

19. Stock Market

General Description

This long program combines game playing with a simulation. The game is basically a Stock Market game in which you trade with a restricted number of companies and try to make the goal of \$100,000 from the \$10,000 that you start with. The simulation begins when you are able to set the parameters of the game and play against your own parameters of those chosen for you by the teacher.

When the game begins, you are given the introductory messages, and then you may select the parameters option. Type any key to avoid this, and the simulation moves straight into the stock market panel of information. To control the game there is single key entry as specified except that share purchases must be entered with the 'Return' key. The parameters, if chosen, are also single key entry and must be entered as required including '+' or '-' signs as requested, decimal points if asked for and double digit numbers if required. This is part of the data validation.

You will see the companies displayed, hopefully in green, then two columns in white. The first column is the actual market valuation in pence, and the second column is the last price change in pence. Then follow two more columns in green. The first is your actual share holding and the second is the value of the shares you hold.

Under the yellow line at the bottom is displayed the cash you currently have at your disposal, the week of the simulation, and the total of the valuations of your share holdings.

Information messages are displayed in the remaining area of the screen. Once you have chosen a share in which to trade, you may not return to that share in the current week. You may process the shares in any order. The final messages are a bit trite and you may like to improve on them. Two listings are given: the

fully documented listing which will run only on a Model ' B' and the same program, undocumented, which will run on an ' A' or ' B' .

Unfortunately the line numbers do not agree between listings, but otherwise the programs are identical.

Detailed Description

Generally this refers to the documented version.

Lines 10-530 These give the main structure of the program. The GOTO in line 360 irritates me, and could have been avoided with an additional flag. As you go through the program you will notice I have used two variables ' FIRMS' and ' FIRM'. These are different - as intended. In line 480 and subsequently, the word ' Total' must be written as viewed or the reserved word ' TO' will be detected in ' TOTAL' .

550-690 This routine both works out the value of your holding in the last column, called ' PRICE' (as ' VALUE' has the reserved word ' VAL' in it), calls the share display procedure, and sounds a suitable note. You will notice the delay is different between the two listings on line 660. This is because in the shortened version execution is quicker and the time for which the note sounds in the shorter listing would slur into the next note were not the delay extended in the shorter version.

700-910 For this section you need the WIDTH set to 0. That is the BBC default value, but you may have changed it by mistake. Everything must be typed in exactly as shown. You will find that the screen only just holds all the information required, and will not tolerate any deviance.

930-1000 The ' caveat' to the previous routine apply here as well. Do not try to change the display or you will get some very strange results. In line 960, the "" is deliberate. Put it in.

1030-1080 I had trouble in placing characters on the screen without altering the teletext colour, hence the VDU commands. The blank spaces are needed to clear unwanted characters from the screen on sale of a large amount.

1090-1290 The key line here is 1220. This determines the outcome of the game. The TREND of each economic cycle, the length of which you may set as a parameter at the beginning,

combined with the programmed success of each company called 'LUCK' and the economic bias you give the program called 'BIAS' determines whether a share will move up or down. The RANGE in line 1230 is another parameter you have control of. This decides the maximum possible increase or decrease in value of a share. A smaller range provides a difficult simulation. Its default is 80, the maximum.

1310-1380 This routine decides whether the TREND for an economic cycle is 'upbr' 'down' 'bullbr' 'bear' and also sets the range of the TREND.

1400-1620 This routine displays the question on the screen and if you type 'O' will set a flag which will send you on to the next week, otherwise selecting the company in which you wish to trade. The keyboard buffer is cleared at line 1470 and the reply restricted to the digits 1-9.

1630-1820 This simply takes in details from the keyboard of the proposed share purchase and does some validation on the input. At this point it is possible to crash the program by typing a character repeatedly till you reach the bottom of the screen and the display is disrupted. Also, if you mix letters and numbers on the input, the numerical value of the numbers before the alpha letters is taken as the proposed purchase. These are features of the BBC input. A fully validated INPUT procedure can be written if you wish. However, in use with 4th and 5th year students, these problems were never encountered accidentally.

1830-1970 This simulation is generous. Overdrafts are granted from time to time and the overdraft procedure is called in the enough-cash procedure, to determine your financial status. Overdrafts are only granted in a boom and when the cash you request is less than \$5000 (line 1920).

1980-2060 There is a share limit of 50,000 to inhibit crazy single company speculation. This is not offered as a start parameter but the value in line 2050 is all that needs to be changed.

2070-2150 This routine is included to inhibit large sales after week 8. The disaster will only occur once - once is enough, but should you wish to transfer more than \$15,000 when you will lose it to the unscrupulous broker.

2160-2240 This routine combines bank charges and brokerage fees. Both may be set as start of simulation parameters.

2250-2440 This routine is called anytime a transaction

involves a change of screen status and has to be called before the screen is re-displayed. The procedure 'Total' is called from within this to update the total value of your holdings displayed in yellow on the middle right of the screen.

2450-2680 If you choose not to set your own parameters, the default parameters are set up in this routine. It is important that DFLAG1 in line 2580 is set up to '0' rather than FALSE - as it is not truly a flag.

2690-2790 This is not really about cheating at all, but is included to prevent you reneging on a purchase or sale decision. If you wish to allow people to have a 'second bite at the cherry' then ignore procsettle in the main structure of the program.

2800-2960 This routine clears the bottom part of the screen to allow different messages to be displayed. In the delay procedure the delay required is passed into the local variable DEL on calling the procedure.

2970-3120 Self evident.

3130-3250 These conditions are carefully thought out to prevent too quick a win. If you want the disasters to reoccur then leave out the flag from the condition. I think it is fundamentally unfair to hit a person when he's down, so they get hit just once. You will find that there are times when for several games no disasters occur and at other times they seem to pile in.

3260-3550 This routine is meant to teach the folly of heading without worry into debt. If the overdraft is withdrawn then the procedure searches your share holdings one by one (lines 3410-3440) for your largest holding, sells that at a suitable charge and sees if you are still in debt.

3560-4770 These are the details of the disasters and could be changed at will or left out if you did not like them. The only point to register is that they are called from the 'DISASTERS' procedure and the bad disasters recursively call the disasters procedure themselves in case your bad luck can be compounded in some way.

4790-5260 The end of game messages are really at your disposal. My choice is curt and to the point, but as there is about 4k of memory left, you may be fairly effusive if you wish.

5270-5680 Similarly you may change the start messages. The REPEAT (lines 5370-5420) simply generates the double size characters and is quicker than writing everything out twice.

5690-end Apart from typing BREAK, once you are engaged

in parameter choosing, you must see it through to the end. The parameters are displayed one by one, and keyboard entry is required exactly as displayed. This removes the need for subsequent validation and guarantees the program cannot crash from choosing strange parameters. They won't get past the keyboard. Thus it is a little tedious, and in general I suggest only an adult does this or produces suitable parameters on a sheet for a student.

Educational Notes

There is no doubt that even played as a straight game, the fourth and fifth years have enjoyed this immensely. Profit and loss, disasters and trading all become quickly apparent. The more interesting aspects lie in planning parameters and playing against them, plotting on graph paper or in note form what you are doing. For example: if you select just two firms and an economic cycle of 6, plot the share values on the graph paper as you sell or buy and see if a cycle becomes evident and how one might predict the onset of another cycle. Try setting a series of different share ranges combined with different share minima, and draw a conclusion as to the combination of events most likely to be profitable. Keep a table of your chosen minima and ranges and final victory totals. Of course you will run into 'disasters' and you can explain the need to produce more than one run of the simulation for better statistical reliability.

