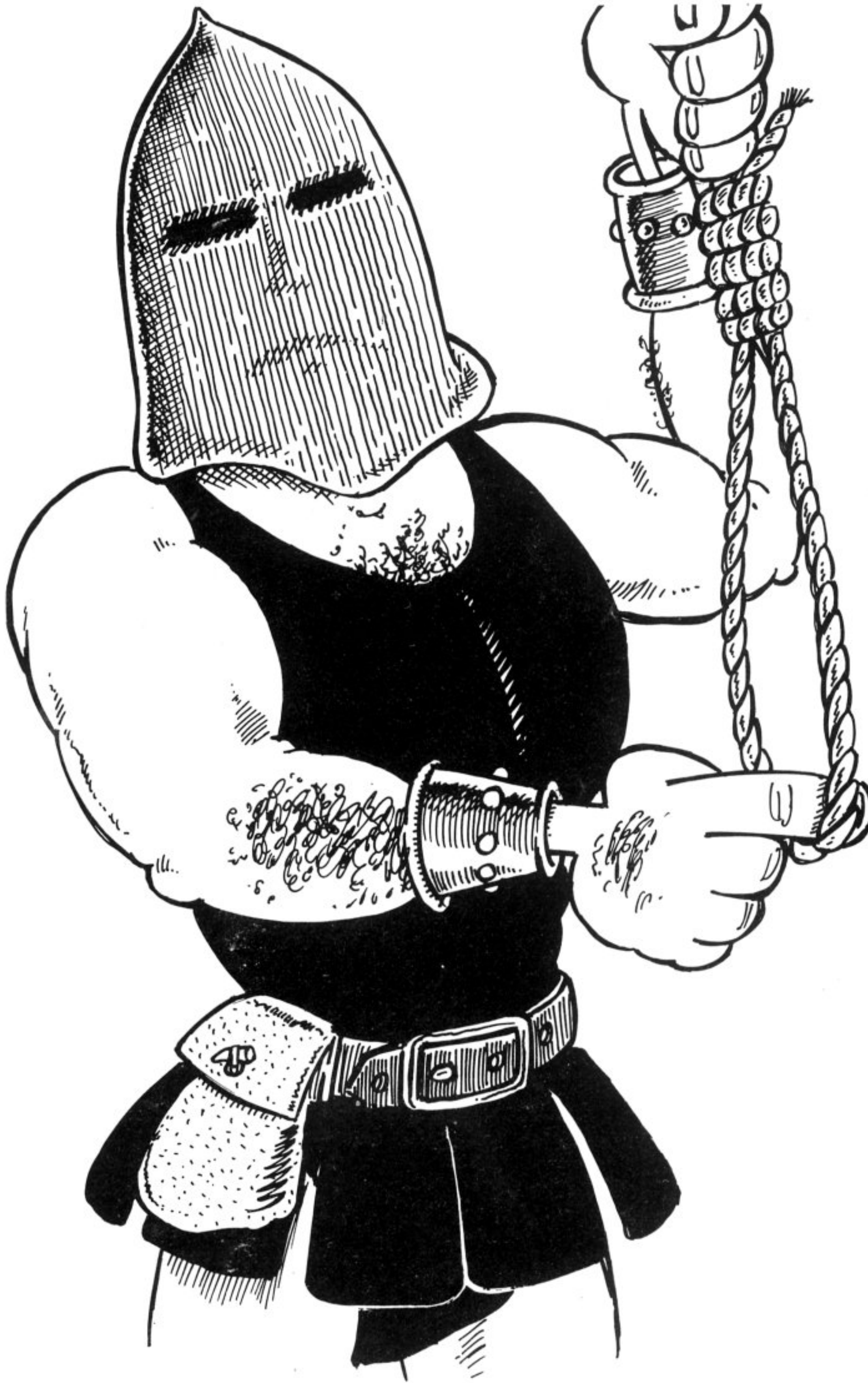
YOU ARE a **Baron**, charged with providing food for your subjects. Each year you must plant food for the next year and give food to your serfs. If you over-feed your population it will increase rapidly and if you starve it you risk assassination. Can you survive for 20 years?

```

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
49 NEXT I
50 CLS
51 PRINT "WELL DONE SCORE=" ;B
53 PRINT "YOU LOST SCORE =0"
54 RUN
55 LET V=RND(3)
56 IF V=1 THEN PRINT "ASSASSINATED"
57 IF V=1 THEN RUN
58 RETURN

```


HANGMAN



PLAY 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=NUMB
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 "ONL
Y 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:RESTORE5010
390FORF=1TO2:GOSUB1100:NEXT
400FORF=1TO4:GOSUB1020:NEXT
410MOVE690,710:DRAW700,700:DRA
W710,710
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:DRA
W710,700
2020PRINT TAB(0,22);:FORC=1TO9:
PRINT" "":NEXT
T
2030PRINT TAB(0,22);"BAD LUCK"
2035PRINT"THE WORD WAS:-"'WORD#
2040PRINT"DO YOU WANT ANOTHER
GO?"":PRESS Y OR N"
2050D#=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
5010DATA700,715,35,35,700,590,4
0,90,600,505,650,430,720,505,750
,430,670,650,600,675,730,650,800
,675
9000DATA COMPUTER
9001DATA MACHINE
9002DATA BBC
9003DATA ANSWER
9004DATA CHUPSTICKS
9005DATA YACHT
9006DATA GYPSUM
9007DATA NONSENSE
9008DATA ETHER
9009DATA MANUAL
```




```

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);"  bbbbbbbbbbbbbbbbb"
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 A$=INKEY$(0)
200 IF A$="Z" AND X>1 THEN X=X-1
210 IF A$="/" 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 PROCclives
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$(129);"'Fred Blo99s' have just raided a well"
510 PRINT TAB(0,11);CHR$(129);"known bank."
520 PRINT TAB(3,13);CHR$(130);"Fred Blo99s is at the top chucking"
530 PRINT TAB(0,14);CHR$(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

```

Bank Robber

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.



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ESCAPE FROM TIME

YOUR 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.

```
5MODE 4
10GOTO 1190
15PRINT"THE OBJECT IS TO ESCAPE
BACK INTO YOUR OWN TIME THRU
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
RIED 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=1TO12
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=1TO4
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=1TO4
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=1TO12
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=1TO4
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=1TO10: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=1TO4
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=0 THEN GOTO 940
930IF R<>11 THEN GOTO 1240
935R=0:GOTO 950
940R=11
950PRINT" 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=1TO4
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=1TO4
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=1TO4
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 L(12): FOR F=
1TO4: B(F)=" " : NEXT
1200Y=0: YY=0: X=0: MR=21: B=1: R=1
1210FOR F=1TO12: READ A#,G
1220C(F)=G:C(F)=A#: NEXT
1230 FOR F=1TO16: 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: SO
UND 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=1TO4
1370IF B(F)="KNIFE" THEN GOTO 1
390
1380NEXT:GOTO 1350
1390PRINT" 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: S=9: W=8: E=3: RETURN
2020PRINT" YOU ARE AT 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: S=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

```




```

FLOWING NORTH TO SOUTH. ON THE
THE BANK IS A BOAT. YOU CAN RET
URN TO THE WEST."
2155W=9:RETURN
2160PRINT" YOU ROW THE BOAT AC
ROSS THE RIVER WHERE YOU ENTER A
CAVERN. YOU BOARD LAND AND LEA
VE THE BOAT ON THE BANK."
2165RETURN
2170PRINT" YOU ARE AT THE TOP
OF SOME STEPS. A PASSAGE LE
ADS NORTH."
2175D=18:N=9:RETURN
2180PRINT" YOU ARE AT THE BUTT
OM OF THE STEPS. A CORRIDOR
GOES NORTH AND A DOOR IS IN THE
WEST WALL."
2185U=17:N=19:W=20:RETURN
2190PRINT" YOU ARE IN THE CENT
RE OF SOME PASSAGES. THEY GO NOR
TH, EAST AND SOUTH."
2195E=23:N=21:S=18:RETURN
2200PRINT" YOU ARE IN A BROOM
CUPBOARD."
2205L=18:RETURN
2210PRINT" YOU ARE IN AN EGYPT
IAN ROOM. A MUMMY CASE STANDS
IN THE CORNER. ON IT IS INSCRIBED
"BEWARE!" EXITS ARE SOUTH
AND EAST."
2212IF O(3)=1 THEN PRINT" THE
MUMMY CASE IS OPEN AND EMPTY....
!"
2214IF O(3)=1 THEN EN=27
2215S=19:E=22:RETURN
2220PRINT" YOU COME TO A DEAD
END IN THE PASSAGE. THE ONLY WA
Y BACK IS WEST."
2225W=21:RETURN
2230PRINT" THIS PASSAGE IS CLU
SED OFF AT THE END. A SIGN IS U
NREADABLE ON THE WALL. EXIT TO
THE WEST."
2235W=19:RETURN
2270PRINT" YOU ENTER THROUGH T
HE MUMMY CASE AND IT SWINGS SHUT
TIGHT! YOU ARE NEAR THE END OF
YOUR ADVENTURE. HAVE YOU GOT THE
CRYSTAL OF POWER AND THE MI
CROCHIP? IF YOU HAVE THEN USE T

```

```

HEM IN THE RIGHT ORDER."
2271PRINT" IF YOU DON'T HAVE O
NE OF THEM OR EITHER OF THEM THE
N YOU ARE LOST."
2275RETURN
2280PRINT" A HIGH WALL IS TO T
HE WEST. ON THE LEFT OF THE PASS
AGE IS A MIRROR IN THE WALL. TO
THE EAST YOU CAN SEE A TURNING I
N THE PASSAGE."
2285E=30:RETURN
2290PRINT" A MIRROR IS IN THE
WALL BEHIND YOU. THE ROOM YOU AR
E IN IS AN ARMOURY. A DOOR IS
OPEN TO THE EAST."
2295L=28:EN=36:RETURN
2300PRINT" YOU ARE AT A BEND I
N THE PASSAGE. YOU CAN GO SOUT
H OR WEST."
2305W=28:S=31:RETURN
2310PRINT" THE PASSAGE ENDS IN
A DOOR. YOU CAN GO BACK NORTH
IF YOU NEED."
2311IF O(4)=0 THEN PRINT"THE DO
OR IS LOCKED."
2312IF O(4)=1 THEN PRINT"THE DO
OR IS OPEN."
2313IF O(4)=1 THEN EN=35
2315N=30:RETURN
2350PRINT" IN THE ROOM IS A LI
FT. THE BUTTON IS ON THE WALL BY
IT. AN OPEN DOOR IS THE EXI
T FROM THE LIFT ROOM."
2355L=30:RETURN
2360PRINT" IN THE ROOM IS A DR
ESSING TABLE."
2365L=29:RETURN
2370PRINT" THE LIFT OPENS ONTO
A HALL. YOU CAN GO BACK DOWN O
R EAST."
2375D=43:E=38:RETURN
2380PRINT" YOU ARE STANDING AT
A JUNCTION. YOU MAY GO NORTH, W
EST OR SOUTH."
2385W=42:N=39:S=40:RETURN
2390CLEAR:PRINT" YOU FALL INTO
A PIT COVERED BY FLOOR TILES
-AS THEY OPEN UNDER YOUR FEET YO
U TRY TO GRASP THE EDGE BUT MIS
S AND FALL TO YOUR DEATH." :PROCP

```

