

ALBERT'S MONTHLY



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The magazine is edited by Mrs C. Prime and R. Prime.

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Monthly Note.

The Change!

I have decided next month to change the whole formatt of the magazine. The magazine will now be in A5 formatt, which is half the size it is now, this should make the magazine easier to handle. Please write and tell me what you think about this.

What I have for you this month.

This month I have all kinds of things for you to do and look at. I have everything from reviews to a Learners page, also I have a form for you to send in, and also a quiz, so keep reading!

The News..The News

Competition Result

Due to the fact that I completly forgot to tell you, here are the winners from the Wordsquare quiz.

First Prize goes to Mr. C. Roberts, who was drawn out of the Superdrug bag first. He wins 3 3" discs + £6 of Public Domain software.

Second Prize goes to Miss. S. Willmott, who was drawn next from the bag by a pestering sister. She wins 3 3" discs + £3 of Public Domain software.

The New Price of the magazine (in ouch pounds!)

I know that many people are going to moan when you read this (Mostly the people who are due for renewal Ed.), but due to the expense of running a User Group and A monthly magazine, I'm going to have to put the price of the magazine up. The new price is £12 per annum and this includes all the extras such as phone calls and our 1 - 1 meetings. Sorry but I have been running at a loss for 4 months and although I didn't want to make a fortune by running a User Group, I certainly didn't want to lose one!!

Show news

Remember April 22nd!

This is the show at the National Motorcycle museum in Birmingham. From 10am to 5pm. The enterence fee is 50p adults (over the age of 16 ed) and free for children.

Top 10

This is a top 10 with a difference. Next month I will be reviewing The Cracker (a spreadsheet) and I want every one to send me a list of their top 10 games. These most popular games will be compiled into a pie chart. This should then show you how good/bad The Cracker is as well as showing you the Top 10 games for the Einstein.

<u>Position:</u>	<u>Name of Program</u>	<u>:Rating</u>
1.	1. Starquake	*****
2.	.2 . Druid	*****
3.	.3 . Cluedo	***
4.	.4 . Buzz off / Shark hunter	***
5.	.5 . Hitchhikers Guide to the galaxy	****
6.	.6 . Harvey Smith show jumping / Jetset Willy	****
7.	.7 . Hustler (Pool)	**
8.	.8 . Qogo 2	***
9.	.9 . Flight simulation 2	***
10.	.N . Card Sharp.	**

Top 10 Business software

1.	.1 . Tasword	*****
2.	.6 . The Cracker	*****
3.	.3 . Popup	***
4.	.4 . Info star	****
5.	.5 . Wordstar Professional	****
6.	.7 . Tas - Sign	****
7.	.10. SSSpell	**
8.	.8 . Write hand man	**
9.	.9 . Super Writer	***
10.	.2 . Personal Assistant (FMP)	****

Competition

This months competition will take a little more thought. There is a AM1 disc to be won + 3" discs Just answer the questions and send them back in the form of a letter and I will do the rest. To qualify yourself for the competition you will have to do 3 things.

1. Tell me what you think about changing the magazine to an A5 formatt.
2. Tell me your 10 most favourite games.
3. Answer ALL 8 of the questions.

The questions

1. What is a bit. (1 point)
2. What is a byte. (1 point)
3. Name 3 things which a wordprocessor can be used for. (3 points)
4. As a programmer I have the choice of writing a program in a low-level language or in a high-level language. Each language has it's advantages and disadvantages. Explain 1 advantage and 1 disadvantage for EACH. (4 Points)
5. Contrast the output available from a visual display unit (VDU) and a printer. Give circumstances when the output from a VDU is preferred to that of a printer and vice-versa. (8 points)
6. Name 1 real time-use of computers. (1 point)
7. Explain why the above application must be a real-time system. (1 Point)
8. Who is the Tatung Einstein named after. (1 point)

First Prize is the AM1 disc + 3 blank 3" discs for the first people to get 20 points.

Second prize is the AM1 disc for anyone who gets over 15 points.

Of course, if no-one gets over 15 points, the person nearest will win the prize.

Basically Speaking

XBAS (A high level language) is one of the simplest languages for the Einstein and is far the best, some of the comands however, are far from simple.

This month I have started out to teach you about sprites. Sprites are strange creatures which are very common in games, but when you try and create them you find that they harder are to create than they look. The actual sprite is defined by a command called SHAPE. This command is used with a number e.g 144 and a "string" of numbers inside quotes. As this looks even more complex than it is I will to make it as easy as possbile. First draw out a grid 8 * 8 on a page, or use graph paper.

```
      . . . . .
1-:   :
2-:   :
3-:   :
4-:   :
5-:   :
6-:   :
7-:   :
8-:   :
      . . . . .
      ^ ^ ^ ^ ^ ^ ^ ^
      1 2 3 4 5 6 7 8
```

Once this is done you can fill in the square with what you want so, if you wanted to design a key you would do it like this:-

```
      . . . . .
1-:   . . . . :
2-:   . . . . :
3-:   . . . . :
4-:   . . . . :
5-:   . . . . :
6-:   . . . . :
7-:   . . . . :
8-:   . . . . :
      . . . . .
      ^ ^ ^ ^ ^ ^ ^ ^
      1 2 3 4 5 6 7 8
```

This is a rough drawing of a key on paper. The next thing you want to do is to convert the picture to binary which is the easiest bit (no pun intended!!).