I offer a brokerage of 00%, but I felt there always had to be interest charges on bank overdrafts and thus the minimum rate there of 10%. I feel the simulation needs to run for 26 weeks, but you may change this in the initialisation.

Those youngsters who have tried to play against their own freely chosen parameters have been surprised to find out that usually they worsen their overall performance . . . and thus direction here is essential to avoid irritation. Good luck, this game/simulation is very compelling!

Program Listing

FOR THE MODEL B:

```
10 REM *****
20 REM *
30 REM *      THE STOCK MARKET      *
40 REM * developed for the BBC 'B'*
50 REM * by Ian Murray from the   *
60 REM * program for the NASCOM 2 *
70 REM * by Ian Murray and Chris  *
80 REM * Atkinson .. November 82 *
90 REM *
100 REM *****
110 REM
120 REM =====
130 REM      main structure
140 REM .....
150 REM
160 ON ERROR GOTO 6830
170 *KEY10 OLD |M RUN |M
180 ENVELOPE 1,138,3,3,-4,8,8,8,2,0,0,-5,1,100
190 CLEAR:CLS:MODE7:*FX11,0
200 VDU 23;8202;0;0;0;
210 PROCinitialise
220 PROCintroduce
230 PROCheadings(FIRMS)
240 REPEAT
250 PROCsharecalc(FIRMS)
260 PROCTotal
270 PROCTable(FIRMS)
280 PROCsettle
290 COMPANY = FIRMS
300 PROCdisasters
310 REPEAT
320 DECIDED = FALSE
330 SHARES = 0
340 HOPE = 0
350 PROCquestion
360 IF DECIDED THEN PROCcommission(HOPE): GOTO 480
370 REPEAT
380 SALE = TRUE
390 PROCsale_details(HOPE)
400 IF SHARES > 0 THEN PROCcash_check(CASH,HOPE)
410 UNTIL SALE
420 MAX = FALSE
430 PROCshare_limit(HOPE)
440 PROClarge_sale(HOPE)
450 PROCcommission(HOPE)
460 PROCupdate(HOPE)
470 PROCshare_display(HOPE)
480 PROCTotals_display(CASH,WEEKS,Total)
490 COMPANY = COMPANY - 1
500 UNTIL COMPANY = 0 OR DECIDED
510 WEEKS = WEEKS + 1
520 UNTIL WEEKS > 26 OR CASH > 100000
530 PROCfinal
540 END
550 REM
560 REM =====
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570 REM          financial table
580 REM .....
590 REM
600 DEF PROCTable(FIRMS)
610 LOCAL X
620 FOR X = 1 TO FIRMS
630     PRICE(X) = HOLDING(X) * MARKET(X) / 100
640     PROCshare_display(X)
650     IF CHANGE(X) < 0 THEN SOUND 1,-10,10,2 ELSE SOUND 1
, -10,95,2
660     PROCdelay(0.05)
670     NEXT X
680 PROCTotals_display(CASH,WEEKS,Total)
690 ENDPROC
700 REM .....
710 REM
720 DEF PROCh headings(FIRMS)
730 LOCAL X
740 VDU 31,0,0
750 X=0
760 REPEAT
770 PRINT CHR$(141) CHR$(131) TAB(10) "STOCKS AND SHARES
GAME"
780 X=X+1
790 UNTIL X = 2
800 PRINT CHR$(131) "-----
--"
810 VDU 31,0,3
820 PRINT CHR$(134) "COMPANY..MARKET&Change.YOU HOLD..VAL
UE ";
830 PRINT CHR$(134)"NAME.....( in pennies )"
840 PRINT

850 FOR X = 1 TO FIRMS
860     PRINT;CHR$(130) X;" " COMPANY$(X)
870     NEXT
880 PRINT CHR$(131) "-----
--"
890 PRINT CHR$(131) "Cash " CHR$(163) TAB(18) "Week "TAB(
32) CHR$(163)
900 PRINT CHR$(131) "-----
---"
910 ENDPROC
920 REM .....
930 DEF PROCshare_display(X)
940 C = X
950 VDU 31,10,5+C
960 PRINTSPC(29) " "
970 VDU 31,10,5+C
980 PRINT; CHR$(135) MARKET(C) TAB(5) "p"TAB(9) CHANGE(C)
TAB(12) "p" CHR$(130) TAB(15) HOLDING(C) TAB(22) CHR$(163)
INT(PRICE(C))
990 VDU 31,0,16
1000 ENDPROC
1010 REM .....
1020 REM
1030 DEF PROCTotals_display(CASH,WEEKS,Total)
1040 VDU 31,8,FIRMS+7:PRINT; CASH;" "
1050 VDU 31,23,FIRMS+7:PRINT; WEEKS" "
1060 VDU 31,33,FIRMS+7:PRINT SPC(5) " "
1070 VDU 31,33,FIRMS+7:PRINT; INT(Total)
1080 ENDPROC
1090 REM =====

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1100 REM Share price calculations
1110 REM .....
1120 REM
1130 DEF PROCsharecalc(FIRMS)
1140 LOCAL X,Y,Z
1150 PROCclear
1160 VDU 31,6,18:PRINT CHR$(133) "PLEASE WAIT"
1170 X=1:CYCLE = CYCLE + 1
1180 IF CYCLE > PERIOD THEN PROCTrend
1190 FOR Z = 1 TO FIRMS
1200 REPEAT
1210 Y = RND(1)
1220 IF Y > BIAS+TREND+LUCK(Z) THEN X=-X
1230 TEMP(Z) = MARKET(Z) + X*RND(RANGE)
1240 UNTIL TEMP(Z) > LOWEST(Z)
1250 CHANGE(Z) = TEMP(Z) - MARKET(Z)
1260 MARKET(Z) = TEMP(Z)
1270 PRICE(Z) = INT(HOLDING(Z) * MARKET(Z)/100)
1280 NEXT
1290 ENDPROC
1300 REM .....
1310 DEF PROCTrend
1320 LOCAL X,Y
1330 X = RND(1)
1340 Y = 1
1350 IF X > 0.5 THEN Y = -Y
1360 TREND = Y * INT(10*RND(1)) / 100
1370 CYCLE = 0
1380 ENDPROC
1390 REM
1400 REM =====
1410 REM question and decide
1420 REM .....
1430 REM
1440 DEF PROCquestion
1450 LOCAL REPLY$,X,Y,Z
1460 REPEAT
1470 *FX 15,0
1480 PROCclear
1490 VDU 31,0,18
1500 PRINT CHR$(134) "Type no. of firm .. or '0' to go on
>";
1510 REPEAT
1520 REPLY$= GET$
1530 UNTIL REPLY$ >= "0" AND REPLY$ <= STR$(FIRMS)
1540 SOUND 1,-10,66,4
1550 HOPE = VAL(REPLY$)
1560 UNTIL FLAG(HOPE) = 0
1570 PRINT REPLY$
1580 IF REPLY$ = "0" THEN DECIDED = TRUE
1590 PROCdelay(.4)
1600 FLAG(HOPE) = 1
1610 ENDPROC
1620 REM
1630 REM =====
1640 REM sale details
1650 REM .....
1660 REM
1670 DEF PROCsale_details(FIRM)
1680 REPEAT
1690 TEST = TRUE
1700 PROCclear
1710 VDU 31,0,18

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1720 PRINT CHR$(134) "Enter number of" CHR$(131) COMPANY$(
FIRM) CHR$(134) "to buy or"
1730 PRINT CHR$(134) "negative number to sell > ";
1740 *FX15,0
1750 INPUT " " SHARES$
1760 IF SHARES < 0 THEN SOUND 1,-15,15,6 ELSE SOUND 1,-15,
66,6
1770 IF SHARES < 0 AND ABS(SHARES) > HOLDING(FIRM) THEN TE
ST = FALSE:PRINT TAB(10) "WE ARE NOT FOOLS": PROCdelay(4)
1780 IF SHARES <> INT(SHARES) THEN TEST = FALSE:PRINT TAB(
10) "Whole shares only please!"
1790 PROCdelay(.5)
1800 UNTIL TEST
1810 ENDPROC
1820 REM
1830 REM =====
1840 REM          enough cash?
1850 REM .....
1860 REM
1870 DEF PROCcash_check(CASH,FIRM)
1880 IF SHARES * MARKET(FIRM) / (100 * (1-CHARGE)) > CASH
THEN PROCoverdraft(CASH,FIRM)
1890 ENDPROC
1900 REM .....
1910 DEF PROCoverdraft(CASH,FIRM)
1920 IF CASH - SHARES * MARKET(FIRM)/100 < -5000 OR TREND
< 0 THEN SALE = FALSE
1930 PROCclear
1940 VDU 31,0,18
1950 IF SALE THEN PRINT CHR$(136) CHR$(130) TAB(5,18) "OVE
RDRAFT GRANTED !!":SOUND 1,-10,75,25 ELSE PRINT CHR$(131) CH
R$(157) CHR$(14
1960 PROCdelay(3)
1970 ENDPROC
1980 REM =====
1990 REM          share limit
2000 REM .....

2010 REM
2020 DEF PROCshare_limit(FIRM)
2030 PROCclear
2040 VDU 31,5,18
2050 IF SHARES + HOLDING(FIRM) > 50000 THEN PRINT CHR$(136
) CHR$(131) "Maximum shareholding = 50000":MAX = TRUE :SOUND
2,1,10,35 :PRO
2060 ENDPROC
2070 REM =====
2080 REM          large sale
2090 REM .....
2100 REM
2110 DEF PROClarge_sale(FIRM)
2120 LOCAL MONEY
2130 MONEY = ABS(SHARES * MARKET(FIRM)/100)
2140 IF DFLAG1 < 1 AND MONEY + RND(5000) > 25000 AND WEEKS
> 8 AND MARKET(FIRM) > 2 * LOWEST(FIRM) THEN PROCbroker(FIR
M)
2150 ENDPROC
2160 REM =====
2170 REM          commission et al
2180 REM .....
2190 REM
2200 DEF PROCcommission(FIRM)
2210 COMMISSION = ABS(SHARES * MARKET(FIRM)/100) * CHARGE

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2220 CASH = CASH - COMMISSION
2230 IF CASH < 0 THEN CASH = CASH + INT(CASH * LOAN_RATE)
2240 ENDPROC
2250 REM =====
2260 REM          update
2270 REM .....
2280 REM
2290 DEF PROCupdate(FIRM)
2300 DFLAG1 = DFLAG1 - 1
2310 IF MAX AND DFLAG1 <> 1000 THEN SHARES = 50000 - HOLDI
NG(FIRM): HOLDING(FIRM) = 50000
2320 CASH = INT(CASH - SHARES * MARKET(FIRM) / 100)
2330 IF NOT MAX THEN HOLDING(FIRM) = HOLDING(FIRM) + SHARE
S
2340 PRICE(FIRM) = HOLDING(FIRM) * MARKET(FIRM) / 100
2350 PROCTotal
2360 ENDPROC
2370 REM .....
2380 DEF PROCTotal
2390 LOCAL X
2400 Total = 0
2410 FOR X = 1 TO FIRMS
2420     Total = Total + PRICE(X)
2430 NEXT
2440 ENDPROC
2450 REM =====
2460 REM          initialise
2470 REM .....
2480 REM
2490 DEF PROCinitialise
2500 DIM MARKET(10),CHANGE(10),HOLDING(10)
2510 DIM PRICE(10),LUCK(10),LOWEST(10)