```

AUSE(6)
2395GOTO 1260
2400PRINT" YOU WALK INTO A ROO
M AND ON THE FLOOR YOU SEE A T
RAP DOOR. YOU WILL HAVE TO GO
BACK NORTH, BUT ONLY ONCE."
2405N=38:S=41:RETURN
2410GOTO 2390
2420PRINT" YOU ARE BACK AT THE
LIFT. YOU CAN ONLY GO DOWN OR
BACK EAST."
2425E=38:D=43:RETURN
2430PRINT" THE LIFT OPENS ONTO
THE GROUND FLOOR. A DOOR IS OPE
N IN THE WEST WALL OF THE ROO
M. PUSH THE BUTTON TO GO BACK UP
."
2435L=30:RETURN
3060PRINT" THE LADDER REACHES
THE TOP OF THE WALL AND YOU CLI
MB UP IT. ON TOP OF THE WALL YOU
PICK IT UP AND USE IT TO GET DO
WN THE OTHER SIDE."
3065R=28:GOTO 220
3070PRINT" THE GREASE WASHES O
FF THE FLOOR MAKING IT CLEAN."
3075O(2)=1:GOTO 20
3150FOR F=1 TO 4:IF B*(F)="OARS" T
HEN GOTO 3153
3151NEXT
3152CLEAR:PRINT" THE BOAT DRIF
TS DOWN STREAM AS YOU DON'T
HAVE ANY OARS. AS YOU DRIFT YOU
HIT YOUR HEAD AND FALL OVERBO
ARD. UNABLE TO REACH THE B
ANK, YOU DROWN." :GOTO 2395
3153PRINT" YOU ROW THE BOAT TO
THE OTHER BANK." :F=10:NEXT
3154IF R=15 THEN GOTO 3157
3155R=15:GOTO 20
3157R=16:GOTO 20
3160GOTO 3150
3180PRINT" THE DOOR UNLOCKS AN
D FALLS OPEN." :EN=20:GOTO 220
3210PRINT" THE WRITING ON THE
MUMMY CASE SAYS "BEWARE"." :
GOTO 220
3230PRINT" THE SIGN SAYS "USE
THE WORDS OPEN SESAME IN T
HE RIGHT PLACE AND YOUR WAY WIL

```




```

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

```

```

3350CLEAR: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 YU
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, OARS,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,36LU
OK,37LIST
9101DATA62QUIT,46N,48S,50E,52W,
56D
9200DATA23CODE BOOK,16BOAT,28LA
DDER,06LADDER,07MOP,15BOAT,27CRY
STAL,18KEY,21CODE BOOK,27MICRO-C
HIP

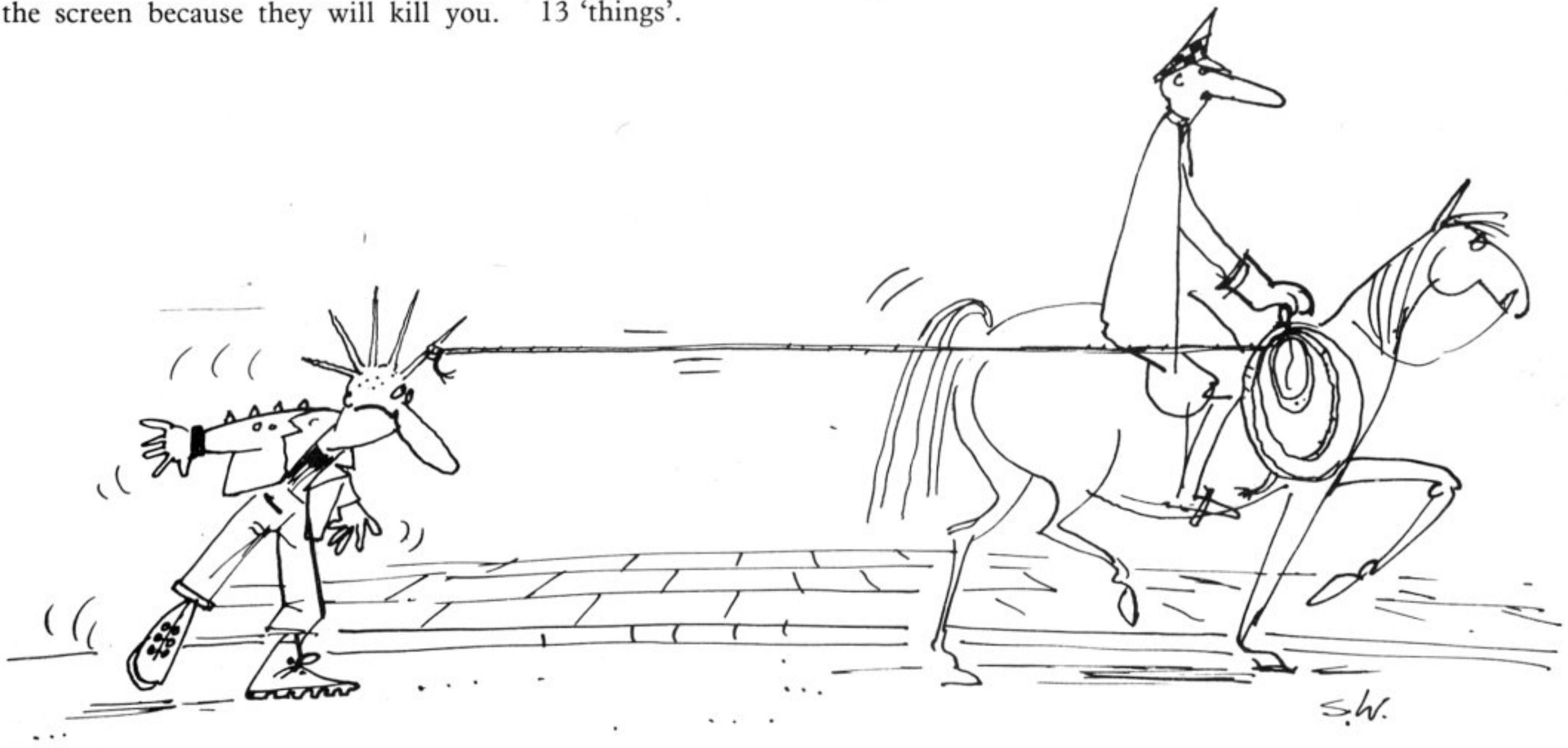
```


CATCHER

MOVE 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'.



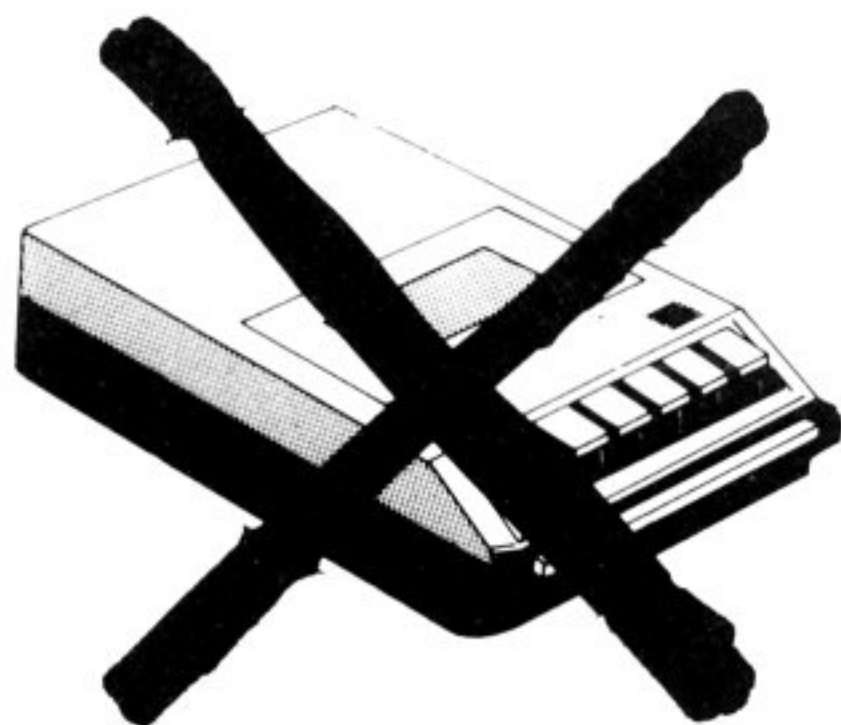
```

