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# Z BASIC

## ZBASIC FROGMATH.BAS

by Steven W. Vagts  
Editor, "Z-100 LifeLine"

### ZBASIC FROGMATH.BAS

FROGMATH.BAS is a program originally based upon "NUMBERS.BAS" from Gerry Kabelman and described in an article in Issue #20, September 1981, of "REMark" magazine. Gerry's picture of his little girl playing the game made the cover of that issue.

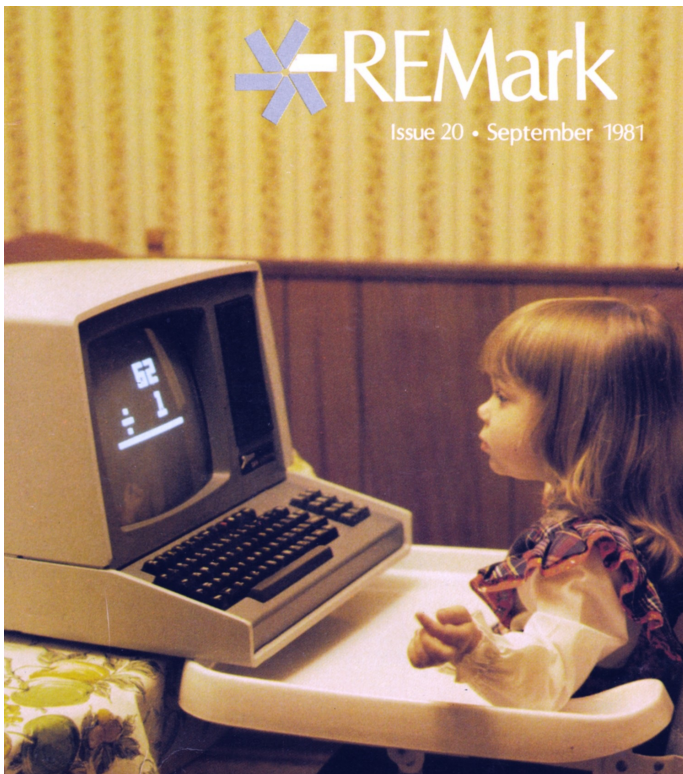
In 1981, my oldest little girl was 8 and needed some math drill programs. And I thought of the NUMBERS.BAS program.

Originally written in MBASIC, I rewrote it for BASIC-E to run on my H-88. And to add a little interest, I added a frog, a spider, and a fly - and my little girl would sit for hours before the computer, though I did let her out of the chains (er ... chair) for nourishment and sleep. The other two daughters used it also.

For a "Z-100 LifeLine" contest in 1996, I took the program out of retirement and rewrote it for the Z-100's ZBASIC, adding color and some motion to the spider and the fly.

The program was originally published in issue #46, from August 1996 and I have now added it to the Website.

If you have a youngster just learning math, give this program a try.