2520 DIM TEMP(10),COMPANY$(10),FLAG(10)
2530 FIRMS = 8: CASH = 10000: WEEKS = 1
2540 Total = 0: CYCLE = 0: PERIOD = 5
2550 TREND = 0: BIAS = 0.41: SHARES = 0
2560 RANGE = 80 : CHARGE = 0.12 : LOAN_RATE = 0.3
2570 COMMISSION = 0: HOPE = 0: C = 0
2580 DFLAG1 = 0: DFLAG2 = FALSE
2590 DFLAG3 = FALSE: DFLAG4 = FALSE
2600 DFLAG5 = FALSE: DFLAG6 = FALSE
2610 LOCAL X
2620 FOR X = 1 TO FIRMS
2630     READ MARKET(X),LOWEST(X)
2640     READ COMPANY$(X)
2650     PROCTrend
2660     LUCK(X) = TREND
2670 NEXT
2680 ENDPROC
2690 REM =====
2700 REM          no cheating
2710 REM .....
2720 REM
2730 DEF PROCsettle
2740 LOCAL X
2750 FOR X = 0 TO FIRMS
2760     FLAG(X) = 0
2770 NEXT
2780 ENDPROC
2790 REM .....
2800 REM =====
2810 REM          general purpose
2820 REM .....

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2830 REM
2840 DEF PROCclear
2850 LOCAL X
2860 VDU 31,0,18
2870 FOR X = 18 TO 23
2880 PRINT SPC(39) " ";
2890 NEXT
2900 ENDPROC
2910 REM .....
2920 DEF PROCdelay(DEL)
2930 FINISH = TIME + (100*DEL)
2940 REPEAT
2950 UNTIL TIME >= FINISH
2960 ENDPROC
2970 REM =====
2980 REM broker disaster
2990 REM .....
3000 REM
3010 DEF PROCbroker(FIRM)
3020 PROCclear
3030 SOUND 2,1,10,35
3040 VDU 31,5,18
3050 PRINT CHR$(133) CHR$(136) "YOUR BROKER IS A ROGUE !!"
3060 PRINT CHR$(134) "He has made off with the cash from"
3070 PRINT CHR$(134) "this sale and flown to the Bahamas"
3080 PRINT CHR$(134) "and still charges you his commission
."
3090 IF SHARES < 0 THEN HOLDING(FIRM) = HOLDING(FIRM) + SH
ARES ELSE CASH = CASH - INT(MARKET(FIRM) * SHARES /100)
3100 DFLAG1 = 1001 :SHARES = 0
3110 PROCdelay(5)
3120 ENDPROC
3130 REM =====
3140 REM other disasters
3150 REM .....
3160 REM
3170 DEF PROCdisasters
3180 IF CASH < -4000 - RND(3000) THEN PROCforeclose
3190 IF CASH < 0 AND TREND < 0 THEN PROCforeclose
3200 IF NOT DFLAG2 AND TREND > 0.07 AND WEEKS < 6 + RND(6)
AND CASH < 8000 + RND(4000) THEN PROCclawyer
3210 IF NOT DFLAG3 AND TREND > 0.03 AND WEEKS > 9 AND CASH
+ Total > 3000 + RND(5000) THEN PROCshospital
3220 IF NOT DFLAG4 AND WEEKS > 13 AND CASH + Total > 50000
AND TREND > -0.04 THEN PROCprobate
3230 IF NOT DFLAG5 AND WEEKS > 6 AND WEEKS < 15 AND CASH <
5000 AND TREND < -0.03 THEN PROCpools
3240 IF DFLAG6 THEN PROCbankrupt
3250 ENDPROC
3260 REM =====
3270 REM foreclose
3280 REM .....
3290 REM
3300 DEF PROCforeclose
3310 PROCclear
3320 VDU 31,5,18
3330 SOUND 2,1,10,35
3340 PRINT CHR$(133) CHR$(136) "BANK FORECLOSES YOUR OVERD
RAFT"
3350 PRINT CHR$(134) "The bank will sell off your shares a
"
3360 PRINT CHR$(134) "block at a time and charge you the"
3370 PRINT CHR$(134) "commission of 35% for its efforts."

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3380 PROCdelay(3)
3390 LOCAL X,Y
3400 REPEAT
3410 Y = 1
3420 FOR X = 2 TO FIRMS
3430 IF PRICE(Y) < PRICE(X) THEN Y = X
3440 NEXT
3450 IF PRICE(Y) = 0 THEN DFLAG6 = TRUE
3460 HOLDING(Y) = 0
3470 CASH = CASH + INT(PRICE(Y * .65))
3480 PRICE(Y) = 0
3490 PROCshare_display(Y)
3500 PROCTotal
3510 PROCTotals_display(CASH,WEEKS,Total)
3520 SOUND 1,-12,15,5
3530 PROCdelay(1.5)
3540 UNTIL DFLAG6 OR CASH > 0
3550 ENDPROC
3560 REM =====
3570 REM lawyer
3580 REM .....
3590 DEF PROClawyer
3600 PROCclear
3610 VDU 31,15,18
3620 SOUND 2,1,10,35
3630 PRINT CHR$(133) CHR$(136) "A LAWYER REQUESTS YOUR PRE
SENCE"
3640 PRINT CHR$(134) "Do you go (Y/N)";
3650 REPEAT
3660 REPLY$ = GET$
3670 UNTIL REPLY$ = "Y" OR REPLY$ = "N"
3680 IF REPLY$ = "N" THEN DFLAG = TRUE
3690 PRINT " "REPLY$
3700 PROCdelay(1)
3710 IF DFLAG2 THEN PROCclear:PRINT TAB(10,18) CHR$(134) "
VERY WISE!" ELSE PROCchoice
3720 PROCdelay(2)
3730 ENDPROC
3740 REM .....
3750 DEF PROCchoice
3760 PROCclear
3770 LOCAL X
3780 X = RND(1)
3790 VDU 31,0,18
3800 IF X > 0.5 THEN PRINT CHR$(134) "You inherit again -
two Uncle Jims?":DFLAG2 = TRUE
3810 X = 4000 + RND(4000)
3820 IF DFLAG2 THEN PRINT; CHR$(134) "You have another " C
HR$(163) X:CASH = CASH + X
3830 IF NOT DFLAG2 THEN PRINT CHR$(134) "You are required
to bribe the fraud"
3840 IF NOT DFLAG2 THEN PRINT; CHR$(134) "squad with some
cash! Try "CHR$(163) X:CASH = CASH - X
3850 PROCdelay(2)
3860 PROCTotals_display(CASH,WEEKS,Total)
3870 PROCdelay(2)
3880 DFLAG2 = TRUE
3890 PROCdisasters
3900 ENDPROC
3910 REM =====
3920 REM hosptial
3930 REM .....
3940 REM

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3950 DEF PROChospital
3960 SOUND 2,1,10,35
3970 LOCAL X
3980 PROCclear
3990 VDU 31,4,18
4000 PRINT CHR$(133) CHR$(136) "YOU SHOULD NOT ATTEMPT D.I
.Y."
4010 PRINT CHR$(134) "You have fallen off a ladder and are
"
4020 PRINT CHR$(134) "unconscious in hospital for 6 weeks!
"
4030 PROCdelay(5):X=1
4040 REPEAT
4050 WEEKS = WEEKS + 1
4060 X=X+1
4070 PROCdelay(1)
4080 PROCsharecalc(FIRMS)
4090 PROCTotal
4100 PROCTable(FIRMS)
4110 PROCsettle
4120 IF WEEKS > 26 THEN PROCfinal
4130 SOUND 1,-12,25,6
4140 UNTIL X>6
4150 DFLAG3 = TRUE
4160 ENDPROC
4170 REM =====
4180 REM          probate
4190 REM .....
4200 REM
4210 DEF PROCprobate
4220 PROCclear
4230 LOCAL MONEY
4240 SOUND 2,1,10,35
4250 VDU 31,5,18
4260 MONEY = RND(10000)
4270 PRINT CHR$(133) CHR$(136) "PROBATE MUST NOW BE PAID"
4280 PRINT; CHR$(131) "This has been judged to be " CHR$(1
63) CASH+MONEY
4290 PRINT CHR$(131) "The bank does not take kindly to"
4300 PRINT CHR$(131) "unrequested overdrafts .. wait and s
ee"
4310 PROCdelay(5)
4320 CASH = -MONEY
4330 PROCTotals_display(CASH,WEEKS,Total)
4350 PROCdelay(3)
4360 PROCdisasters
4370 ENDPROC
4380 REM =====
4390 REM          pools
4400 REM .....
4410 REM
4420 DEF PROCpools
4430 PROCclear
4440 SOUND 2,1,10,35
4450 VDU 31,2,18
4460 PRINT CHR$(133) CHR$(136) "YOU HAVE A 2ND 'DIVI' POOL
S WIN"
4470 LOCAL MONEY
4480 MONEY = 4000 + RND(10000)
4490 PRINT; CHR$(134) "You collect " CHR$(136) MONEY
4500 PRINT CHR$(134) "Bristol Rovers and Liverpool drew !!
"
4510 PROCdelay(5)

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4520 CASH = CASH + MONEY
4530 PROCtotals_display(CASH,WEEKS,Total)
4540 PROCdelay(3)
4550 DFLAG5 = TRUE
4560 ENDPROC
4570 REM =====
4580 REM          start data
4590 REM .....
4600 REM
4610 DATA 83,50,MINING,38,25,CARS
4620 DATA 90,40,RETAIL,60,50,HOTELS
4630 DATA 110,70,BANKING,30,10,METALS
4640 DATA 45,10,NEWS&TV,80,25,RADIOS
4650 REM =====
4660 REM          bankrupt
4670 REM .....
4680 REM
4690 DEF PROCbankrupt
4700 PROCclear
4710 VDU 31,10,19
4720 PRINT"YOU ARE BANKRUPT !!"
4730 PROCdelay(3)
4740 PRINT CHR$(134) "Go home and work for a living for on
ce"
4750 PROCdelay(3)
4760 PROCfinal
4770 ENDPROC
4780 END
4790 REM =====
4800 REM          end of game
4810 REM .....
4820 REM
4830 DEF PROCfinal
4840 PROCclear
4850 SOUND 2,1,40,40
4860 PRINT TAB(5,19) "END OF SIMULATION"
4870 IF CASH > 100000 THEN PROCcongrats
4880 PROCdelay(3)
4890 CLS
4900 PRINT CHR$(141) CHR$(131) TAB(15) "USELESS"
4910 PRINT CHR$(141) CHR$(131) TAB(15) "USELESS"
4920 PRINT:PRINT
4930 PRINT" You have failed and do not get the"
4940 PRINT" rest of the loot."
4950 PRINT:PRINT
4960 IF CASH + Total > 100000 THEN PRINT:PRINT CHR$(131) "
sell up next time !!"
4970 IF CASH > 90000 THEN PRINT CHR$(131) "At least you ca
me close to winning"
4980 IF CASH < 10000 THEN PRINT CHR$(131) "You can't even
keep what you're given"
4990 PRINT TAB(5,17) CHR$(134) "PLAY AGAIN (Y/N)";
5000 REPEAT
5010 REPLY$ = GET$
5020 UNTIL REPLY$ = "Y" OR REPLY$ = "N"
5030 PRINT " " REPLY$
5040 IF REPLY$ = "Y" THEN RUN ELSE SOUND 1,-12,10,10 :END
5050 ENDPROC
5060 REM =====
5070 REM          congrats
5080 REM .....
5090 REM
5100 DEF PROCcongrats