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 23,242,99,99,26,26,72,92,92,124
810 VDU 23,243,74,122,122,50,250,254,124,0
820 ENDPROC

```

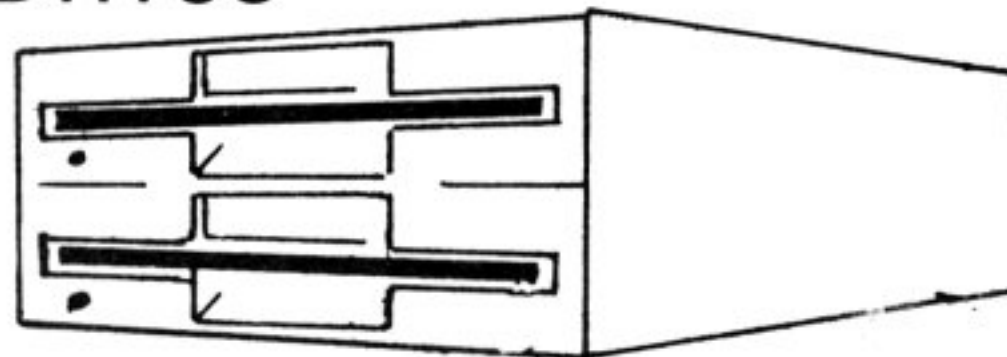

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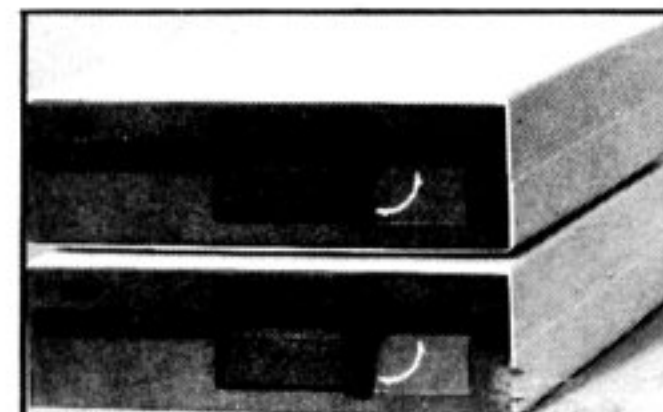
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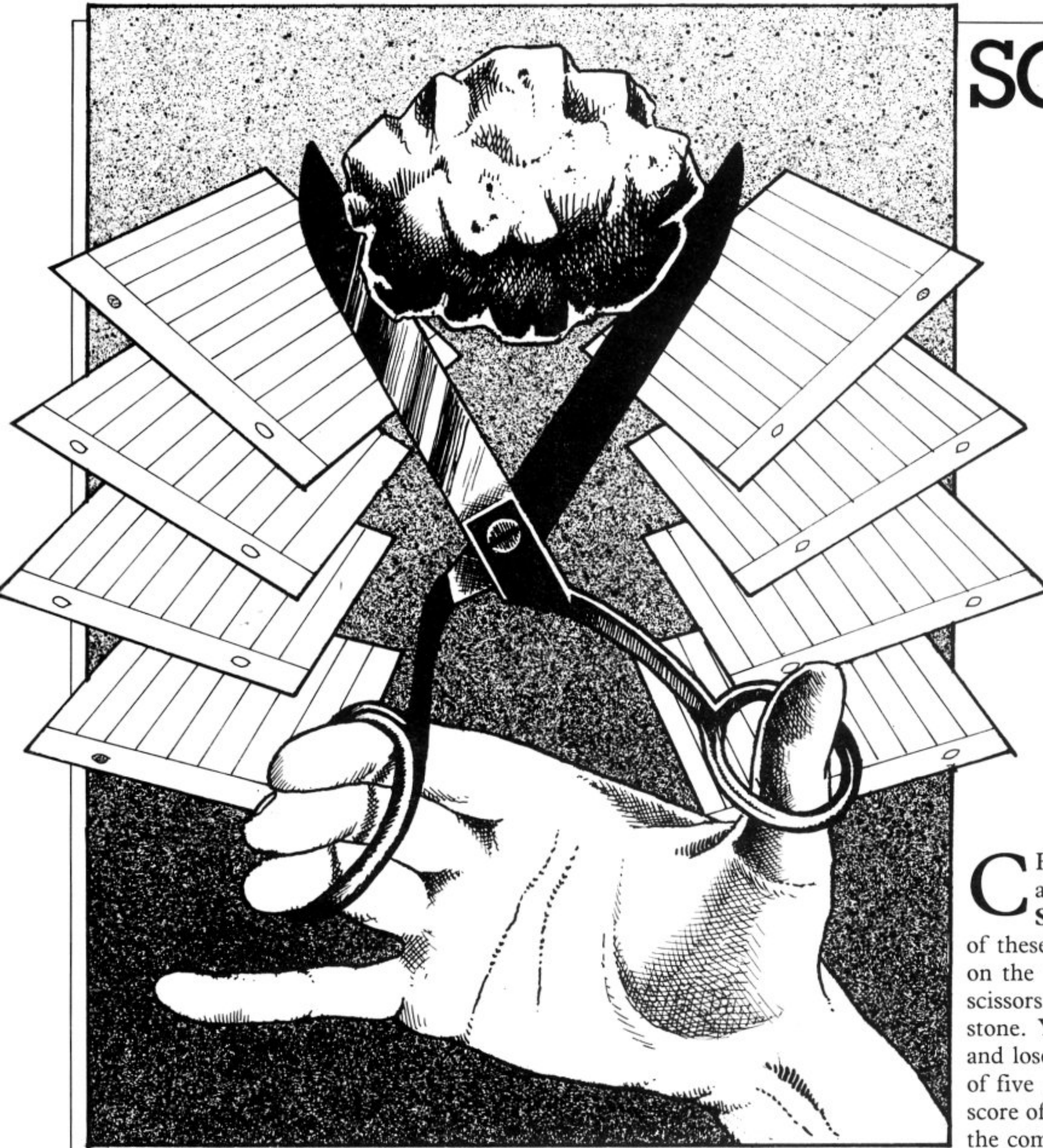
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AU3

SCISSORS PAPER STONE



CHALLENGE 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"

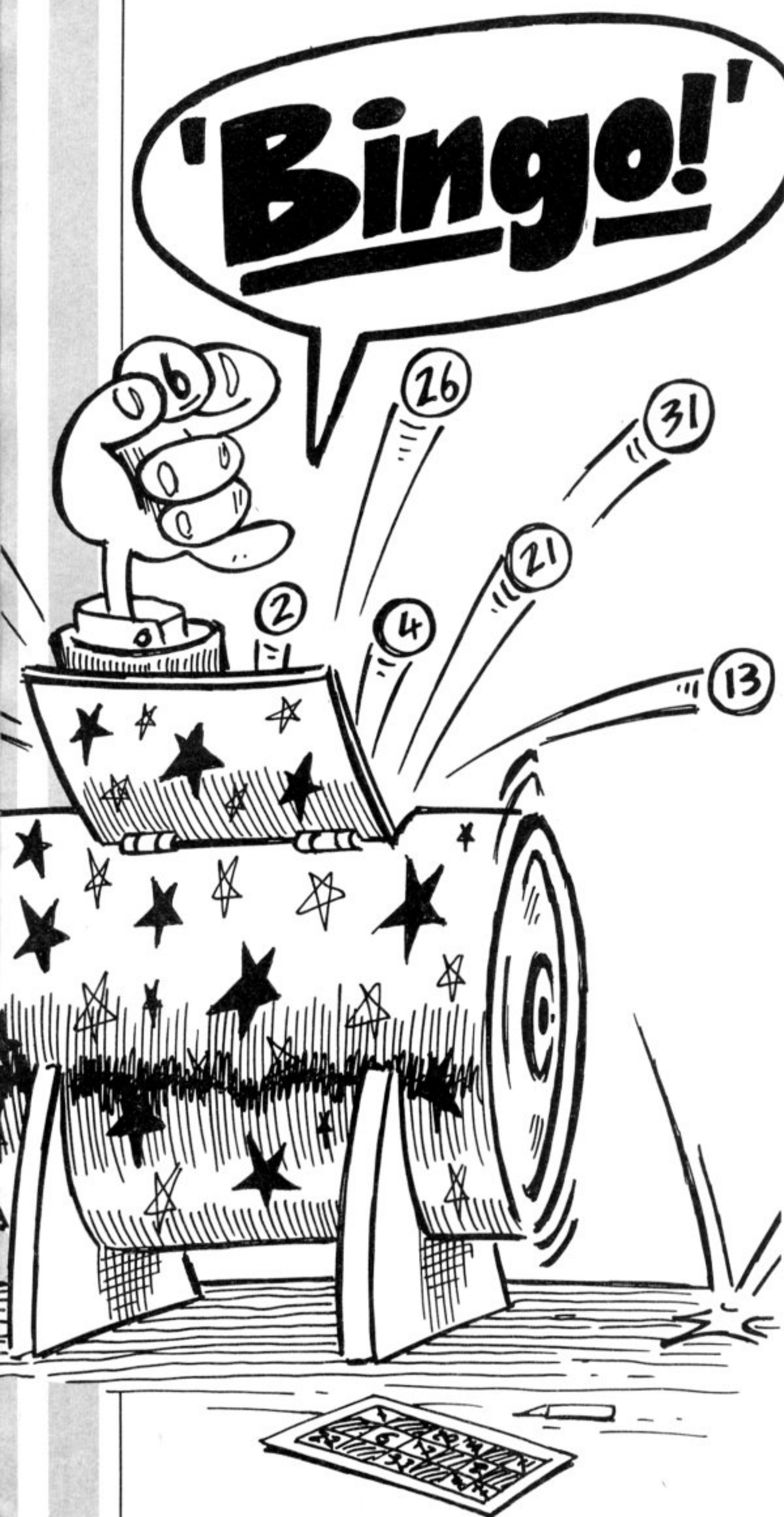
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```

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

```


THIS 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
480 GOSUB820;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(8,15);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

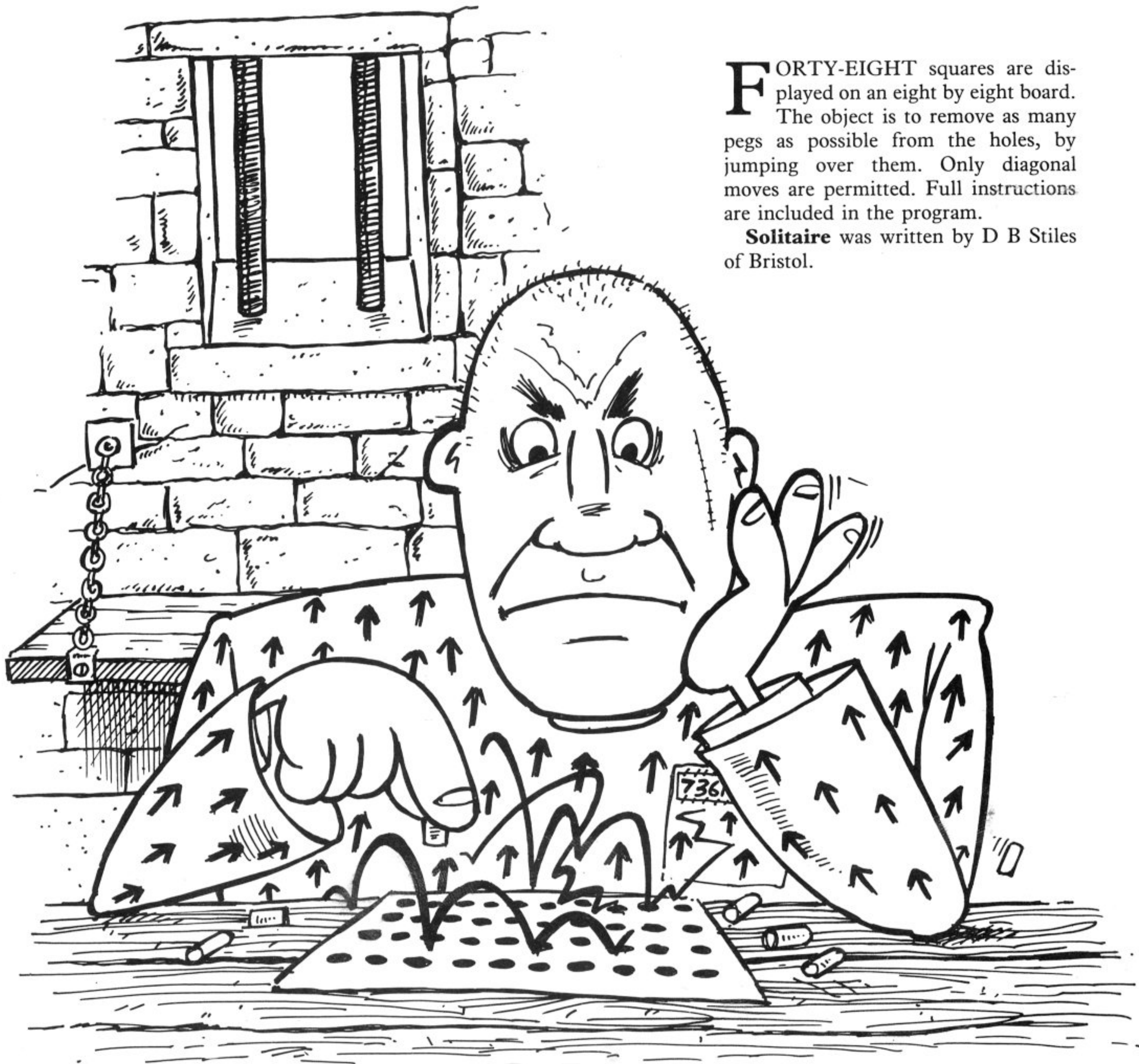
```

```

#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"
690 PRINTTAB(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"
730 PRINTTAB(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(38,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



FORTY-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. 5
TILES
40REM
50REM
60REM SOME COMPUTERS PRINT VA
RIABLES
70REM WITH LEADING AND TRAILI
NG
80REM SPACES. THE BBC MODEL D
OES 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. 2030 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(33,10);"MOVES"
640PRINT TAB(35,11);T
650PRINT TAB(1,20);
660REM SOME MACHINES MAY NEED
K$=""
670INPUT "ENTER 2 SETS OF CO-O
RDINATES: " K$
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

```