Basically speaking Part 2

1-	0	0	1	1	1	1	0	0:
2-	0	0	1	0	0	1	0	0:
3-	0	0	1	1	1	1	0	0:
4-	0	0	0	1	1	0	0	0:
5-	0	0	0	1	1	0	0	0:
6-	0	0	1	1	1	0	0	0:
7-	0	0	0	1	1	0	0	0:
8-	0	0	1	1	1	0	0	0:

	^	^	^	^	^	^	^	^
	1	2	3	4	5	6	7	8

When this is completed you can see how it works. Each 1 represents a dot which you have added, and each 0 represents a space so, you get a block of 1's and 0's which make up the key.

```
00111100
00100100
00111100
00011000
00011000
00111000
00011000
00111000
```

Then comes the nasty bit. On page 225 of the Introduction to Einstein there is a table, and here is where you have to do some work. You now have to look for the following combinations on that page 00111100.

This number 00111100 infact equals 3C in the book, so going through th whole set you end up with this:-

```
00111100 = 3C
00100100 = 24
00111100 = 3C
00011000 = 18
00011000 = 18
00111000 = 38
00011000 = 18
00111000 = 38
```

You now put all of these numbers together in a Shape command so,

```
10 SHAPE ***, "3C 24 3C 18 18 38 18 38"
```

(*** equals any number from 144 to 225)

When all these numbers are added together they tell the computer to define shape *** to be the key.

Basically speaking Part3.

Now we have created our key, it would be nice to put it on the screen, or move it a little.

To put it on the screen is easier than it sounds.

SPRITE. This is the command we need to do this, but to use the command we need to know a little about it before we start. The sprite command has 5 different "bits" for you to remember.

SPRITE P,X,Y,C,SN

The 5 parts are as follows. The letter P in this case stands for priority (0-30). The priority is very important and can be used to make some very good effects. The higher the number is, the lower the priority, this means that if you pass a high priority key (P=0) in front of a low priority key (P=30) the high priority key seems to pass in front of the low priority key and the low priority key will seem to pass behind (When programming it is an idea to number your first sprite about 15). The Letters X and Y stand for the coordinates. X is anything from 0 to 255 and that number is for across the screen left to right. Y is anything from 0 to 191 and this is up the screen. The next letter is C. This one stands for colour. On the normal Einstein computer you have 16 colours from 0 to 15. These are used to change the colour of the sprites.

Finally the letters SN. This is the shape number. If you defined shape 144 to be a key then to print it you will need to put that number at the end.

So, after doing all that you can define a sprite and put it on the screen, but can you move it?

Below I have listed a very basic program which moves a few keys around, see what you think!

```
10 CLS
20 MAG 0:REM Magnification of the sprite 0-1.
30 SPRITE 144,"3C 24 3C 18 18 38 18 38"
40 FOR F=1 TO 191
45 L=RND(15)
50 SPRITE 1,10,F,1,144
60 SPRITE 2,190,F,2,144
70 SPRITE 3,F,10,3,144
80 SPRITE 4,F,190,4,144
90 SPRITE 0,F,F,L,144
100 REM *** Press Shift + Break to stop program ***
110 NEXT F
120 GOTO 40
```

This program prints 5 keys on the screen & moves them.

Good luck with your sprite drawing.

Mission Impossible.

Just a normal saturday morning when David Thompson popped around. He brought his usual goodies which included this month a new Einstein (my 2 year old one is now almost completly broken!) and a 5.25" disc drive.

Nothing out of the ordinary you might say, but have you ever tried to connect a 5.25" drive to an Einstein?

I suppose this is more of a warning than anything else as 5.25" drives can damage your health. I had brought a brand new disc drive power supply not so long ago so I thought it should be a doddle connecting it up and running it as an external drive, but this is where the problems started. According to the Einstein User magazine you only need a +5v supply and a +12v supply as well as the normal -0v or earth. We carefully followed the diagram and after we double checked everything we plugged in. The next thing to do was to plug the drive into the Einstein via the ribbon type cable, this was easy as I had a couple of spare ribbon leads and it was easy enough for me to connect this up. I switched on, but to my dismay the disc drive would not stop spinning. The power supply had to be wrong. To test my theory we tore the top off my old Einstein and ran the disc drive perfectly there!! We tried again with the power supply, but the drive was spinning all the time and we couldn't stop it. This time we put a voltmeter on the power supply and Albert, however many places we tried we still found the same result. We tried then to get the power supply to be exactly like the Einsteins normal supply (+12 -12 +5 and -0v) but when this was connected up the thing started to catch fire so we gave up on that idea!

The next thought was to actually run the 5.25 drive off Albert's supply, but it did look a bit wrong and having the drive perched precariously on the Einsteins speaker did nothing to make it better. We were about to give up on the idea, but then, by chance we found a lead which was long and had the right sort of plug on the end and after a bit of adapting we created a perfect power lead that when connected would run the 5.25 inch drive. After this was done we fed the lead out of the back of the computer and into the 5.25" drive. This all connected we then replaced the lid and switched on. The drive worked, so we cheered up a bit and I formatted 105 discs to celebrate! But be careful, once I bought a brand new £65 80 track Double sided drive and by a little mistake (I put 8 amps instead of 1 amp through the drive) I blew it up and at the same time I blew up £65!! I guess the moral is if your going to DIY it be careful as you may:-

Destroy It Yourself

If anyone has any Mission Impossible type experiments please send them in.

(Address on the contents page.)