```

```

5110 PROCdelay(3)
5120 CLS
5130 PRINTTAB(10,10) CHR$(141) CHR$(133) "WELL DONE"
5140 PRINTTAB(10) CHR$(141) CHR$(133) "WELL DONE"
5150 PRINT:PRINT
5160 PRINT CHR$(134) "You have made the magic total and"
5170 PRINT CHR$(134) "stand to inherit the rest of the loo
t"
5180 PRINT:PRINT:PRINTTAB(15) "PLAY AGAIN (Y/N) ";
5190 REPEAT
5200 REPLY$=GET$
5210 UNTIL REPLY$ = "Y" OR REPLY$ = "N"
5230 PRINT REPLY$
5240 SOUND 1,-12,10,20
5250 END
5260 ENDPROC
5270 REM =====
5280 REM      introduction
5290 REM .....
5300 REM
5310 DEF PROCintroduce
5320 LOCAL X
5330 ENVELOPE 2,5,5,-5,6,15,15,18,12,-5,0,-5,20,100
5340 SOUND 3,2,40,180
5350 CLS
5360 X=0
5370 REPEAT
5380 PRINTTAB(10,5+X) CHR$(141) CHR$(134)"STOCKS"
5390 PRINTTAB(15,10+X) CHR$(141) CHR$(134)"AND"
5400 PRINTTAB(20,15+X) CHR$(141) CHR$(134)"SHARES"
5410 X=X+1
5420 UNTIL X=2
5430 PROCdelay(5)
5440 CLS
5450 PRINT CHR$(131) "You have inherited 910,000 pounds, B
UT"
5460 PRINT CHR$(131) "to earn the 900,000 you must prove"
5470 PRINT CHR$(131) "yourself by converting the smaller s
um"
5480 PRINT CHR$(131) "of 10000 into 100,000 in 26 weeks on
"
5490 PRINT CHR$(131) "the stock market."
5500 PRINT:PRINT
5510 PRINT CHR$(131) "Everyone wants your money so be wise
!"
5520 PRINT CHR$(131) "Your broker charges 12% on all deals
"
5530 PRINT CHR$(131) "whether sale or purchase of shares."
5540 PRINT CHR$(131) "The bank charges 30% for overdrafts"
5550 PRINT CHR$(131) "and tends to withdraw them suddenly!"
"
5560 PRINT:PRINT CHR$(134) "TYPE ANY KEY FOR MORE"
5570 REPLY$=GET$
5580 CLS
5590 PRINT CHR$(133) "You may set the parameters of the ga
me"
5600 PRINT CHR$(133) "and this allows you to explore some
of"
5610 PRINT CHR$(133) "the factors governing success and th
e"
5620 PRINT CHR$(133) "profitability of stock trading."
5630 PRINT:PRINT