FROGMATH.BAS

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10  REM -----
20  REM      FROGMATH      -      COMPUTER AIDED INSTRUCTION      -      7/96
30  REM      by Steven W. Vagts
40  REM      211 Sean Way, Hendersonville, NC 28792
50  REM      ZBASIC program for the H/Z-100      Updated April 2022
60  REM -----
100 DIM L$(10)
200 REM Set ESCAPE Codes.
210 E$=CHR$(27): F$=E$+"F": G$=E$+"G": REM E$=ESCAPE, F$=Graphics On, G$=Off
220 P$=E$+"p": Q$=E$+"q": REM P$=Reverse Video On, Q$=Off
230 FP$=F$+P$: GQ$=G$+Q$
400 REM Define graphic parts of numerals.
410 N1$=FP$+"ppp"+GQ$: N2$=" "+FP$+"p"+Q$+" "+G$: N3$=F$+"pp"+P$+" "+GQ$
420 N4$=FP$+"pp "+GQ$: N5$=FP$+" "+Q$+"pp"+G$: N6$=FP$+" "+Q$+"p"+P$+" "+GQ$
430 N7$=FP$+" p "+GQ$: N8$=FP$+" "+Q$+" "+P$+" "+GQ$: N9$=FP$+"p p"+GQ$
440 N10$=FP$+" "+GQ$: N11$=N10$+" ": N12$=FP$+"ppp"+GQ$
450 M1$=FP$+"r"+Q$+"r "+P$+" "+GQ$: M2$=F$+" "+P$+" r"+Q$+"r"+G$
460 M3$=FP$+"r p"+GQ$: M4$=FP$+"r"+Q$+"p"+P$+" "+GQ$
470 M5$=F$+" "+P$+"p"+Q$+"r"+G$: M6$=FP$+"r "+GQ$
480 M7$=FP$+" pp"+GQ$: M8$=" "+FP$+"r"+Q$+"r"+G$
490 M9$=FP$+"r"+Q$+"r "+G$
500 COLOR 7,0,0: CLS
600 REM Opening screen
610 COLOR 2,0: LOCATE 10,20: PRINT " "+FP$+"r@p"+GQ$+" "
620 LOCATE 11,20: PRINT " "+FP$+"r "+GQ$+" "
630 LOCATE 12,19: PRINT " "+FP$+"r y"+GQ$+" "
640 LOCATE 13,18: PRINT " "+FP$+"pa y"+Q$+"r "+P$+" p"+GQ$+" "
650 COLOR 7,0
700 LOCATE 7,31: PRINT N5$+" "+N6$+" "+M4$;
705 PRINT " "+M4$
710 LOCATE 8,31: PRINT N5$+" "+FP$+" p"+Q$+"r "+N8$+" "+FP$+" "+Q$+"l";
715 PRINT P$+"p"+GQ$
720 LOCATE 9,31: PRINT N11$+" "+N10$+F$+" "+P$+" "+Q$+" ";
725 PRINT M5$+F$+" "+P$+"p "+GQ$
730 LOCATE 11,30: PRINT FP$+" r "+Q$+" "+P$+"r"+Q$+" p";
735 PRINT P$+" "+Q$+"p "+N8$
740 LOCATE 12,30: PRINT N10$+F$+" r"+N10$+" "+FP$+"r"+Q$+"r_";
745 PRINT P$+" "+Q$+" "+N11$+N6$
750 LOCATE 13,30: PRINT N11$+FP$+" "+Q$+" "+P$+" "+Q$+"pp";
755 PRINT P$+" "+Q$+" "+N11$+N8$
760 LOCATE 17,45: PRINT "by Steven W. Vagts"
770 LOCATE 18,49: PRINT "211 Sean Way"
780 LOCATE 19,49: PRINT "Hendersonville, NC 28792"
790 LOCATE 24,1: INPUT "Press {RETURN} to continue", A$
1000 REM FROGMATH Program
1010 CLS: PRINT TAB(15);"CAI - COMPUTER AIDED INSTRUCTION - MATH": PRINT
1020 PRINT: INPUT "Hello, my name is Fritz. What is your name"; NME$
1030 PRINT: PRINT "Hi, "+NME$+". ": INPUT "Can you tell time"; A$
1040 IF LEFT$(A$,1)="Y" OR LEFT$(A$,1)="y" GOTO 1070
1050 PRINT: INPUT "Ok. Instead, press any number or letter for me. ", A$
1060 GOTO 1100
1070 PRINT: INPUT "Great! What time is it"; A$
1100 PRINT: PRINT "Thank you, "+NME$: RANDOMIZE ASC(A$): PRINT
1110 PRINT "The object of this game is to `ZAP' the spider and the fly"
1120 PRINT "in the fewest number of moves. For each correct answer, you"
1130 PRINT "get to either move the frog or fire his tongue."
1140 PRINT "The game ends upon `ZAPPING' both.": PRINT
1150 PRINT "You may select the degree of difficulty from 1 to 4."
1160 PRINT TAB(10);"1 = EASY      4 = HARD"
1170 PRINT: INPUT "How hard do you want these problems"; HARD$
1180 IF HARD$="" OR LEN(HARD$)>1 GOTO 1150
1190 IF ASC(HARD$)<49 OR ASC(HARD$)>52 GOTO 1150
1200 PRINT: PRINT "There are 5 types of operations."
1210 PRINT TAB(10);"1 = ADDITION"
1220 PRINT TAB(10);"2 = SUBTRACTION"
1230 PRINT TAB(10);"3 = MULTIPLICATION"
1240 PRINT TAB(10);"4 = DIVISION"
1250 PRINT TAB(10);"5 = Random mixed"
1260 PRINT: INPUT "Which number do you select"; TYPE$