Software Price List

Games

<u>Description</u>	<u>:Normal Price:</u>	<u>Offer Price.</u>
F1 Simulator / Soul of a robot.	:£13.95	:£11.95
Games Pack 3	:£44.85	:£30.00
Sorcerer (Infocom adventure)	:£27.95	:£20.00
Starcross (Infocom adventure)	:£27.95	:£7
Hitchhikers Guide to the Galaxy.	:£27.95	:£20
Elite	:£19.95	:£15
Druid	:£13.95	:£12

Utilities

<u>Description</u>	<u>:Normal Price:</u>	<u>Offer Price.</u>
Utilities 1	:£9.95	:£8.95
Tubes Mouse software.	:£11.99	:£10

Small Business

<u>Description</u>	<u>:Normal Price:</u>	<u>Offer Price.</u>
Tasword	:£27.95	:£25
Spread Sheet	:£19.95	:£10
The Cracker	:£34.99	:£25
InfoStar	:£195	:£40 (ono)

Books

<u>Description</u>	<u>:Normal Price:</u>	<u>Offer Price.</u>
3 Einstein Manuals. Dos/Mos. Introduction to and Basic Reference.	:£24.95	:£5!!
BBCBASIC + software	:£27.95	:£17!!

The Auction.

For Sale. 1 BBC bit printer. Brand new. Good quality print and a small roll of paper. £25 ono. Phone 0525 210868.

For Sale. 1 Transformer. Cased transformer giving out +5v +12v -5v -12v 0v in any combination. Originally cost £37 but will sell for £20. Phone 0525 210868.

For Sale. 1 box of 132 column printer paper. About 1000 sheets. Any reasonable offer. Phone 0525 210868.

For Sale. Used 3" discs. All about 3-4 months old. Relabelled and reformatted. £1.50 each or £12 for 5.

Wanted. Pascal Language. Any version. Phone Sue Willmott on 0438 359845.

Wanted. Can anyone help with Fortran or forth languages these are needed urgently by a new Einstein User. Contact Sam on 0908 662670

Wanted. A 10 or 20 megabyte Hard Disc. Age immaterial but it must still be serviceable. Ring Sam on 0908 662670.

For Sale. Wonderful Public Domain software. Only 50p per disc side. Please refer to last months magazine for latest catalogue.

For Sale. AM1 the disc. I have now refined the software and there is now 20 Xbas programs. All the software is 100% error free. £11. (Don't worry all you people who bought the original AM1 disc as you are already getting this plus a few programs more!!)

For Sale. TUBES. This fantastic mouse utility is now complete. Only £11.99 including manual.

What is about to follow.

THE classic of all games. This Bruce Forsyth imitation High/Low game. It is an excellent game which requires near to no brains and 2 fingers. Ideal game for you after a hard days work at home/office. The printout is near perfect, but however there are 3 cards. The Jack, Queen and King which have to be designed by you. Since my printer won't print that type of graphics I leave it up to you + my little drawing how to do it. You can use the graph keys for it. This game is very much recommended as it is very addictive. This program features on the AM1 disc.

Ratings.

Ease of entering data:	10%	(Sorry but my printer isn't very good at doing graphics!)
Ease of use	: 100%	
Graphics	: 50%	
Sound	: 10%	
Instructions	: 20%	

You've either seen it or played it or at least fiddled with it. It is that wonderful Rubik's Cube. All the charm of the chunk of plastic with much more. No fiddly graph keys here. The game itself is reasonable and the instructions are Non-existent, however it is still a good game!!

Ease of entering data:	50%
Ease of use	: 10%
Graphics	: 20%
Sound	: 0%
Instructions	: 5%

Overall both of the games leave a lot to be desired, but are good once you have got the hang of them.