```

```

5640 PRINT CHR$(134) "TYPE 'P' FOR THIS OPTION"
5650 REPLY$ = GET$
5660 IF REPLY$ = "P" THEN PROCparameter
5670 CLS
5680 ENDPROC

5690 REM =====
5700 REM      start parameter choice
5710 REM .....
5720 REM

5730 DEF PROCparameter
5740 LOCAL X,Y
5750 CLS
5760 PRINT "How many firms (1-8) ";
5770 REPEAT
5780 *FX 15,0
5790 F$ = GET$
5800 UNTIL F$ > "0" AND F$ < "9"
5810 FIRMS = VAL(F$)
5820 PRINT F$
5830 PRINT "How long economic cycle (3-9) ";
5840 REPEAT
5850 *FX 15,0
5860 C$ = GET$
5870 UNTIL C$ > "2" AND C$ <= "9"
5880 PERIOD = VAL(C$)
5890 PRINT C$
5900 PRINT "Range shares can move (30-80) ";
5910 REPEAT
5920 *FX 15,0
5930 R1$ = GET$
5940 UNTIL R1$ > "2" AND R1$ < "9"
5950 PRINT R1$;
5960 REPEAT
5970 *FX 15,0
5980 R2$ = GET$
5990 UNTIL R2$ >= "0" AND R2$ <= "9"
6000 PRINT R2$
6010 RANGE = VAL(R1$+R2$)
6020 PRINT"Economic cycle bias (.30 to .49) ";
6030 REPEAT
6040 *FX 15,0
6050 B1$ = GET$
6060 UNTIL B1$ = "."
6070 PRINT B1$;
6080 REPEAT
6090 *FX 15,0
6100 B2$ = GET$
6110 UNTIL B2$ > "2" AND B2$ < "5"
6120 PRINT B2$;
6130 REPEAT
6140 *FX 15,0
6150 B3$ = GET$
6160 UNTIL B3$ >= "0" AND B3$ <= "9"
6170 PRINT B3$
6180 BIAS = VAL(B1$+B2$+B3$)
6190 PRINT "Broker's commission % (00 to 29) ";
6200 REPEAT
6210 *FX 15.0
6220 K1$= GET$
6230 UNTIL K1$ >= "0" AND K1$ <= "2"
6240 PRINT K1$;