```

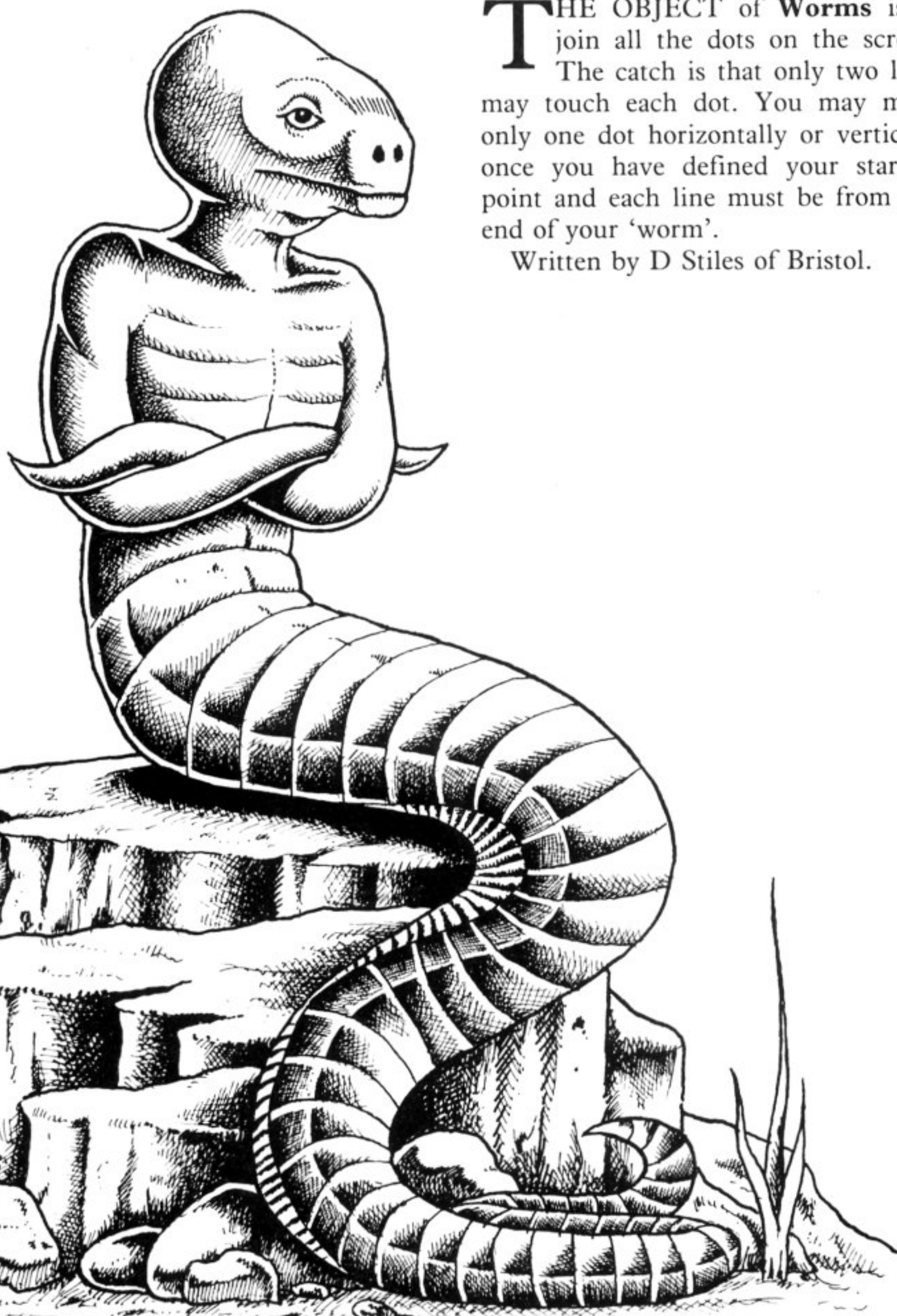
880IF ABS(R-S)<>2 THEN 1050
890C=(P-1)*8+R: D=(Q-1)*8+S: E
=(C+D)/2
900IF A(C)=0 THEN 1050
910IF A(C)=0 AND A(D)=0 THEN 1
050
920IF A(C)=1 AND A(D)=1 THEN 1
050
930REM
940REM *****
*****
950REM * UPDATE BOARD
960REM
970IF A(C)=1 THEN A(C)=0: A(D)
=1: GOTO990
980A(C)=1: A(D)=0
990 A(E)=0: T=T+1
1000GOTO 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

THE 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 #####
11
12REM
13REM C. BY D.B.STILES
14REM 5-FEB-83
15REM
16REM FORMATTED FOR BBC MODEL
17 B GRAPHICS
18REM
19MODE 6: D$=""
20PRINT TAB(12,1)D$;D$
21PRINT TAB(5)D$" BBC WORMS
22D$
23PRINT TAB(12)D$;D$
24PRINT "The object is to join
25 all the dots, but"
26PRINT " only two lines may
27 touch each dot."
28PRINT "You may only move on
29 e dot horizontally"
30PRINT " or vertically after
31 fixing a starting"
32PRINT " Point, and every ne
33 w line must start"
34PRINT " from one end of the
35 worm."
36PRINT "To draw a line Proc
37 eed as follows:"
38PRINT "1: Move the cursor
39 on the grid (using"
40PRINT " the cursor arrows)
41 to where the line"
42PRINT " is to start and Pre
43 ss the 'copy' key"
44PRINT " to fix it."
45PRINT "2: Move the cursor
46 to the desired end"
47PRINT " Point and Press 'co
48 py' to draw a line."
49PRINT "3: Repeat moves 1 a
50 nd 2 until no more"
51PRINT " moves are Possible;
52 Press # to finish."
53PRINT "Press any key to st
54 art the game";
55
56K=GET
57REM
58REM"#####
59#####
60
61REM set up variables etc.
62REM
63VDU 23,242,192,192,0,0,0,0,
640,0
65DIM A(9,9): REM state of bo
66ard
67xincr=100: yincr=80
68xbase=140: ybase=40
69ex=20
70REM
71REM"#####
72#####
73
74REM set up new grid
75REM
76MODE 5
77moves=0: start=0
78PROCGRID
79X=0: Y=9
80PROCMAKE(X,Y,4,3)
81FX4,1

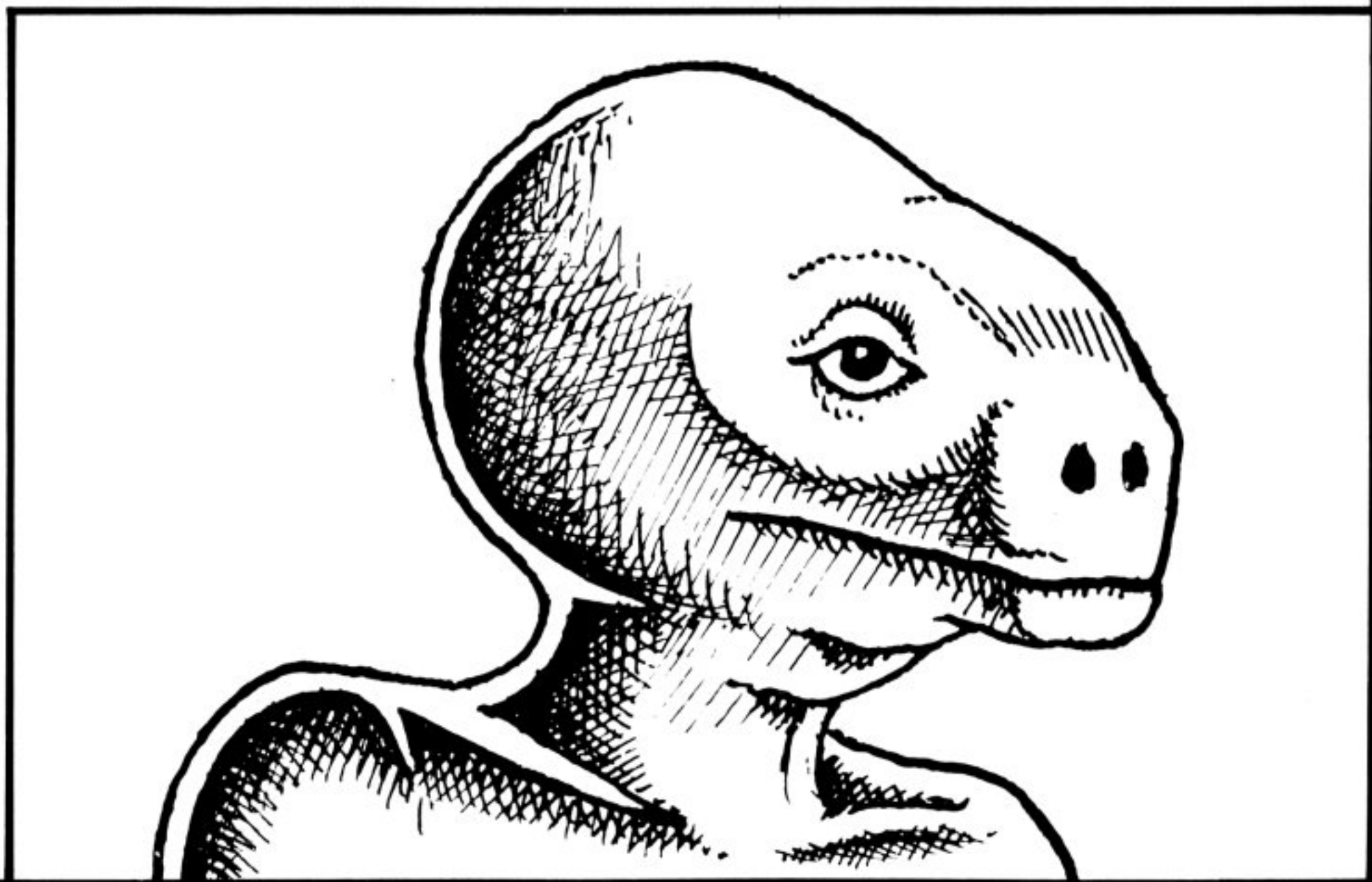
```

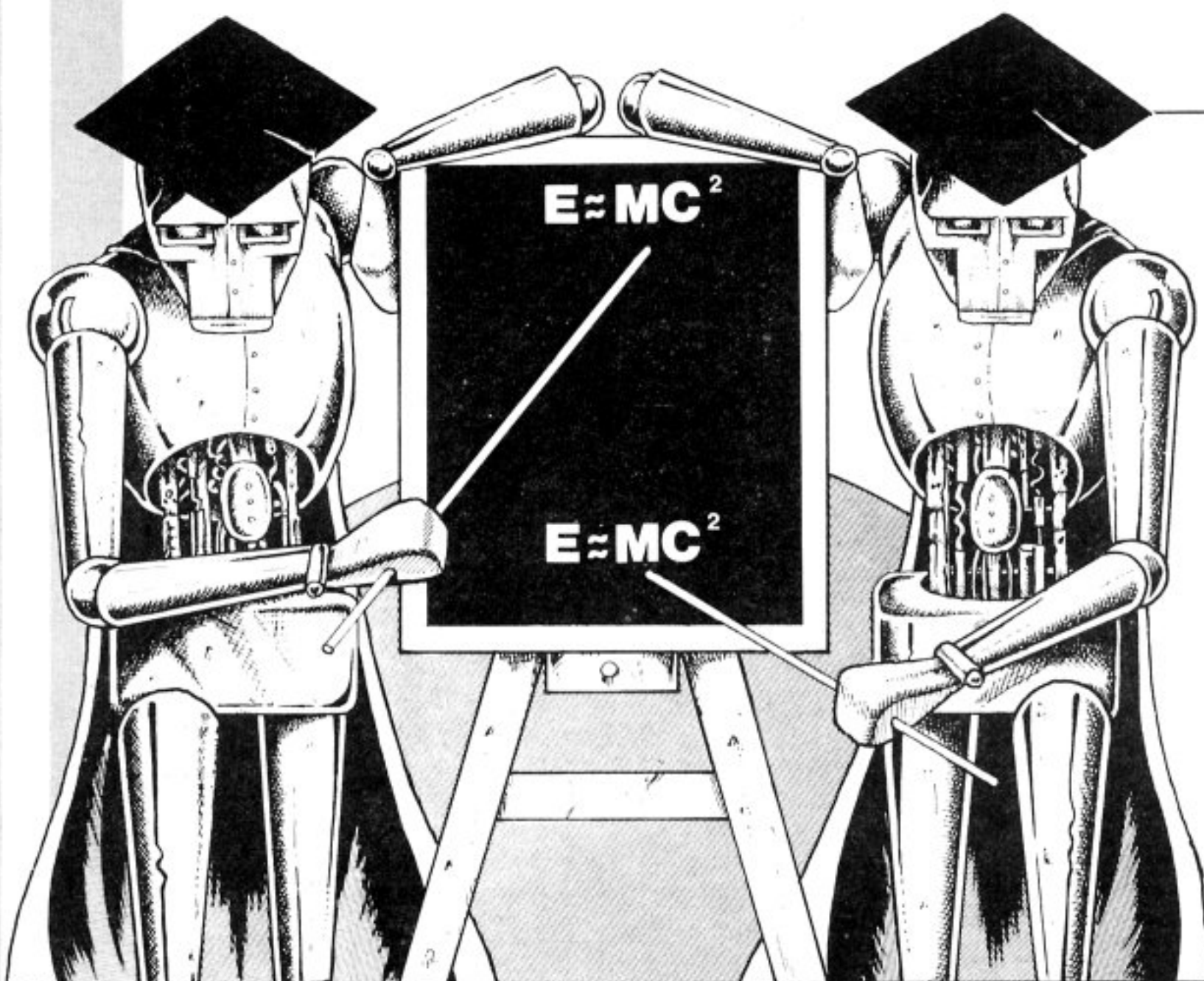