Next month there will be a Sprite editor to add to your collection, and maybe another game.

```
0 REM *****
10 REM *
20 REM * Written for the BEUG by *
30 REM * S.Catt. December '88... *
40 REM *
50 REM *****
60 RST
70 DIM CD$(12,9),CR(9,2),CRD(51)
80 GCOL11,4:BCOL5:TCOL11,5:CLS32
90 RESTORE 60:FORF=142TO146:READ SH$
100 SHAPEF,SH$:NEXTF:PRINTCHR$(20)
110 DATA 00367F7F7F3E1C08,00081C3E7F3E1C08,081C3E7F7F3E081C,081C1C6B7F6B081C,
004C52525252524C
120 CRE=10:BANK=0:IOM4,0:IOM5,0
130 ORIGIN 0,0
140 DRAW 0,0TO248,0TO248,191TO0,191TO0,0
150 TCOL6,11:PRINT@10,0,"]HIGH/LOW["
160 IF CRE<=0 THEN 2050
170 GOSUB 530:GOSUB 560
180 QQ=1:FORF=0TO9
190 IF CRD(F)>=0ANDCRD(F)<=12 THEN CRD(F)=CRD(F):CR(F,0)=142:CR(F,1)=8:CR(F,2
)=CRD(F)
200 IF CRD(F)>=13ANDCRD(F)<=25 THEN CRD(F)=CRD(F)-13:CR(F,0)=143:CR(F,1)=8:CR
(F,2)=CRD(F)
210 IF CRD(F)>=26ANDCRD(F)<=38 THEN CRD(F)=CRD(F)-26:CR(F,0)=144:CR(F,1)=1:CR
(F,2)=CRD(F)
220 IF CRD(F)>=39ANDCRD(F)<=51 THEN CRD(F)=CRD(F)-39:CR(F,0)=145:CR(F,1)=1:CR
(F,2)=CRD(F)
230 NEXTF
240 QQ=1:HH=2:F=0:M=0:GOSUB 660:CR(F,2)=VAL(CD$(CR(F,2),9))
250 CRE=CRE-1:GOSUB 530:FORF=1TO9
260 TEMPO7:MUSIC"AIR'AR'AR'AR'AR","R","R"
270 TCOL1,5:PRINT@3,22,"ENTER (H)igher OR (L)ower ";
280 I=INCH
290 IF I=72 THEN PS="YOU CHOSE HIGHER":GOTO 320
300 IF I=76 THEN PS="YOU CHOSE LOWER":GOTO 320
310 GOTO 260
320 TCOL5,5:PRINT@2,22,MUL$(" ",26)
330 TCOL15,9:PRINT@7,22,PS
340 GOSUB 660:CR(F,2)=VAL(CD$(CR(F,2),9))
350 TCOL1,5:PRINT@2,22,"";
360 IFI=72ANDCR(F,2)=CR(F-1,2)THEN AA$="A PAIR COUNTS IN THIS GAME":T=5:R=0
:MUS$="C1RCR'CRCR'CRCR'CRCR'CRCR'CRCR":GOTO 470
370 IFI=76ANDCR(F,2)=CR(F-1,2)THEN AA$="A PAIR COUNTS IN THIS GAME":T=5:R=0
:MUS$="C1RCR'CRCR'CRCR'CRCR'CRCR'CRCR":GOTO 470
380 IF I=72 ANDCR(F,2)>CR(F-1,2)THEN AA$="** WELL DONE ** THATS RIGHT":T=7:M
US$="C1RCR'CRCR'CRCR'CRCR'CRCR'CRCR":R=0:GOTO 470
390 IF I=76 ANDCR(F,2)<CR(F-1,2)THEN AA$="** WELL DONE ** THATS RIGHT":T=7:M
US$="C1RCR'CRCR'CRCR'CRCR'CRCR'CRCR":R=0:GOTO 470
400 IF I=72 AND CR(F,2)<CR(F-1,2) THEN AA$="*** UNLUCKY *** IT IS- LOWER":T=5
:MUS$="-C3R-CR-CR=A7R":R=1:GOTO 470
410 IF I=76 AND CR(F,2)>CR(F-1,2) THEN AA$="*** UNLUCKY *** IT IS HIGHER":T=5
:MUS$="-C3R-CR-CR=A7R":R=1:GOTO 470
420 NEXTF
430 BANK=BANK+1:GOSUB 530:T=5
440 AA$="THATS TERRIFIC YOU WON £1.00"
450 MUS$="-F3-A-BC7R3-F-A-BC7R3-F-A-BC5-A-F-A-G7R"
460 GOSUB 470:GOTO 160
470 TCOL15,9:PRINT@1,22,AA$
```

```
480 TEMPOT:MUSIC MUS+"R","R"
490 TCOL1,5:PRINT@1,22,MUL$ (" ",28)
500 IF F=10 THEN 160
510 IF R=1 THEN 160
520 IF R=0 THEN 420
530 TCOL5,11:FMT2,0:PRINT@0,0,"CREDIT=";CRE
540 FMT2,2:PRINT@21,0,"BANK=";BANK
550 RETURN
560 TCOL11,1:QQ=1:FORF=0TO4:FORG=2TO10:PRINT@QQ,G,"JJJJJ":NEXTG:QQ=QQ+6:NEXTF
570 QQ=1:FORF=0TO4:FORG=12TO20:PRINT@QQ,G,"JJJJJ":NEXTG:QQ=QQ+6:NEXTF
580 REM SHUFFLE
590 FORF=0TO51:CRD(F)=F:NEXTF
600 FORF=0TO120
610 X=INT(RND(52))
620 Y=INT(RND(52))
630 Z=CRD(X):CRD(X)=CRD(Y):CRD(Y)=Z
640 NEXTF
650 RETURN
660 TCOL CR(F,1),15
670 CD=CR(F,0):GOSUB 740
680 FORG=0TO8
690 PRINT@QQ,HH,CD$(CR(F,2),G)
700 HH=HH+1:NEXTG:QQ=QQ+6
710 IF QQ>=26 THEN M=1:QQ=1
720 IF M=1 THEN HH=12:ELSE HH=2
730 RETURN
740 CD$(0,0)="A"
750 CD$(0,1)=" "
760 CD$(0,2)=" "
770 CD$(0,3)=" "
780 CD$(0,4)=" "+CHR$(CD)+" "
790 CD$(0,5)=" "
800 CD$(0,6)=" "
810 CD$(0,7)=" "
820 CD$(0,8)=" A"
830 CD$(0,9)="14"
840 CD$(1,0)="2"
850 CD$(1,1)=" "
860 CD$(1,2)=" "+CHR$(CD)+" "
870 CD$(1,3)=" "
880 CD$(1,4)=" "
890 CD$(1,5)=" "
900 CD$(1,6)=" "+CHR$(CD)+" "
910 CD$(1,7)=" "
920 CD$(1,8)=" 2"
930 CD$(1,9)="2"
940 CD$(2,0)="3"
950 CD$(2,1)=" "
960 CD$(2,2)=" "+CHR$(CD)+" "
970 CD$(2,3)=" "
980 CD$(2,4)=" "+CHR$(CD)+" "
990 CD$(2,5)=" "
1000 CD$(2,6)=" "+CHR$(CD)+" "
1010 CD$(2,7)=" "
1020 CD$(2,8)=" 3"
1030 CD$(2,9)="3"
1040 CD$(3,0)="4"
1050 CD$(3,1)=" "
1060 CD$(3,2)=" "+CHR$(CD)+" "+CHR$(CD)+" "
1070 CD$(3,3)=" "
```