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1270 IF TYPE$="" OR LEN(TYPE$)>1 GOTO 1260
1280 IF ASC(TYPE$)<49 OR ASC(TYPE$)>53 GOTO 1260
1290 MOVE=0: NUM=0: MSG=1: FIN1=0: FIN2=0: W=0: DIR=6
1300 FROG=20: PFLY=50: PSPD=20: SPD=1
1500 REM Start problems
1510 PSX=10: PSY=34: NUM=NUM+1: W1=0: T=VAL(TYPE$): CLS
1520 IF T>4 THEN T=INT(4*RND)+1
1530 IF T>4 GOTO 1520
1540 IF HARD$="1" THEN J=10: J1=10
1550 IF HARD$="2" THEN J=20: J1=20
1560 IF HARD$="3" THEN J=100: J1=100
1570 IF HARD$="4" THEN J=1000: J1=1000
1580 IF T=3 THEN J1=10
1590 IF T=4 THEN J1=10: J=5*VAL(HARD$)
1600 X=INT(J*RND): Y=INT(J1*RND)
1610 REM Ensure no division by zero.
1620 IF T=4 AND X=0 OR Y=0 GOTO 1600
1630 REM Ensure that for difficulty 1 or 2 that Y is less than X.
1640 IF T=2 AND Y>X AND VAL(HARD$)<3 GOTO 1600
1650 ON T GOTO 1660, 1670, 1680, 1690
1660 Z=X+Y: GOTO 1710
1670 Z=X-Y: GOTO 1710
1680 Z=X*Y: GOTO 1710
1690 Z1=X*Y: X=Z1: Z=X/Y
1700 REM GOSUB to print problem - calculate length of answer.
1710 CLS: IF FIN2=0 THEN GOSUB 6410: REM Print spider
1720 IF FIN1=0 THEN GOSUB 6110: REM Print stopped fly
1750 P=0: COLOR 3,0: V$=STR$(X): FOR I=LEN(V$) TO 2 STEP -1
1760 V1=VAL(MID$(V$,I,1))+1: P=P+1: REM I=1 is sign posit, V1 must be >0
1770 IF P=1 THEN PN=6: PNY=55
1780 IF P=2 THEN PN=6: PNY=50
1790 IF P=3 THEN PN=6: PNY=45
1800 IF P=4 THEN PN=6: PNY=40
1810 ON V1 GOSUB 5601, 5611, 5621, 5631, 5641, 5651, 5661, 5671, 5681, 5691
1820 NEXT I: P=0: V$=STR$(Y): FOR I=LEN(V$) TO 2 STEP -1
1830 V1=VAL(MID$(V$,I,1))+1: P=P+1: REM I=1 is sign posit, V1 must be >0
1840 IF P=1 THEN PN=10: PNY=55
1850 IF P=2 THEN PN=10: PNY=50
1860 IF P=3 THEN PN=10: PNY=45
1870 IF P=4 THEN PN=10: PNY=40
1880 ON V1 GOSUB 5601, 5611, 5621, 5631, 5641, 5651, 5661, 5671, 5681, 5691
1890 NEXT I: ON T GOSUB 5210, 5310, 5410, 5510
1900 LOCATE 14,34: PRINT F$+STRING$(24,112)+G$
2000 REM Print last position of frog.
2010 IF DIR=6 THEN GOSUB 5810
2020 IF DIR=4 THEN GOSUB 5910
2030 V$=STR$(Z)
2100 REM Get answer.
2110 COLOR 3,0: LOCATE 14,1,1: INPUT "ANSWER"; ANS$
2120 IF ANS$="" GOTO 2110
2130 F1=1: FOR I=1 TO LEN(ANS$): REM Test ANS$ for legal chars
2140 IF MID$(ANS$,I,1)="-" AND I=1 THEN F1=2: GOTO 2160
2150 IF ASC(MID$(ANS$,I,1))<48 OR ASC(MID$(ANS$,I,1))>57 GOTO 2110
2160 NEXT I: ANS=VAL(ANS$): COLOR 3,0: P=0
2170 FOR I=LEN(ANS$) TO F1 STEP -1: V1=VAL(MID$(ANS$,I,1))+1: P=P+1
2180 IF P=1 THEN PN=16: PNY=55
2190 IF P=2 THEN PN=16: PNY=50
2200 IF P=3 THEN PN=16: PNY=45
2210 IF P=4 THEN PN=16: PNY=40
2220 ON V1 GOSUB 5601, 5611, 5621, 5631, 5641, 5651, 5661, 5671, 5681, 5691
2230 NEXT I: IF ANS<0 THEN PSX=16: PSY=34: GOSUB 5310
2240 GOSUB 5010
2250 IF ANS<>Z THEN GOSUB 7010: GOTO 2110
2500 REM Print "CORRECT" message.
2510 IF MSG=5 THEN MSG=1
2520 LOCATE 16,1,1: ON MSG GOTO 2530, 2540, 2550, 2560, 2570
2530 PRINT "You're right!": GOTO 2580
2540 PRINT "Absolutely correct!": GOTO 2580
2550 PRINT "Correct!": GOTO 2580
2560 PRINT "Right, "+NME$+"!": GOTO 2580
2570 PRINT "That was easy, wasn't it?"
2580 IF W1=1 THEN GOSUB 5010: GOTO 2700