```

480REM
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 >>>> T H E E N D
<<<<
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 PROCERRUR
1000ENDPROC
1010REM
1020REM"*****
*****
1030REM draw the line
1040REM
1050DEFPROCLINE
1060IF ABS(X-startx)+ABS(Y-star
ty)>>1 OR A(X,Y) THEN PROCERRUR:
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
1190DEFPROCERRUR
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
1300PROCCURSUR
1310ENDPROC
1320REM
1330REM"*****
*****
1340REM right arrow moves curso
r right
1350REM
1360DEFPROCRIGHT
1370X1=X: Y1=Y
1380IF X<9 THEN X=X+1
1390PROCCURSUR
1400ENDPROC
1410REM
1420REM"*****
*****
1430REM down arrow moves cursor
down
1440REM
1450DEFPROCDOWN
1460X1=X: Y1=Y
1470IF Y>0 THEN Y=Y-1
1480PROCCURSUR
1490ENDPROC
1500REM
1510REM"*****
*****
1520REM up arrow moves cursor u
p
1530REM
1540DEFPROCUP
1550X1=X: Y1=Y
1560IF Y<9 THEN Y=Y+1
1570PROCCURSUR
1580ENDPROC
1590REM
1600REM"*****
*****
1610REM remove and replace curs
or
1620REM
1630DEFPROCCURSUR
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

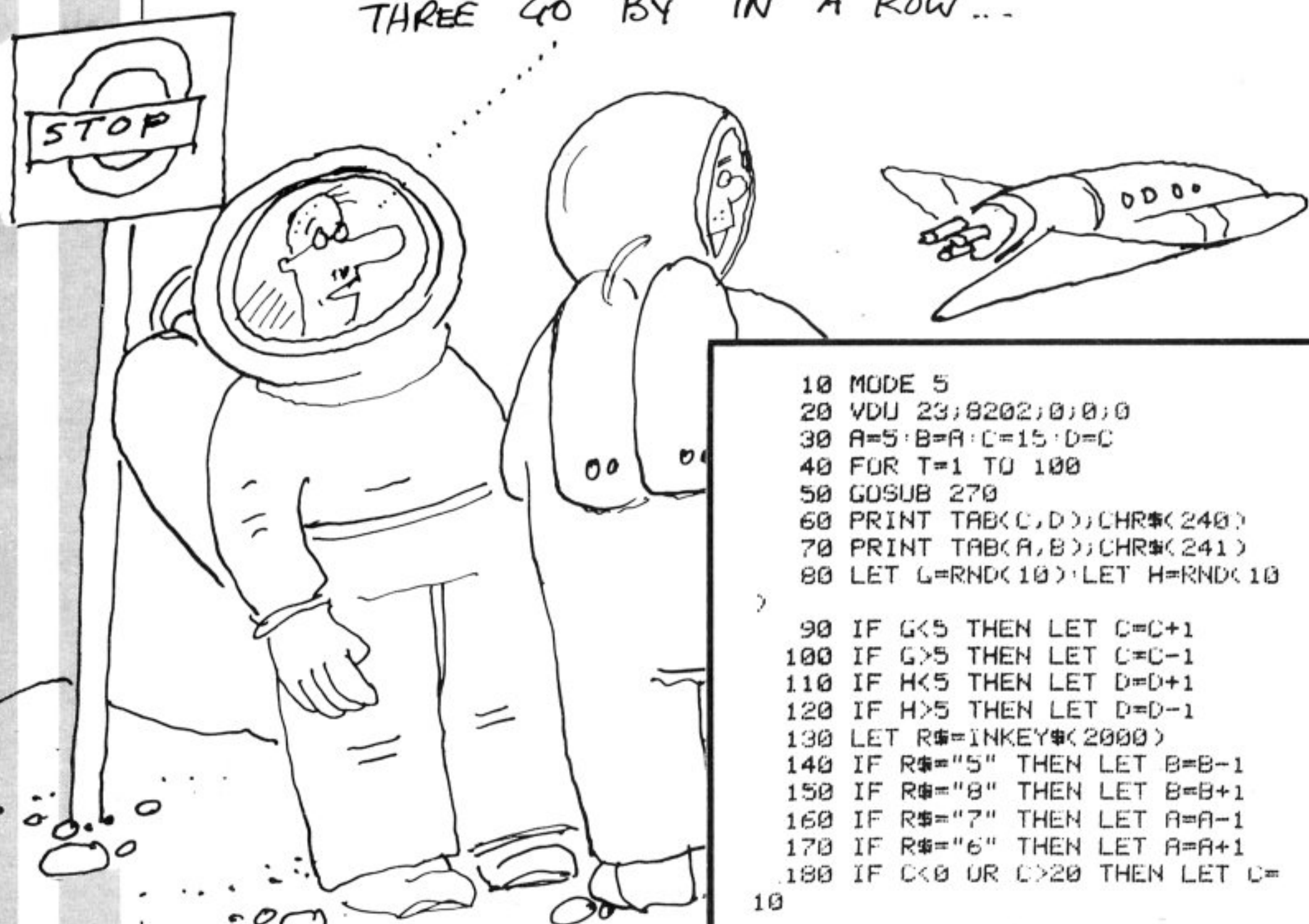
SOLVE your mathematical problems or test your computer with this program which will solve **Simultaneous Equations**. Enter the two equations and the computer will find the value of the two variables.

```

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... ☆



CHASE 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



MIND 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$(5),NUM(5),X(5)
40 PROCinstruct
50 REPEAT
60 Z=0:SCORE=30
70 MODE5
80 PROCdisplay
90 PROCrandom
100 PROCplay
110 PROCscore
120 UNTIL Z>0
130 MODE7
140 END
150
160 DEF PROCdisplay
170 COLOUR 129:CLS:COLOUR3
180 K1=0:K2=0
190 PRINT TAB(10,5)"ADD"TAB(0,
16)"SUB"TAB(0,25)"ADD(+)"SUB(-)"
TEST"
200 PRINT TAB(7,10)"A B C D E"
210 PRINT TAB(5,12)"A"TAB(5,14)
)"B"TAB(5,16)"C"TAB(5,18)"D"TAB(
5,20)"E"
220 FOR I1=7 TO 15 STEP 2:K1=K
1+1
230 FOR I2=12 TO 20 STEP 2:K2=
K2+1
240 IF K1=K2 PRINT TAB(I1,I2)"
*"
250 NEXT:K2=0:NEXT
260 ENDPROC
270
280 DEF PROCrandom
290 RESTORE
300 FOR I=1 TO 5
310 READ ALPHA$(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)
490 INPUT 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$,2,
1)="-"L=2:C=NUM(N1)-NUM(N2) ELSE
GOTO 480
550 IF C<0 C=-C
560 IF N1>N2 N3=N1:N1=N2:N2=N3
570 IF L=1 THEN X=5+2*N2:Y=10
+2*N1 ELSE X=5+2*N1:Y=10+2*N2
580 PRINT TAB(X,Y):C
590 IF L=1 SCORE=SCORE-2
600 IF L=2 SCORE=SCORE-1
610 UNTIL SCORE<=0 OR X2>0
620 IF SCORE<0 SCORE=0
630 ENDPROC
640
650 DEF PROCtest
660 Y1=0
670 FOR I=1 TO 5
680 PRINT TAB(6,20),SPC(10)
690 PRINT TAB(6,20),ALPHA$(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
930 REPEAT 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
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

```


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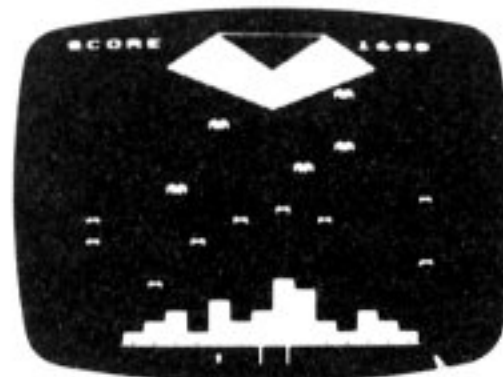
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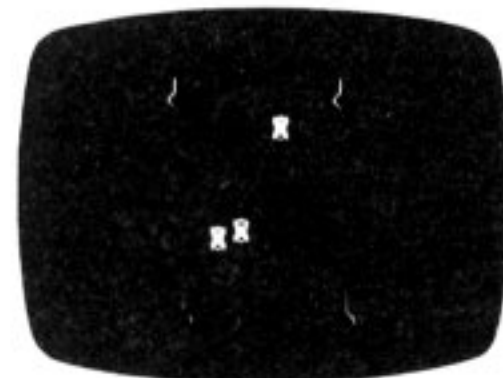
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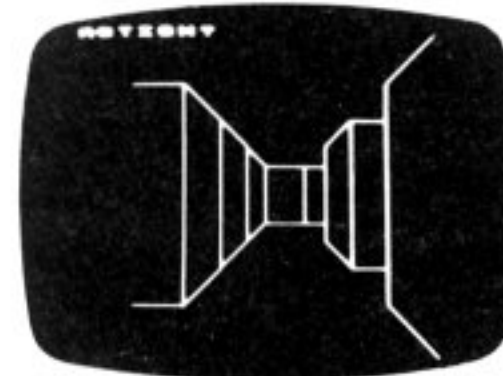
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ILLUSION



ILLUSION, 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 MODE7: E
ND ELSE MODE7: PRINT ERL: REPORT: E
ND
40 MODE7: PROCinstruct
50 K=80
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 LENGT
HENS"" E EQUALS"
160 Y1=800:Y2=600
170 PROCcentre(640):PROCLine(Y
1)
180 IF XR>.5 THEN PROCfin(X1,
Y1):PROCrfin(X2,Y1) ELSE PROCrfi
n(X1,Y1):PROCLfin(X2,Y1)
190 REM DRAWS UPPER ARROW
200 PROCcentre(L): PROCLine(Y2
)
210 IF XR>.5 THEN PROCrfin(X1,
Y2):PROCLfin(X2,Y2) ELSE PROCLfi
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
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 MODE7
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 PROCLfin(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 dem
onstrates 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

```


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THIS 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
```