```



```

6250 REPEAT
6260 *FX 15,0
6270 K2$ = GET$
6280 UNTIL K2$ >= "0" AND K2$ <= "9"
6290 PRINT K2$
6300 CHARGE = VAL(K1$+K2$)/100
6310 PRINT "Overdraft rate % (10 to 39) ";
6320 REPEAT
6330 *FX 15,0
6340 R1$= GET$
6350 UNTIL R1$ >"0" AND R1$ <"4"
6360 PRINT R1$;
6370 REPEAT
6380 *FX 15,0
6390 R2$ = GET$
6400 UNTIL R2$ >= "0" AND R2$ <= "9"
6410 PRINT R2$
6420 PRINT:PRINT:PRINT:PRINT
6430 LOAN_RATE = VAL(R1$+R2$)/100
6440 PROCdelay(2)
6450 PRINT CHR$(131) "For each company you must decide if:
"
6480 X=0
6490 FOR X = 1 TO FIRMS
6500 PROCclear
6510 VDU 31,0,18
6520 PRINT CHR$(131) "Profit rating for" CHR$(134) COMPA
NY$(X) CHR$(131) "(-9to+9) ";
6530 REPEAT
6540 R1$ = GET$
6550 *FX 15,0
6560 UNTIL R1$ = "+" OR R1$ = "-"
6570 PRINT R1$;
6580 REPEAT
6590 *FX 15,0
6600 R2$ = GET$
6610 UNTIL R2$ >= "0" OR R2$ <= "9"
6620 PRINT R2$
6630 LUCK(X) = VAL(R1$+R2$)/100
6640 PROCdelay(1)
6650 PROCclear
6660 VDU 31,0,18
6670 PRINT CHR$(131) "Lowest price for" CHR$(134) COMPAN
Y$(X) CHR$(131) "(00-99) ";
6680 Y=0:L2$=""
6690 REPEAT
6700 REPEAT
6710 *FX 15,0
6720 L1$ = GET$
6730 UNTIL L1$ >= "0" AND L1$ <= "9"
6740 PRINT L1$;
6750 L2$ = L2$ + L1$
6760 Y = Y + 1
6770 UNTIL Y = 2
6780 LOWEST(X) = VAL(L2$)
6790 MARKET(X) = LOWEST(X) + RND(RANGE)
6800 PROCdelay(2)
6810 NEXT
6820 ENDPROC
6830 REM =====
6840 REM error check
6850 REM .....
6860 REM

```

```

6870 IF ERR = 17 THEN PROCfinal
6880 PRINT "Apologies"
6890 PRINT;"There is error "ERR" at line "ERL
6900 PRINT:PRINT
6910 PRINT "Please document sequence to error and"
6920 PRINT "tell the programmer ... please forgive"

```

FOR THE MODEL A:

```

10 ON ERROR GOTO 5560
20 *KEY10 OLD |M RUN |M
30 ENVELOPE 1,138,3,3,-4,8,8,8,2,0,0,-5,1,100
40 CLEAR:CLS:MODE7:*FX11,0
50 VDU 23;8202;0;0;0
60 PROCA
70 PROC I
80 PROCB(FI%)
90 REPEAT
100 PROCSC(FI%)
110 PROCT
120 PROCL(FI%)
130 PROCS
140 CO%=FI%
150 PROCD
160 REPEAT
170 DE%=FALSE
180 S%=0
190 H%=0
200 PROCQ
210 IF DE% THEN PROCM(H%):GOTO330
220 REPEAT
230 SA%=TRUE
240 PROCX(H%)
250 IF S% >0 THEN PROCK(C%,H%)
260 UNTIL SA%
270 M%=FALSE
280 PROCP(H%)
290 PROCH(H%)
300 PROCM(H%)
310 PROCU(H%)
320 PROCY(H%)
330 PROCZ(C%,W%,T%)
340 CO%=CO%-1
350 UNTIL CO%=0 OR DE%
360 W%=W%+1
370 UNTIL W%>26 OR C%>100000
380 PROCN
390 PROCR
400 DEF PROCL(FI%)
410 LOCAL X%
420 FOR X%=1 TO FI%
430 P(X)=INT(H(X%)*M(X%)/100)
440 PROCY(X%)
450 IF C(X%)<0 THEN SOUND 1,-10,10,2 ELSE SOUND 1,-10,95,2
460 PROCW(0.07)
470 NEXT
480 PROCZ(C%,W%,T%)
490 ENDPROC
500 DEF PROCB(FI%)
510 LOCAL X%

```

```

520 VDU 31,0,0
530 X%=0
540 REPEAT
550 VDU 141,131:PRINTTAB(10) "STOCKS AND SHARES GAME"
560 X%=X%+1
570 UNTIL X%=2
580 PRINT CHR$(131) "-----"
--
590 VDU 31,0,3
600 PRINT CHR$(134) "COMPANY..MARKET&change.YOU HOLD..VALU
E ";
610 PRINT CHR$(134)"NAME.....( in pennies )"
620 PRINT
630 FOR X%=1 TO FI%
640 PRINT;CHR$(130) X%;" " C$(X%)
650 NEXT
660 PRINT CHR$(131) "-----"
--
670 PRINT CHR$(131) "Cash " CHR$(163) TAB(18) "Week "TAB(3
2) CHR$(163)
680 PRINT CHR$(131) "-----"
--
690 ENDPROC
700 DEF PROCY(X%)
710 C1%=X%
720 VDU 31,10,5+C1%
730 PRINTSPC(29) " "
740 VDU 31,10,5+C1%
750 PRINT; CHR$(135) M(C1%) TAB(5) "p"TAB(9) C(C1%) TAB(12
) "p" CHR$(130) TAB(15) H(C1%) TAB(22) CHR$(163) P(C1%)
760 VDU 31,0,16
770 ENDPROC
780 DEF PROCZ(C%,W%,T%)
790 VDU 31,8,FI%+7:PRINT;C%;" "
800 VDU 31,23,FI%+7:PRINT;W%" "
810 VDU 31,33,FI%+7:PRINT SPC(5) " "
820 VDU 31,33,FI%+7:PRINT;T%
830 ENDPROC
840 DEF PROCSC(FI%)
850 LOCAL X%,Y,Z%
860 PROCR
870 VDU 31,6,18:PRINT CHR$(133) "PLEASE WAIT"
880 X%=1:C Y%=C Y%+1
890 IF C Y%>PE% THEN PROCV
900 FOR Z%=1 TO FI%
910 REPEAT
920 Y = RND(1)
930 IF Y>BI+TR+LU(Z%) THEN X%=-X%
940 TE(Z%)=M(Z%)+X%*RND(RA)
950 UNTIL TE(Z%)>L(Z%)
960 C(Z%)=TE(Z%)-M(Z%)
970 M(Z%)=TE(Z%)
980 P(Z%)=INT(H(Z%)*M(Z%)/100)
990 NEXT
1000 ENDPROC
1010 DEF PROCV
1020 LOCAL X,Y%
1030 X = RND(1)
1040 Y%=1
1050 IFX>0.5 THEN Y%=-Y%
1060 TR=Y%*INT(10*RND(1))/100
1070 C Y%=0
1080 ENDPROC