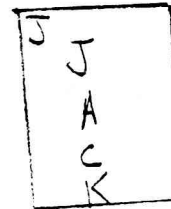
1080 CD\$(3,4)=" "
1090 CD\$(3,5)=" "
1100 CD\$(3,6)=" "+CHR\$(CD)+" "+CHR\$(CD)+" "
1110 CD\$(3,7)=" "
1120 CD\$(3,8)=" 4"
1130 CD\$(3,9)=" 4"
1140 CD\$(4,0)=" 5 "
1150 CD\$(4,1)=" "
1160 CD\$(4,2)=" "+CHR\$(CD)+" "+CHR\$(CD)+" "
1170 CD\$(4,3)=" "
1180 CD\$(4,4)=" "+CHR\$(CD)+" "
1190 CD\$(4,5)=" "
1200 CD\$(4,6)=" "+CHR\$(CD)+" "+CHR\$(CD)+" "
1210 CD\$(4,7)=" "
1220 CD\$(4,8)=" 5 "
1230 CD\$(4,9)=" 5 "
1240 CD\$(5,0)=" 6 "
1250 CD\$(5,1)=" "
1260 CD\$(5,2)=" "+CHR\$(CD)+" "+CHR\$(CD)+" "
1270 CD\$(5,3)=" "
1280 CD\$(5,4)=" "+CHR\$(CD)+" "+CHR\$(CD)+" "
1290 CD\$(5,5)=" "
1300 CD\$(5,6)=" "+CHR\$(CD)+" "+CHR\$(CD)+" "
1310 CD\$(5,7)=" "
1320 CD\$(5,8)=" 6 "
1330 CD\$(5,9)=" 6 "
1340 CD\$(6,0)=" 7 "
1350 CD\$(6,1)=" "
1360 CD\$(6,2)=" "+CHR\$(CD)+" "+CHR\$(CD)+" "
1370 CD\$(6,3)=" "+CHR\$(CD)+" "
1380 CD\$(6,4)=" "+CHR\$(CD)+" "+CHR\$(CD)+" "
1390 CD\$(6,5)=" "
1400 CD\$(6,6)=" "+CHR\$(CD)+" "+CHR\$(CD)+" "
1410 CD\$(6,7)=" "
1420 CD\$(6,8)=" 7 "
1430 CD\$(6,9)=" 7 "
1440 CD\$(7,0)=" 8 "
1450 CD\$(7,1)=" "
1460 CD\$(7,2)=" "+CHR\$(CD)+" "+CHR\$(CD)+" "
1470 CD\$(7,3)=" "+CHR\$(CD)+" "
1480 CD\$(7,4)=" "+CHR\$(CD)+" "+CHR\$(CD)+" "
1490 CD\$(7,5)=" "+CHR\$(CD)+" "
1500 CD\$(7,6)=" "+CHR\$(CD)+" "+CHR\$(CD)+" "
1510 CD\$(7,7)=" "
1520 CD\$(7,8)=" 8 "
1530 CD\$(7,9)=" 8 "
1540 CD\$(8,0)=" 9 "
1550 CD\$(8,1)=" "
1560 CD\$(8,2)=" "+CHR\$(CD)+" "+CHR\$(CD)+" "
1570 CD\$(8,3)=" "+CHR\$(CD)+" "
1580 CD\$(8,4)=" "+CHR\$(CD)+" "+CHR\$(CD)+" "
1590 CD\$(8,5)=" "+CHR\$(CD)+" "+CHR\$(CD)+" "
1600 CD\$(8,6)=" "+CHR\$(CD)+" "+CHR\$(CD)+" "
1610 CD\$(8,7)=" "
1620 CD\$(8,8)=" 9 "
1630 CD\$(8,9)=" 9 "
1640 CD\$(9,0)=CHR\$(146)+" "
1650 CD\$(9,1)=" "
1660 CD\$(9,2)=" "+CHR\$(CD)+" "+CHR\$(CD)+" "

```

1670 CD$(9,3)=" "+CHR$(CD)+" "+CHR$(CD)+" "
1680 CD$(9,4)=" "+CHR$(CD)+" "+CHR$(CD)+" "
1690 CD$(9,5)=" "+CHR$(CD)+" "+CHR$(CD)+" "
1700 CD$(9,6)=" "+CHR$(CD)+" "+CHR$(CD)+" "
1710 CD$(9,7)=" "
1720 CD$(9,8)=" "+CHR$(146)
1730 CD$(9,9)="10"
1740 CD$(10,0)="J$$$"+CHR$(CD)
1750 CD$(10,1)="}ááá¿"
1760 CD$(10,2)="}áJá¿"
1770 CD$(10,3)="}áAá¿"
1780 CD$(10,4)="}ááá¿"
1790 CD$(10,5)="}áCá¿"
1800 CD$(10,6)="}áKá¿"
1810 CD$(10,7)="}ááá¿"
1820 CD$(10,8)=CHR$(CD)+"}{}J"
1830 CD$(10,9)="11"
1840 CD$(11,0)="Q$$$"+CHR$(CD)
1850 CD$(11,1)="}ááá¿"
1860 CD$(11,2)="}áQá¿"
1870 CD$(11,3)="}áUá¿"
1880 CD$(11,4)="}áEá¿"
1890 CD$(11,5)="}áEá¿"
1900 CD$(11,6)="}áNá¿"
1910 CD$(11,7)="}ááá¿"
1920 CD$(11,8)=CHR$(CD)+"}{}Q"
1930 CD$(11,9)="12"
1940 CD$(12,0)="K$$$"+CHR$(CD)
1950 CD$(12,1)="}ááá¿"
1960 CD$(12,2)="}áKá¿"
1970 CD$(12,3)="}áIá¿"
1980 CD$(12,4)="}ááá¿"
1990 CD$(12,5)="}áNá¿"
2000 CD$(12,6)="}áGá¿"
2010 CD$(12,7)="}ááá¿"
2020 CD$(12,8)=CHR$(CD)+"$$$K"
2030 CD$(12,9)="13"
2040 RETURN
2050 IF BANK=0 AND CRE<=0 THEN RUN 60
2060 TCOL15,9:PRINT@3,22,"*** COLLECT OR PLAY ***";:TCOL5,5
2070 I=INCH:TEMPO7
2080 IF I=67 THEN 2120
2090 IF I=80 THEN 2180
2100 TCOL1,5:PRINT@4,22,MUL$(" ",26)
2110 BEEP:GOTO 2050
2120 BCOL4:TCOL15,4:CLS40
2130 IF BANK=0 THEN RUN 60
2140 FMT2,2:FORG=0TOBANK+.1 STEP .1:MUSIC"+C1R+CR+CR","R","R"
2150 PRINT@2,2,"MONEY OWED- ";G;:NEXTG
2160 PRINT" PAID"
2170 RUN 60
2180 IF BANK=0 THEN END
2190 M=0:FORG=BANKTO0 STEP-.1
2200 TCOL5,11
2210 FMT2,2:PRINT@26,0,G:M=M+1
2220 FMT2,0:PRINT@7,0,M
2230 MUSIC"+C1R+CR+CR","R","R"
2240 NEXTG:CRE=M:BANK=0
2250 GOTO 160