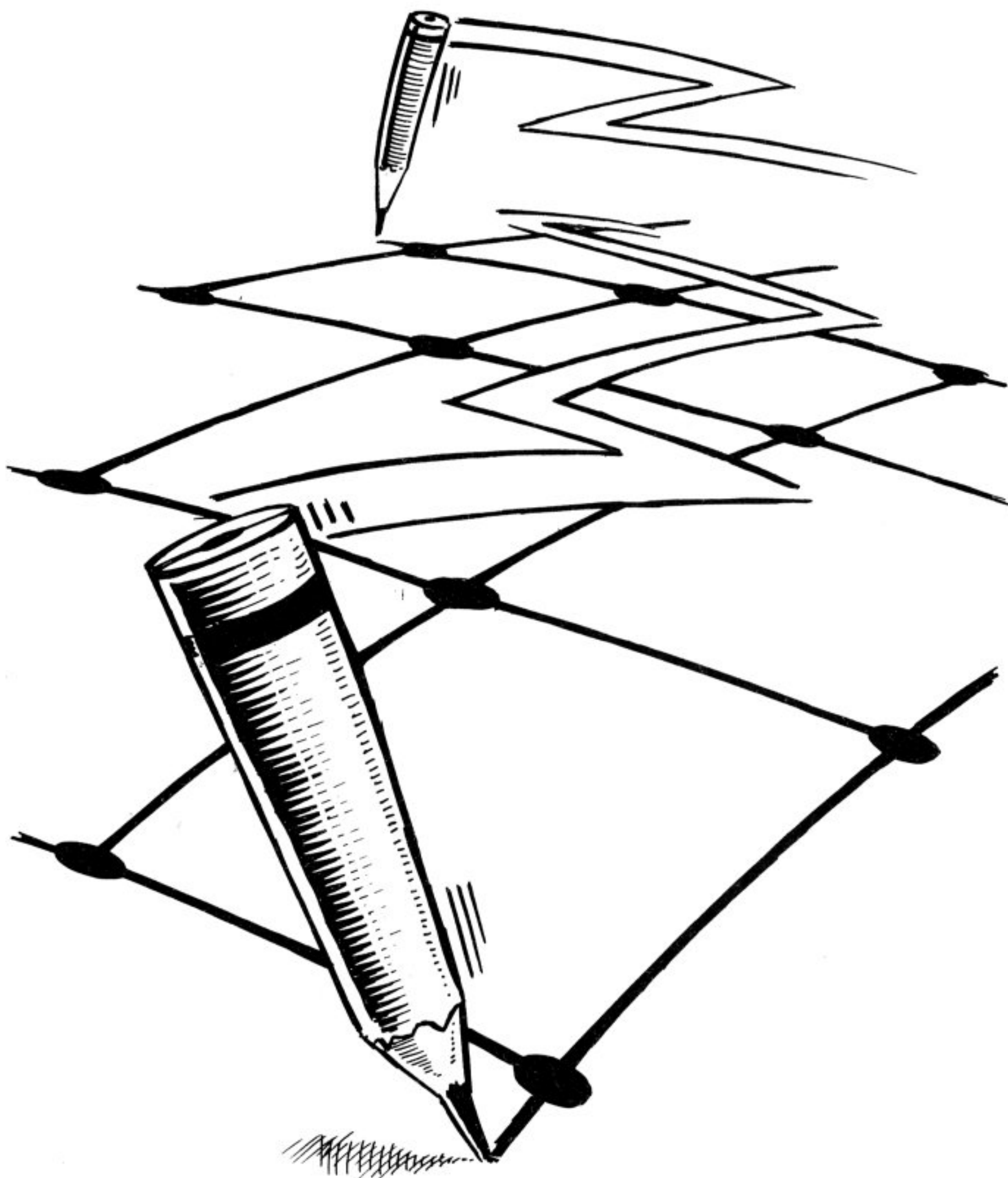
```
90LETT=ASC(MID$(A$,LENA$-Z,1)
)-48
100IFT>9THENLETT=T-7
110LETN=N+(BASE^Z*T)
120NEXTZ
130PRINT"WHAT BASE DO YOU WANT
IT "
140PRINT"CONVERTED TO "
150INPUTBASE2
160LETN$=""
```

```
170LETR=N-INT(N/BASE2)*BASE2
180IFR>9THENLETR=R+7
190 LETN=N-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



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.

```

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$="LJLJLJLJ"
90PRINT TAB(12,1)D$;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 Pla
yer who completes a"
140PRINT " box wins a Point an
d 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 Proc
eed as follows:"
190PRINT "'1: Move the cursor
on the grid (using"
200PRINT " the cursor arrows)
to where the line"
210PRINT " is to start and Pre
ss the 'copy' key"
220PRINT " to fix it."
230PRINT "'2: Move the cursor
to the desired end"
240PRINT " Point and Press 'co
py' to draw a line."
250PRINT "'3: Repeat moves 1 a
nd 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 bo
ard
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
490PROCMAKEX(X,Y,4,3)
500*FX4,1
510PROCDISPSCUR
520REM
530REM"#####
#####
540REM Play game: arrows and '
copy'
550REM
560REPEAT
570K=GET
580IF K=135 THEN PROCPUT
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

```



```

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 PROCERROR:
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 PROCERRU
R: ENDPROC
980IF POINT(((xbase+startx*xinc
r)+(xbase+X*xincr)) DIV 2,((yba
se+starty*yincr)+(ybase+Y*yincr)
) DIV 2) THEN PROCERROR: 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 "1" 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

```

```

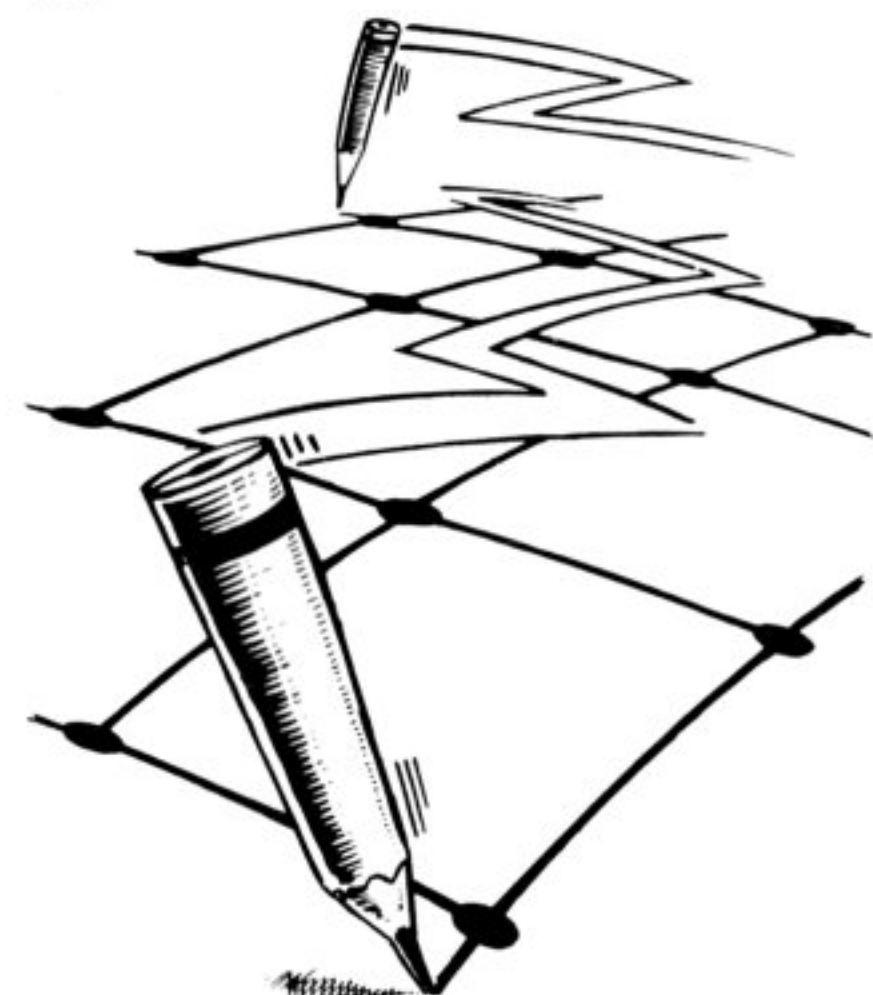
1290YI=ybase+Y*yincr: startyI=y
base+starty*yincr
1300IFX=startx THEN PROCSEARCHX
(1)
1310IFX=startx THEN PROCSEARCHX
(-1)
1320IFY=starty THEN PROCSEARCHY
(1)
1330IFY=starty THEN PROCSEARCHY
(-1)
1340ENDPROC
1350REM
1360REM"*****
*****
1370REM
1380DEFPROCSEARCHX(sgn)
1390IF POINT(XI+(sgn*xincr DIV
2)),YI)<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 0,128
1730PROCMAKEX(X,Y,4,3)
1740ENDPROC
1750REM
1760REM"*****
*****
1770REM
1780DEFPROCERROR
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;8202;0;0;0
2410VDU 24,xbase,ybase,xbase+11
*xincr,ybase+11*yincr;
2420VDU 28,0,8,19,1: 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 ***

```



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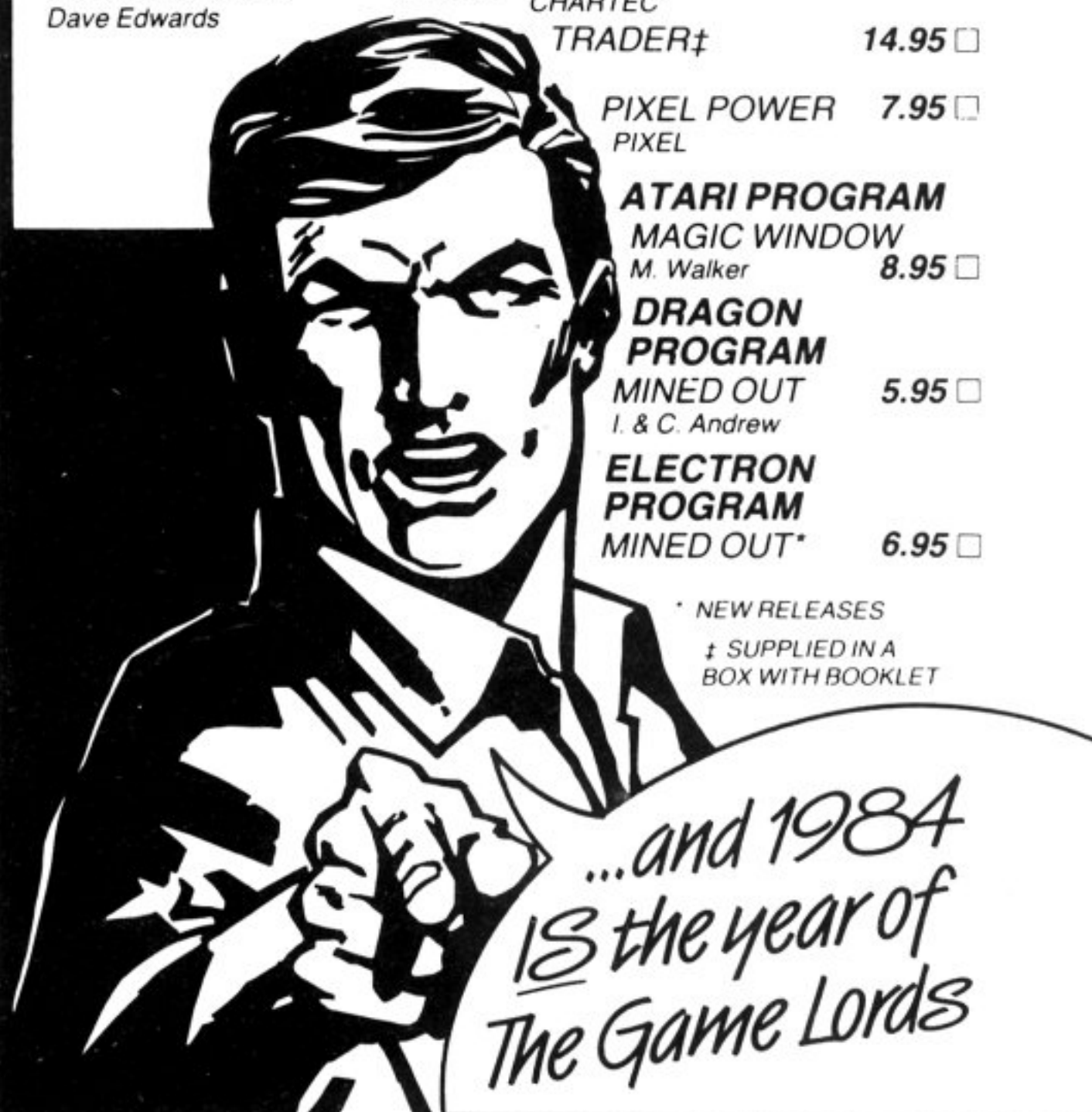
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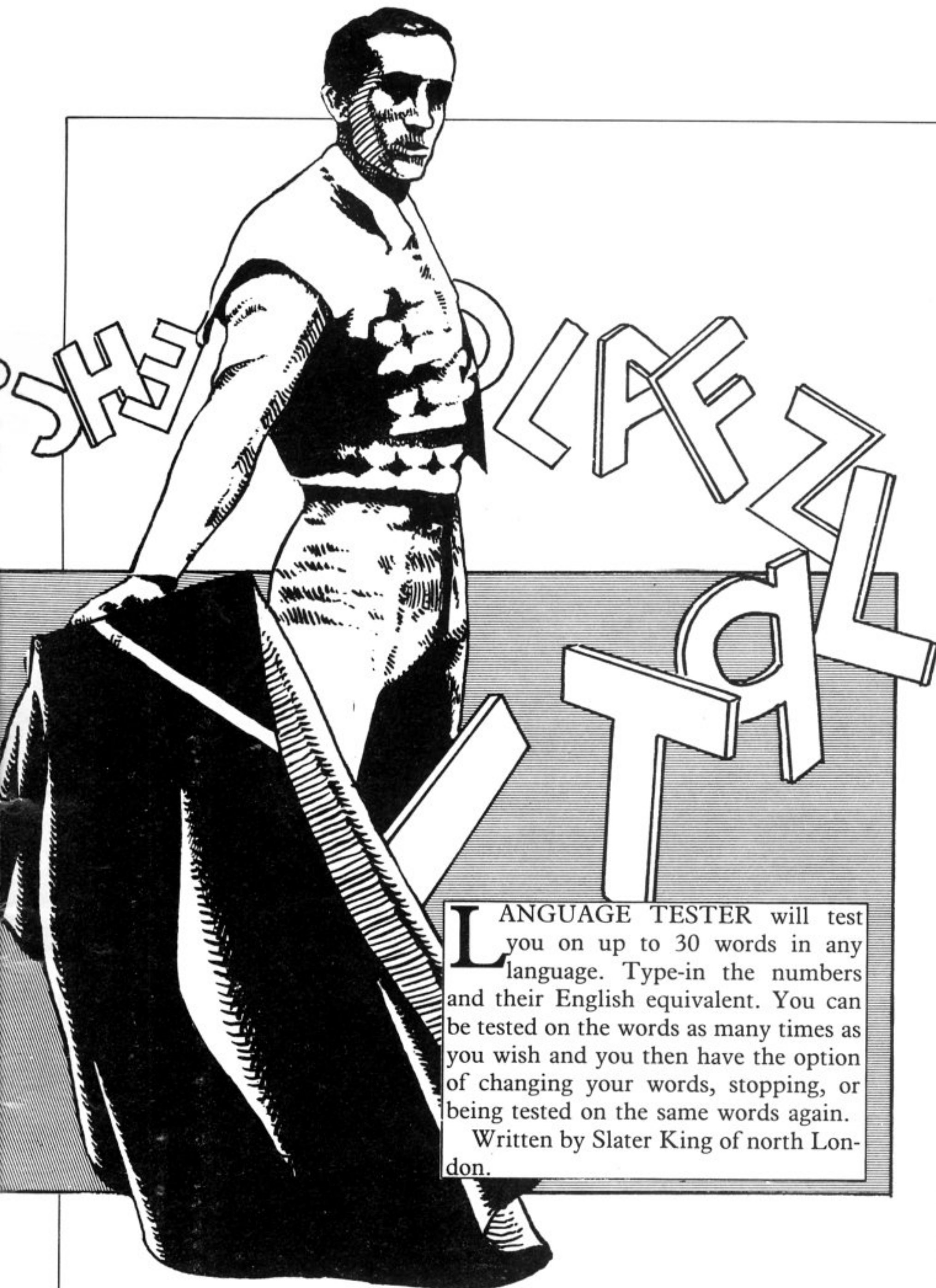
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LANGUAGE TESTER