```

```

1090 DEF PROCQ
1100 LOCAL R$,X%,Y%,Z%
1110 REPEAT
1120 *FX 15,0
1130 PROC R
1140 VDU 31,0,18
1150 PRINT CHR$(134) "Type no. of firm .. or '0' to go on >
";
1160 REPEAT
1170 R$=GET$
1180 UNTIL R$>="0" AND R$<= STR$(FI%)
1190 SOUND 1,-10,66,4
1200 H%=VAL(R$)
1210 UNTIL F(H%)=0
1220 PRINT R$
1230 IF R$="0" THEN DE%=TRUE
1240 PROCW(.4)
1250 F(H%)=1
1260 ENDPROC
1270 DEF PROCX(FI%)
1280 REPEAT
1290 TE%=TRUE
1300 PROC R
1310 VDU 31,0,18
1320 PRINT CHR$(134) "Enter number of"CHR$(131) C$(FI%) CHR
$(134) "to buy or"
1330 PRINT CHR$(134) "negative number to sell > ";
1340 *FX15,0
1350 INPUT " " E%
1360 IF S%<0 THEN SOUND 1,-15,15,6 ELSE SOUND 1,-12,120,4
1370 IF S%<0 AND ABS(S%)>H(FI%) THEN TE%=FALSE:PRINT TAB(10
) "WE ARE NOT FOOLS": PROCW(4)
1380 PROCW(.8)
1390 UNTIL TE%
1400 ENDPROC
1410 DEF PROCK(C%,FI%)
1420 IF S%*M(FI%)/(100*(1-CH%)>C% THEN PROCO(C%,FI%)
1430 ENDPROC
1440 DEF PROCO(C%,FI%)
1450 IF C%-S%*M(FI%)/100<-5000 OR TR<0 THEN SA%=FALSE
1460 PROC R
1470 VDU 31,0,18
1480 IF SA% THEN PRINT CHR$(136) CHR$(133) TAB(5,18) "OVERD
RAFT GRANTED !!": SOUND 1,-10,75,15 ELSE PRINT CHR$(131) CHR
$(157) CHR$(145) TAB(10,18) "NO OVERDRAFT TODAY" :SOUND 2,1,
10,35
1490 PROCW(3)
1500 ENDPROC
1510 DEF PROCP(FI%)
1520 PROC R
1530 VDU 31,5,18
1540 IF S%+H(FI%)>50000 THEN PRINT CHR$(136) CHR$(131) "Max
imum shareholding = 50000":M%=TRUE:SOUND 2,1,10,35 :PROCW(4)
1550 ENDPROC
1560 DEF PROCH(FI%)
1570 LOCAL M%
1580 M%=ABS(S%*M(FI%)/100)
1590 IF D1%<1 AND M%+RND(5000)>25000 AND W%>8 AND M(FI%)>2*
L(FI%) THEN PROCOK(FI%)
1600 ENDPROC
1610 DEF PROCM(FI%)
1620 CM%=ABS(S%*M(FI%)/100)*CH

```

```

1630 C%=C%-CM%
1640 IF C%<0 THEN C%=C%+INT(C%*LR)
1650 ENDPROC
1660 DEF PROCU(F%)
1670 D1%=D1%-1
1680 IF M% AND D1%<>1000 THEN S%=50000-H(F%):H(F%)=50000
1690 C%=INT(C%-S%*M(F%)/100)
1700 IF NOT M% THEN H(F%)=H(F%)+S%
1710 P(F%)=INT(H(F%)*M(F%)/100)
1720 PROCT
1730 ENDPROC
1740 DEF PROCT
1750 LOCAL X%
1760 T%=0
1770 FOR X%=1 TO FI%
1780 T%=T%+P(X%)
1790 NEXT
1800 ENDPROC
1810 DEF PROCA
1820 DIM M(10),C(10),H(10)
1830 DIM P(10),LU(10),L(10)
1840 DIM TE(10),C$(10),F(10)
1850 FI%=8:C%=1000:W%=1
1860 T%=0:C1%=0:PE%=5
1870 TR=0:BI=0.41:S%=0
1880 RA=80:CH=0.12:LR=0.3
1890 CM%=0:H%=0:C1%=0
1900 D1%=0:D2%=FALSE
1910 D3%=FALSE:D4%=FALSE
1920 D5%=FALSE:D6%=FALSE
1930 LOCAL X%
1940 FOR X%=1 TO FI%
1950 READ M(X%),L(X%)
1960 READ C$(X%)
1970 PROCV
1980 LU(X%)=TR
1990 NEXT
2000 ENDPROC
2010 DEF PROCS
2020 LOCAL X%
2030 FOR X%=0 TO FI%
2040 F(X%)=0
2050 NEXT
2060 ENDPROC
2070 DEF PROCR
2080 LOCAL X%
2090 VDU 31,0,18
2100 FOR X%=18TO23
2110 PRINT SPC(39) " ";
2120 NEXT
2130 ENDPROC
2140 DEF PROCW(D)
2150 LOCAL F
2160 F=TIME +(100*D)
2170 REPEAT
2180 UNTIL TIME >= F
2190 ENDPROC
2200 DEF PROCOK(FI%)
2210 PROCR
2220 SOUND 2,1,10,35
2230 VDU 31,5,18
2240 PRINT CHR$(133) CHR$(136) "YOUR BROKER IS A ROGUE !!"
2250 PRINT CHR$(134) "He has made off with the cash from"

```

```

2260 PRINT CHR$(134) "this sale and flown to the Bahamas"
2270 PRINT CHR$(134) "and still charges you his commission.
"
2280 IF S%<0 THEN H(FI%)=H(FI%)+S% ELSE C%=C%-INT(M(FI%)*S%
/100)
2290 D1%=1001:S%=0
2300 PROCW(5)
2310 ENDPROC
2320 DEF PROCD
2330 IF C%<-4000-RND(3000) THEN PROCFC
2340 IF C%<0 AND TR<0 THEN PROCFC
2350 IF NOT D2% AND TR>0.07 AND W%<6+RND(6) AND C%<8000+RND
(4000) THEN PROCLY
2360 IF NOT D3% AND TR>0.03 AND W%>9 AND C%+T%>30000+RND(50
00) THEN PROCHS
2370 IF NOT D4% AND W%>13 AND C%+T%>50000 AND TR>-0.04 THEN
PROCPR
2380 IF NOT D5% AND W%>6 AND W%<15 AND C%<5000 AND TR<-0.03
THEN PROCD0
2390 IF D6% THEN PROCBT
2400 ENDPROC
2410 DEF PROCFC
2420 PROCR
2430 VDU 31,5,18
2440 SOUND 2,1,10,35
2450 PRINT CHR$(133) CHR$(136) "BANK FORECLOSES YOUR OVERDR
AFT"
2460 PRINT CHR$(134) "The bank will sell off your shares a"
2470 PRINT CHR$(134) "block at a time and charge you the"
2480 PRINT CHR$(134) "commission of 35% for its efforts."
2490 PROCW(3)
2500 LOCAL X%,Y%
2510 REPEAT
2520 Y%=1
2530 FOR X%=2 TO FI%
2540 IF P(V%)<P(X%) THEN Y%=X%
2550 NEXT
2560 IF P(Y%)=0 THEN D6%=TRUE
2570 H(Y%)=0
2580 C%=C%+INT(P(Y%)*.65)
2590 P(Y%)=0
2600 PROCY(Y%)
2610 PROCT
2620 PROCZ(C%,W%,T%)
2630 SOUND 1,-12,15,5
2640 PROCW(1.5)
2650 UNTIL D6% OR C%>0
2660 ENDPROC
2670 DEF PROCLY
2680 PROCR
2690 VDU 31,5,18
2700 SOUND 2,1,10,35
2710 PRINT CHR$(133) CHR$(136) "A LAWYER REQUESTS YOUR PRES
ENCE"
2720 PRINT CHR$(134) "Do you go (Y/N)";
2730 REPEAT
2740 R$=GET$
2750 UNTIL R$="Y" OR R$="N"
2760 IF R$="N" THEN D2%=TRUE
2770 PRINT " "R$
2780 PROCW(1)
2790 IF D2% THEN PROCR:PRINT TAB(10,18) CHR$(134) "VERY WIS
E!" ELSE PROCH