```

Use Graph Keys to
create a box and then
add Jack, Queen, King
etc. e.g.



```
0 REM
10 REM *****
20 REM *
30 REM * CUBE FOR EINSTEIN *
40 REM *
50 REM * BEUG 1988,1989..... *
60 REM *
70 REM *****
80 REM
90 MAG0:SPRITEOFF:CLS40:BCOLO
100 PRINTCHR$(20):REM Turn cursor off
110 PRINT@5,3;"*****"
120 PRINT@5,4;"* INSTRUCTIONS *"
130 PRINT@5,5;"* FOR THE CUBE *"
140 PRINT@5,6;"*****"
150 PRINT@3,8;"ONLY THREE FACES OF THE CUBE WILL"
160 PRINT@3,9;"BE DISPLAYED AT ANY TIME"
170 PRINT@3,10;"THE LETTERS AROUND THE CUBE INDICATE THE ROW TO BE ADJUSTE
D.AFTER THE PROMT(WHAT MOVE)YOU INPUT THE"
180 PRINT@3,13;"LETTER OF YOUR CHOICE,AT WHICH POINT YOU WILL BE ASKED FOR
A DIRECTION ie UP^ DOWN: RIGHT] LEFT[."
190 PRINT@3,17;"NOTE THE DIRECTION KEYS ARE NOT THE CURSOR KEYS"
200 PRINT@3,21;"PRESS ANY KEY TO START"
210 K=INCH
220 IFK>0THEN GOTO230
230 ORIGIN0,0
240 MAG0
250 REM
260 REM Set up initial colours
270 REM
280 F1=15 :F2=15:F3=15:F4=15:F5=15:F6=15:F7=15:F8=15:F9=15
290 L1=7:L2=7:L3=7:L4=7:L5=7:L6=7:L7=7:L8=7:L9=7
300 R1=4:R2=4:R3=4:R4=4:R5=4:R6=4:R7=4:R8=4:R9=4
310 S1=12:S2=12:S3=12:S4=12:S5=12:S6=12:S7=12:S8=12:S9=12
320 T1=10:T2=10:T3=10:T4=10:T5=10:T6=10:T7=10:T8=10:T9=10
330 B1=6:B2=6:B3=6:B4=6:B5=6:B6=6:B7=6:B8=6:B9=6
340 REM
350 REM Set up alpha letters around the cube
360 REM
370 SPRITE1,84,88,3,65
380 SPRITE2,84,57,5,66
390 SPRITE3,84,28,9,67
400 SPRITE4,100,8,11,68
410 SPRITE5,127,8,6,69
420 SPRITE6,154,8,15,70
430 SPRITE7,177,12,4,71
440 SPRITE8,193,24,12,72
450 SPRITE9,209,36,14,73
460 CLS
470 PRINT@1,9;"PRESS"
480 PRINT@1,11;"(R) TO RESET"
490 PRINT@1,13;"(X) TO EXIT"
500 PRINT@1,15;"(T) TO TURN"
510 PRINT@1,16;"WHOLE CUBE"
520 Q=0
530 REM
540 REM Draw and colour front face
550 REM
560 GCOLF1
570 ORIGIN0,0:GOSUB760
```

```
580 GCOLF2
590 ORIGIN27,0:GOSUB760
600 GCOLF3
610 ORIGIN54,0:GOSUB760
620 GCOLF5
630 ORIGIN27,-31:GOSUB760
640 GCOLF4
650 ORIGIN0,-31:GOSUB760
660 GCOLF6
670 ORIGIN54,-31:GOSUB760
680 GCOLF7
690 ORIGIN0,-62:GOSUB760
700 GCOLF8
710 ORIGIN27,-62:GOSUB760
720 GCOLF9
730 ORIGIN54,-62:GOSUB760
740 ORIGIN0,0
750 GOTO780
760 DRAW93,96TO113,96TO113,72TO93,72TO93,96:FILL100,80
770 RETURN
780 REM
790 REM Draw and colour top face
800 REM
810 GCOLT7
820 ORIGIN-6,2:GOSUB1000
830 GCOLT8
840 ORIGIN22,2:GOSUB1000
850 GCOLT9
860 ORIGIN50,2:GOSUB1000
870 GCOLT4
880 ORIGIN8,16:GOSUB1000
890 GCOLT5
900 ORIGIN36,16:GOSUB1000
910 GCOLT6
920 ORIGIN65,16:GOSUB1000
930 GCOLT1
940 ORIGIN23,30:GOSUB1000
950 GCOLT2
960 ORIGIN51,30:GOSUB1000
970 GCOLT3
980 ORIGIN79,30:GOSUB1000
990 ORIGIN0,0:GCOL7:GOTO1050
1000 DRAW102,102TO112,112TO132,112TO122,102TO102,102:FILL110,106
1010 RETURN
1020 REM
1030 REM Draw and colour side face
1040 REM
1050 GCOLS1
1060 ORIGIN 5,-2:GOSUB1240
1070 GCOLS4