```

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

```

```

HR$(130);CHR$(141)"VERBS"
160 PRINT TAB(3,8); SPC(3);CHR$(129)"How many verbs do you want to be"
170 PRINT TAB(0,9);CHR$(129)"tested on ";CHR$(131);
180 INPUT NUM
190 IF NUM>1 AND NUM<31 THEN GOTO 220
200 PRINT TAB(13,9)"
210 GOTO 170
220 PRINT TAB(3,12);CHR$(130);"And now,type in the foreign verb"
230 PRINT;CHR$(130);"followed by the ENGLISH equivalent."
240 DIM for$(30):DIM en9$(30)
250 B=1
260 REPEAT
270 PRINT TAB(16,14);CHR$(129)"VERB ";B

```

```

280 PRINT;CHR$(131);
290 INPUT for$(B)
300 PRINT;CHR$(133);
310 INPUT en9$(B)
320 PRINTTAB(0,15)"
":PRINT"
330 IF LEN(for$(B))>16 OR LEN(en9$(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$(131);"2...ENGLISH"
400 PRINT TAB(0,21);:INPUT A
410 IF A=1 OR A=2 THEN GOTO 440
420 PRINT TAB(0,21)"
"
430 GOTO 400
440PRINT SPC(10);CHR$(131);"And how many times do"
450 PRINT SPC(10);CHR$(131);"want to be tested":INPUT D
460 ENDPROC
470 DEF PROCENG
480 E=0
490 FOR B=1 TO D
500 CLS
510 PRINT TAB(18,6);CHR$(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$(R)
570 PRINT SPC(12);"And the English?"
580 PRINT SPC(14);CHR$(134);:INPUT ANS$(R)
590 IF ANS$(R)=en9$(R) THEN SOUND 1,-15,150,2:PRINT SPC(15);"Well done":FOR T=1 TO 1000:NEXT:GOTO 650