```

```

2800 PROCW(2)
2810 ENDPROC
2820 REM .....
2830 DEF PROCH
2840 PROCR
2850 LOCAL X
2860 X = RND(1)
2870 VDU 31,0,18
2880 IF X > 0.5 THEN PRINT CHR$(134) "You inherit again - t
wo Uncle Jims?":D2%=TRUE
2890 X = 4000 + RND(4000)
2900 IF D2% THEN PRINT; CHR$(134) "You have another " CHR$(
163) X:C%=C%+X
2910 IF NOT D2% THEN PRINT CHR$(134) "You are required to b
ribe the fraud"
2920 IF NOT D2% THEN PRINT; CHR$(134) "squad with some cash
!" Try "CH$(163) X:C%=C%-X
2930 PROCW(2)
2940 PROCZ(C%,W%,T%)
2950 PROCW(2)
2960 D2%=TRUE
2970 PROCD
2980 ENDPROC
2990 DEF PROCHS
3000 SOUND 2,1,10,35
3010 LOCAL X%
3020 PROCR
3030 VDU 31,4,18
3040 PRINT CHR$(133) CHR$(136) "YOU SHOULD NOT ATTEMPT D.I.
Y."
3050 PRINT CHR$(134) "You have fallen off a ladder and are"
3060 PRINT CHR$(134) "unconscious in hospital for 6 weeks!"
3070 PROCW(5):X%=1
3080 REPEAT
3090 W%=W%+1
3100 X%=X%+1
3110 PROCW(1)
3120 PROCSC(FI%)
3130 PROCT
3140 PROCL(FI%)
3150 PROCS
3160 IF W%>26 THEN PROCN
3170 SOUND 1,-12,25,6
3180 UNTIL X%>6
3190 D3%=TRUE
3200 ENDPROC
3210 DEF PROCPR
3220 PROCR
3230 LOCAL M$
3240 SOUND 2,1,10,35
3250 VDU 31,5,18
3260 M%=RND(10000)
3270 PRINT CHR$(133) CHR$(136) "PROBATE MUST NOW BE PAID"
3280 PRINT; CHR$(131) "This has been judged to be " CHR$(16
3) C%+M%
3290 PRINT CHR$(131) "The bank does not take kindly to"
3300 PRINT CHR$(131) "unrequested overdrafts .. wait and se
e"
3310 PROCW(5)
3320 C%=-M%
3330 PROCZ(C%,W%,T%)
3340 D4%=TRUE
3350 PROCW(3)

```

```

3360 PROC D
3370 ENDPROC
3380 DEF PROCOO
3390 PROC R
3400 SOUND 2,1,10,35
3410 VDU 31,2,18
3420 PRINT CHR$(133) CHR$(136) "YOU MAKE A 2ND 'DIVI' POOLS
WIN"
3430 LOCAL M%
3440 M%=4000+RND(10000)
3450 PRINT; CHR$(134) "You collect " CHR$(163) M%
3460 PRINT CHR$(134) "Bristol Rovers and Liverpool drew !!"
3470 PROCW(5)
3480 C%=C%+M%
3490 PROCZ(C%,W%,T%)
3500 PROCW(3)
3510 D5%=TRUE
3520 ENDPROC
3530 DATA 83,50,MINING,38,25,CARS
3540 DATA 90,40,RETAIL,60,50,HOTELS
3550 DATA 110,70,BANKING,30,10,METALS
3560 DATA 45,10,NEWS&TV,80,25,RADIOS
3570 DEF PROCBT
3580 PROC R
3590 VDU 31,10,19
3600 PRINT"YOU ARE BANKRUPT !!"
3610 PROCW(3)
3620 PRINT CHR$(134) "Go home and work for a living for onc
e "
3630 PROCW(3)
3640 PROCN
3650 ENDPROC
3660 ,
3670 DEF PROCN
3680 PROC R
3690 SOUND 1,2,40,40
3700 PRINT TAB(5,19) "END OF SIMULATION"
3710 IF C%>100000 THEN PROCCG
3720 PROCW(3)
3730 CLS
3740 PRINT CHR$(141) CHR$(131) TAB(15) "USELESS"
3750 PRINT CHR$(141) CHR$(131) TAB(15) "USELESS"
3760 PRINT:PRINT
3770 PRINT" You have failed and do not get the"
3780 PRINT" rest of the loot."
3790 PRINT:PRINT
3800 IF C%+T%>100000 THEN PRINT:PRINT CHR$(131) "sell up ne
xt time !!"
3810 IF C%>90000 THEN PRINT CHR$(131) "At least you came cl
ose to winning"
3820 IF C%<10000 THEN PRINT CHR$(131) "You cant even keep w
hat you're given"
3830 PRINT TAB(5,17) CHR$(134) "PLAY AGAIN (Y/N)";
3840 REPEAT
3850 R$=GET$
3860 UNTIL R$="Y" OR R$="N"
3870 PRINT " " R$
3880 IF R$="Y" THEN RUN ELSE SOUND 1,-12,10,10 :END
3890 ENDPROC
3900 DEF PROCCG
3910 PROCW(3)
3920 CLS
3930 PRINTTAB(10,10) CHR$(141) CHR$(133) "WELL DONE"

```



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3940 PRINTTAB(10) CHR$(141) CHR$(133) "WELL DONE"
3950 PRINT:PRINT
3960 PRINT CHR$(134) "You have made the magic total and"
3970 PRINT CHR$(134) "stand to inherit the rest of the loot
"
3980 PRINT:PRINT:PRINTTAB(15) "PLAY AGAIN (Y/N) ";
3990 REPEAT
4000 R$=GET$
4010 UNTIL R$="Y" OR R$="N"
4020 IF R$="Y" THEN RUN
4030 PRINT R$
4040 SOUND 1,-12,10,20
4050 END
4060 ENDPROC
4070 DEF PROC1
4080 LOCAL X%
4090 ENVELOPE 2,5,5,-5,6,15,15,18,12,-5,0,-5,20,100
4100 SOUND 3,2,40,180
4110 CLS
4120 X%=0
4130 REPEAT
4140 PRINTTAB(10,5+X%) CHR$(141) CHR$(134)"STOCKS"
4150 PRINTTAB(15,10+X%) CHR$(141) CHR$(134)"AND"
4160 PRINTTAB(20,15+X%) CHR$(141) CHR$(134)"SHARES"
4170 X%=X%+1
4180 UNTIL X%=2
4190 PROCW(5)
4200 CLS
4210 PRINT CHR$(131) "You have inherited 910,000 pounds, BU
T"
4220 PRINT CHR$(131) "to earn the 900,000 you must prove"
4230 PRINT CHR$(131) "yourself by converting the smaller su
m"
4240 PRINT CHR$(131) "of 10000 into 100,000 in 26 weeks on"
4250 PRINT CHR$(131) "the stock market."
4260 PRINT:PRINT
4270 PRINT CHR$(131) "Everyone wants your money so be wise
!"
4280 PRINT CHR$(131) "Your broker charges 12% on all deals"
4290 PRINT CHR$(131) "whether sale or purchase of shares."
4300 PRINT CHR$(131) "The bank charges 30% for overdrafts"
4310 PRINT CHR$(131) "and tends to withdraw them suddenly!"
4320 PRINT:PRINT CHR$(134) "PRESS ANY KEY TO CONTINUE"
4330 R$=GET$
4340 CLS
4440 ENDPROC
5550 STOP
5560 IF ERR=17 THEN PROCN
5570 CLS
5580 PRINT"Apologies"
5590 PRINT;"There is error "ERR" at line "ERL
5600 PRINT:PRINT
5610 PRINT"Please document sequence to error and"
5620 PRINT"tell programmer ... please forgive!"

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