1080 ORIGIN5,-33:GOSUB1240
1090 GCOLS7
1100 ORIGIN5,-65:GOSUB1240
1110 GCOL S2
1120 ORIGIN20,11:GOSUB1240
1130 GCOL S5
1140 ORIGIN20,-20:GOSUB1240
1150 GCOLS8
1160 ORIGIN20,-51:GOSUB1240
1170 GCOLS3
```



```
1180 ORIGIN35,26:GOSUB1240
1190 GCOL S6
1200 ORIGIN35,-6:GOSUB1240
1210 GCOLS9
1220 ORIGIN35,-37:GOSUB1240
1230 ORIGIN0,0:GOTO1260
1240 DRAW169,100TO169,76TO178,85TO178,109TO169,100:FILL175,90
1250 RETURN
1260 PRINT@1,2;"WHAT MOVE(A-I) "
1270 P=INCH
1280 IFP=66THEN1550:REM B MOVE
1290 IFP=70THEN2060:REM F MOVE
1300 IFP=69THEN1940:REM E MOVE
1310 IFP=72THEN2340:REM H MOVE
1320 IFP=68THEN1810:REM D MOVE
1330 IFP=71THEN2200:REM G MOVE
1340 IFP=65THEN1410:REM A MOVE
1350 IFP=67THEN1670:REM C MOVE
1360 IFP=73THEN2460:REM I MOVE
1370 IFP=84THEN2620:REM T MOVE
1380 IFP=88THEN2600:REM X EXIT PROG
1390 IFP=82THEN CLS:GOTO230:REM RESET R
1400 GOTO1270
1410 REM A MOVE
1420 PRINT@1,3;"LEFT ( ) OR RIGHT ( ) "
1430 S=INCH
1440 IFS=91THEN1510
1450 IFS=93THEN1470
1460 GOTO1430
1470 REM RIGHTA
1480 SWAPT7,T1:SWAPT1,T3:SWAPT3,T9:SWAPT4,T2:SWAPT2,T6:SWAPT6,T8
1490 SWAPF1,L3:SWAPL3,R3:SWAPR3,S1:SWAPF2,L2:SWAPL2,R2:SWAPR2,S2:SWAPF3,L1:SWA
PL1,R1:SWAPR1,S3
1500 IFQ=5THEN1640ELSE460
1510 REM LEFT A
1520 SWAPT7,T9:SWAPT9,T3:SWAPT3,T1:SWAPT8,T6:SWAPT6,T2:SWAPT2,T4
1530 SWAPF1,S1:SWAPS1,R3:SWAPR3,L3:SWAPF2,S2:SWAPS2,R2:SWAPR2,L2:SWAPF3,S3:SWA
PS3,R1:SWAPR1,L1
1540 IFQ=5THEN1610ELSE460
1550 REM B MOVE
1560 PRINT@1,3;"LEFT ( ) OR RIGHT ( ) "
1570 S=INCH
1580 IFS=91THEN1610
1590 IFS=93THEN1640
1600 GOTO1570
1610 REM LEFT B
1620 SWAPF4,S4:SWAPS4,R6:SWAPR6,L6:SWAPF5,S5:SWAPS5,R5:SWAPR5,L5:SWAPF6,S6:SWA
PS6,R4:SWAPR4,L4
1630 IFQ=5THEN1730ELSE460
1640 REM RIGHT B
1650 SWAPF4,L6:SWAPL6,R6:SWAPR6,S4:SWAPF5,L5:SWAPL5,R5:SWAPR5,S5:SWAPF6,L4:SWA
PL4,R4:SWAPR4,S6
1660 IFQ=5THEN1770ELSE460
1670 REM C MOVE
1680 PRINT@1,3;"LEFT ( ) OR RIGHT ( ) "
1690 S=INCH
1700 IFS=91THEN1730
1710 IFS=93THEN1770
1720 GOTO1570
```

```
1730 REM RIGHT C
1740 SWAPB7,B9:SWAPB9,B3:SWAPB3,B1:SWAPB8,B6:SWAPB6,B2:SWAPB2,B4
1750 SWAPF7,S7:SWAPS7,R9:SWAPR9,L9:SWAPF8,S8:SWAPS8,R8:SWAPR8,L8:SWAPF9,S9:SWA
PS9,R7:SWAPR7,L7
1760 GOTO 460
1770 REM LEFT C
1780 SWAPB7,B1:SWAPB1,B3:SWAPB3,B9:SWAPB4,B2:SWAPB2,B6:SWAPB6,B8
1790 SWAPF9,L7:SWAPL7,R7:SWAPR7,S9:SWAPF8,L8:SWAPL8,R8:SWAPR8,S8:SWAPF7,L9:SWA
PL9,R9:SWAPR9,S7
1800 GOTO460
1810 REM D MOVE
1820 PRINT@1,3;"UP(^)OR DOWN(:)"
1830 S=INCH
1840 IFS=94THEN1900
1850 IFS=58THEN1870
1860 GOTO1830
1870 SWAPL7,L1:SWAPL1,L3:SWAPL3,L9:SWAPL4,L2:SWAPL2,L6:SWAPL6,L8
1880 SWAPF1,T1:SWAPT1,R7:SWAPR7,B7:SWAPF4,T4:SWAPT4,R4:SWAPR4,B4:SWAPF7,T7:SWA
PT7,R1:SWAPR1,B1
1890 IFQ=5THEN2000ELSE460
1900 REM D UP
1910 SWAPL7,L9:SWAPL9,L3:SWAPL3,L1:SWAPL8,L6:SWAPL6,L2:SWAPL2,L4
1920 SWAPF1,B7:SWAPB7,R7:SWAPR7,T1:SWAPF4,B4:SWAPB4,R4:SWAPR4,T4:SWAPF7,B1:SWA