600 SOUND 0,-15,50,10
610 PRINT SPC(17);CHR$(129);CHR$(136);"WRONG"
620 PRINT TAB(12+(LEN(en9$(R))/2),16);CHR$(131);"It was ";en9$(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$(129);"TEST"
720 PRINT TAB(13,8)"Question No.":B
730 R=INT(RND(NUM))
740 IF E=R THEN GOTO 730
750 E=R
760 PRINT TAB(15,10);CHR$(131);en9$(R)
765 PRINT SPC(10)"And the foreign word"
770 PRINT SPC(14);CHR$(134);:INPUT ANS$(R)
780 IF ANS$(R)=for$(R) THEN SOUND 1,-15,150,2:PRINT SPC(15);"Well done":FOR T=1 TO 1000:NEXT:GOTO 840
790 SOUND 0,-15,50,10
800 PRINT SPC(17);CHR$(129);CHR$(136);"WRONG"
805 PRINT TAB(12+(LEN(for$(R))/2),16);CHR$(131);"It was ";for$(R)
810 FOR T=1 TO 3000
820 NEXT T
840 NEXT B
850 ENDPROC

```


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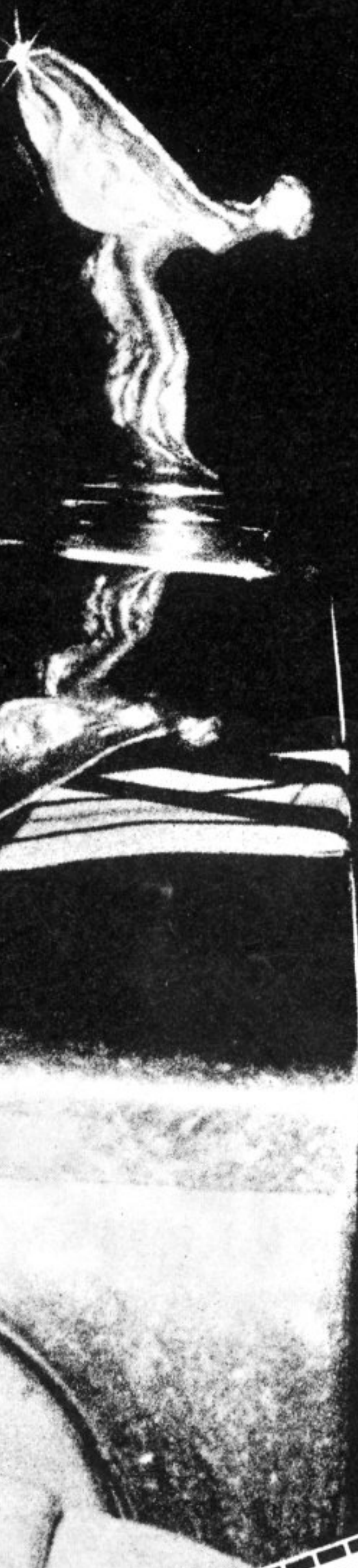
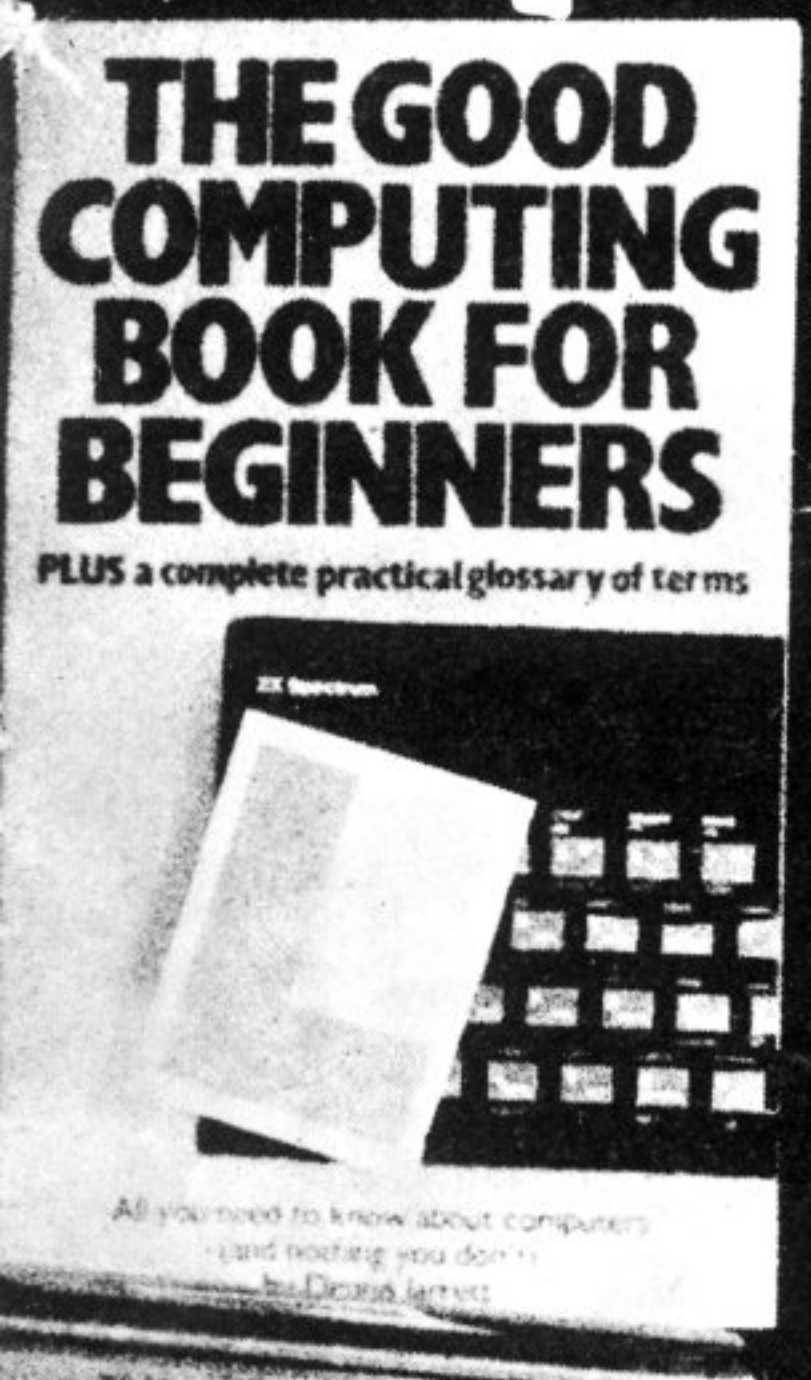
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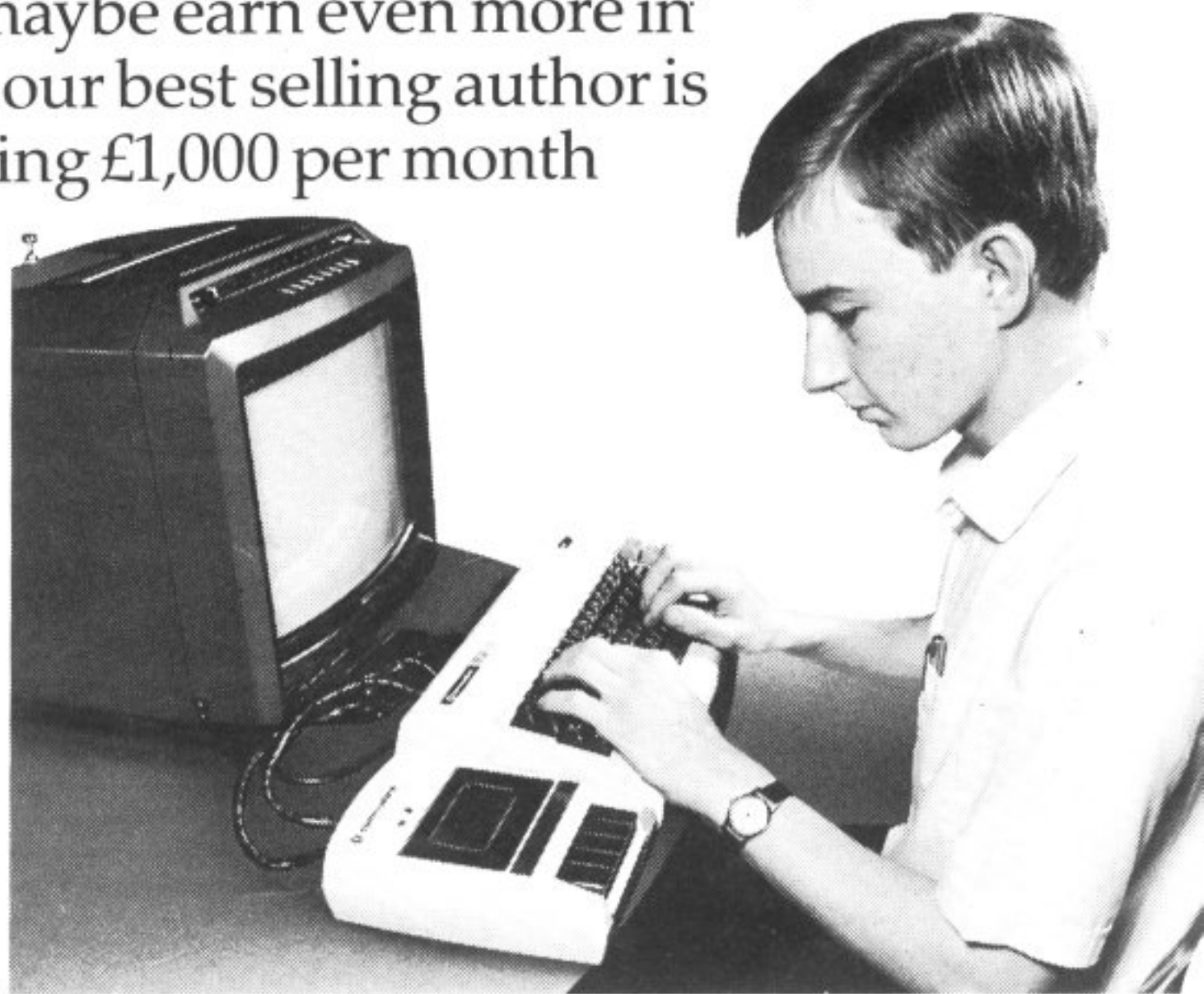
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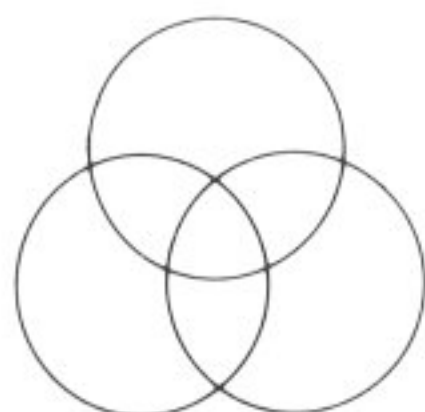


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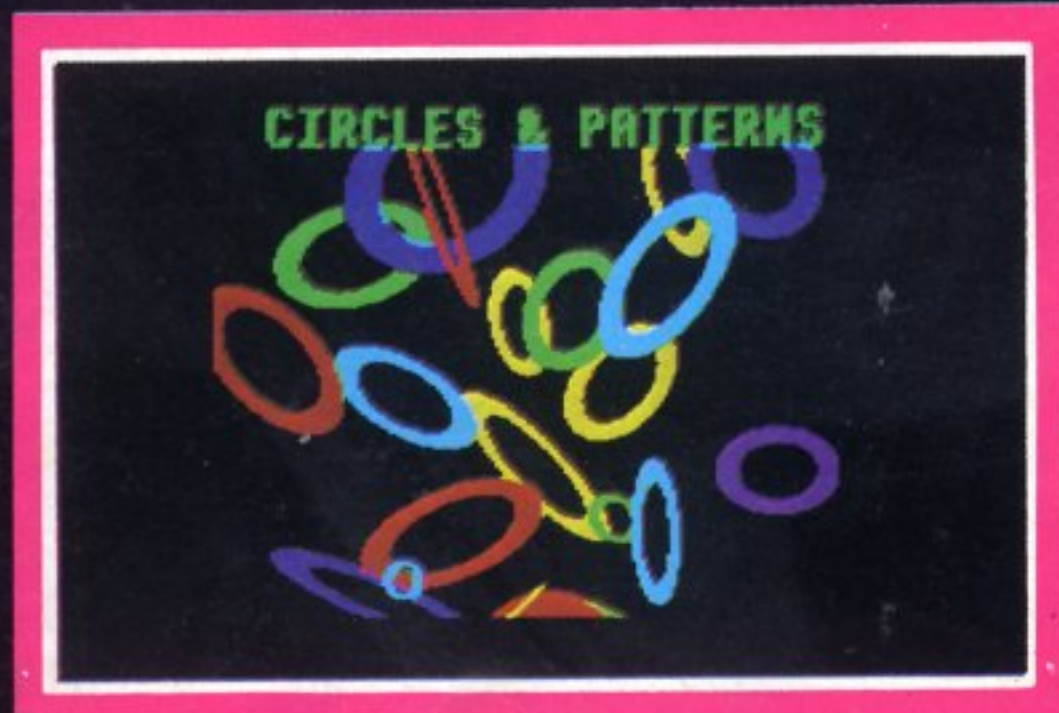
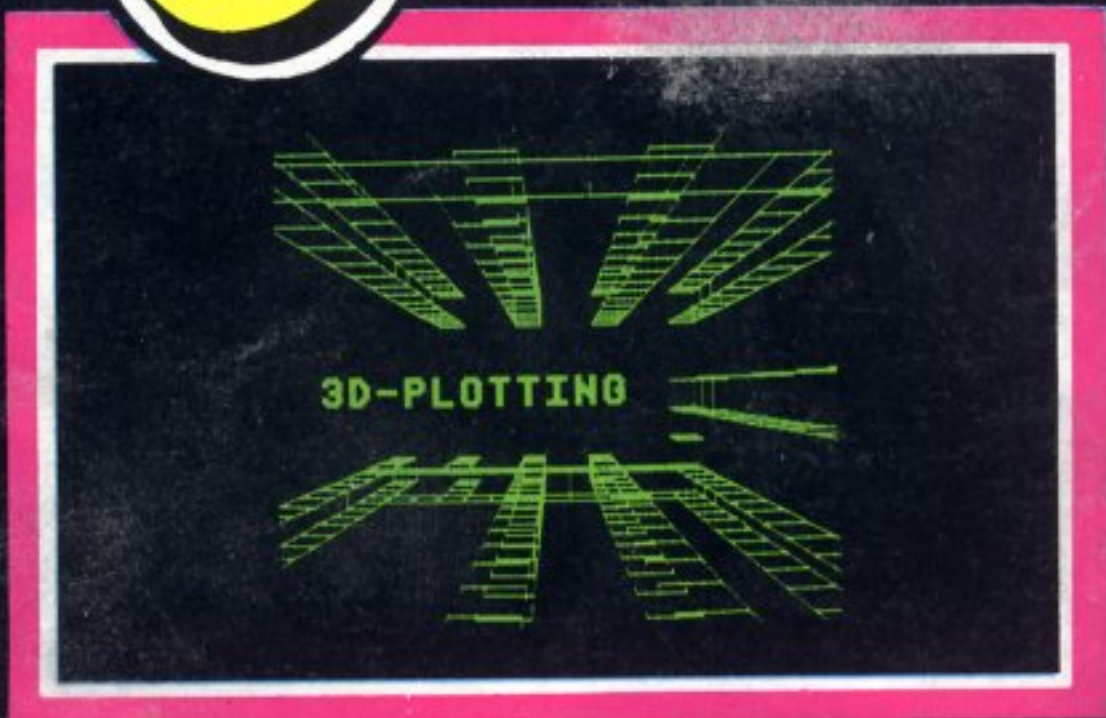


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