PB1,R1:SWAPR1,T7
1930 IFQ=5THEN2030ELSE460
1940 REM E MOVE
1950 PRINT@1,3;"UP(^)OR DOWN(:)"
1960 S=INCH
1970 IFS=94THEN2030
1980 IFS=58THEN2000
1990 GOTO1960
2000 REM E DOWN
2010 SWAPF2,T2:SWAPT2,R8:SWAPR8,B8:SWAPF5,T5:SWAPT5,R5:SWAPR5,B5:SWAPF8,T8:SWA
PT8,R2:SWAPR2,B2
2020 IFQ=5THEN2160ELSE460
2030 REM E UP
2040 SWAPF2,B8:SWAPB8,R8:SWAPR8,T2:SWAPF5,B5:SWAPB5,R5:SWAPR5,T5:SWAPF8,B2:SWA
PB2,R2:SWAPR2,T8
2050 IFQ=5THEN2120ELSE460
2060 REM F MOVE
2070 PRINT@1,3;"UP(^)OR DOWN(:)"
2080 S=INCH
2090 IFS=94THEN2120
2100 IFS=58THEN2160
2110 GOTO2080
2120 REM F UP
2130 SWAPS7,S9:SWAPS9,S3:SWAPS3,S1:SWAPS8,S6:SWAPS6,S2:SWAPS2,S4
2140 SWAPF3,B9:SWAPB9,R9:SWAPR9,T3:SWAPF6,B6:SWAPB6,R6:SWAPR6,T6:SWAPF9,B3:SWA
PB3,R3:SWAPR3,T9
2150 GOTO 460
2160 REM F DOWN
2170 SWAPS7,S1:SWAPS1,S3:SWAPS3,S9:SWAPS4,S2:SWAPS2,S6:SWAPS6,S8
2180 SWAPF3,T3:SWAPT3,R9:SWAPR9,B9:SWAPF6,T6:SWAPT6,R6:SWAPR6,B6:SWAPF9,T9:SWA
PT9,R3:SWAPR3,B3
2190 GOTO 460
2200 REM G MOVE
2210 PRINT@1,3;"UP(^)OR DOWN(:)"
2220 S=INCH
2230 IFS=94THEN2260
2240 IFS=58THEN2300
```

```
2250 GOTO2220
2260 REM G UP
2270 SWAPF7,F1:SWAPF1,F3:SWAPF3,F9:SWAPF4,F2:SWAPF2,F6:SWAPF6,F8
2280 SWAPS1,B9:SWAPB9,L7:SWAPL7,T7:SWAPS4,B8:SWAPB8,L4:SWAPL4,T8:SWAPS7,B7:SWA
PB7,L1:SWAPL1,T9
2290 GOTO460
2300 REM G DOWN
2310 SWAPF7,F9:SWAPF9,F3:SWAPF3,F1:SWAPF8,F6:SWAPF6,F2:SWAPF2,F4
2320 SWAPS1,T7:SWAPT7,L7:SWAPL7,B9:SWAPS4,T8:SWAPT8,L4:SWAPL4,B8:SWAPS7,T9:SWA
PT9,L1:SWAPL1,B7
2330 GOTO460
2340 REM H MOVE
2350 PRINT@1,3;"UP(^)OR DOWN(:)"
2360 S=INCH
2370 IFS=94THEN2400
2380 IFS=58THEN2430
2390 GOTO2360
2400 REM H UP
2410 SWAPS2,B6:SWAPB6,L8:SWAPL8,T4:SWAPS5,B5:SWAPB5,L5:SWAPL5,T5:SWAPS8,B4:SWA
PB4,L2:SWAPL2,T6
2420 GOTO460
2430 REM H DOWN
2440 SWAPS2,T4:SWAPT4,L8:SWAPL8,B6:SWAPS5,T5:SWAPT5,L5:SWAPL5,B5:SWAPS8,T6:SWA
PT6,L2:SWAPL2,B4
2450 GOTO460
2460 REM I MOVE
2470 PRINT@1,3;"UP(^)OR DOWN(:)"
2480 S=INCH
2490 IFS=94THEN2520
2500 IFS=58THEN2560
2510 GOTO2480
2520 REM I UP
2530 SWAPR7,R1:SWAPR1,R3:SWAPR3,R9:SWAPR4,R2:SWAPR2,R6:SWAPR6,R8
2540 SWAPS3,B3:SWAPB3,L9:SWAPL9,T1:SWAPS6,B2:SWAPB2,L6:SWAPL6,T2:SWAPS9,B1:SWA
PB1,L3:SWAPL3,T3
2550 GOTO460
2560 REM I DOWN
2570 SWAPR7,R9:SWAPR9,R3:SWAPR3,R1:SWAPR8,R6:SWAPR6,R2:SWAPR2,R4
2580 SWAPS3,T1:SWAPT1,L9:SWAPL9,B3:SWAPS6,T2:SWAPT2,L6:SWAPL6,B2:SWAPS9,T3:SWA
PT3,L3:SWAPL3,B1
2590 GOTO460
2600 REM X (EXIT PROG)
2610 CLS:SPRITEOFF:RST:BCOL4:GOTO 10
2620 REM TURN CUBE
2630 Q=5
2640 PRINT@1,3;"LEFT([])OR RIGHT(])"
2650 PRINT@1,5;"UP(^)OR DOWN(:)"
2660 S=INCH
2670 IFS=91THEN1510
2680 IFS=93THEN1470
2690 IFS=94THEN1900
2700 IFS=58THEN1870
2710 GOTO2640
```

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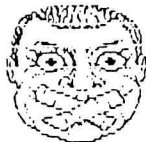
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