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2600 MOVE=MOVE+1: COLOR 3,0: LOCATE 25,4,0
2610 PRINT "`4" = move left      `6" = move right      `8" fires tongue"
2620 LOCATE 18,4,1: INPUT "What is your move <4, 6, or 8>"; ANS$
2630 IF ANS$="4" THEN FROG=FROG-1: DIR=4: GOSUB 5910: GOTO 2670
2640 IF ANS$="6" THEN FROG=FROG+1: DIR=6: GOSUB 5810: GOTO 2670
2650 IF ANS$="8" THEN GOSUB 7410: GOTO 2670
2660 GOTO 2620
2670 COLOR 3,0: LOCATE 25,4,0: PRINT SPC(57)
2680 IF FIN1=1 AND FIN2=1 GOTO 2800
2700 GOSUB 7320: LOCATE 16,1: ON MSG GOTO 2710, 2720, 2730, 2740, 2750
2710 PRINT "Try this one.": GOTO 2760
2720 PRINT "How about this one?": GOTO 2760
2730 PRINT "Can you do this one?": GOTO 2760
2740 PRINT "Now a tough one.": GOTO 2760
2750 PRINT "Here's another."
2760 GOSUB 5010: MSG=MSG+1: GOTO 1510
2800 REM Print score.
2810 G=NUM-W: H=INT(G*100/NUM)
2820 CLS: LOCATE 1,1,1: COLOR 7,0: PRINT "You scored ";H;"% CORRECT!"
2830 IF PSPD>2 GOTO 2860
2840 PRINT "It took ";MOVE;" moves to ZAP the fly and the spider escaped!"
2850 PRINT "I hope to help you do better next time.": PRINT: GOTO 3000
2860 PRINT "It took ";MOVE;" moves to ZAP the spider and the fly."
2900 REM Set parameters for congratulatory messages.
2910 IF H>90 GOTO 2950
2920 IF H>80 GOTO 2960
2930 IF H>70 GOTO 2970
2940 GOTO 3000
2950 PRINT "EXCELLENT GAME, ";NME$: PRINT: GOTO 3000
2960 PRINT "Very GOOD GAME, ";NME$: PRINT: GOTO 3000
2970 PRINT "Not bad, ";NME$: PRINT
3000 INPUT "Wish to try again"; ANS$
3010 IF LEFT$(ANS$,1)="Y" OR LEFT$(ANS$,1)="y" GOTO 1150
3020 PRINT "OK, ";NME$;"", another time. Have a nice day."
3030 STOP
5000 REM * * * SUBROUTINES * * *
5010 FOR I=1 TO 1000: NEXT I: RETURN
5200 REM Print add sign:
5210 LOCATE PSX,PSY: PRINT N2$
5220 LOCATE PSX+1,PSY: PRINT N9$
5230 LOCATE PSX+2,PSY+1: PRINT N10$: RETURN
5300 REM Print subtract sign:
5310 LOCATE PSX+1,PSY: PRINT N1$: RETURN
5400 REM Print multiply sign:
5410 LOCATE PSX+1,PSY-1: PRINT M2$
5420 LOCATE PSX+2,PSY-1: PRINT M1$: RETURN
5500 REM Print division sign:
5510 LOCATE PSX,PSY: PRINT N2$
5520 LOCATE PSX+1,PSY: PRINT N1$
5530 LOCATE PSX+2,PSY: PRINT N2$: RETURN
5600 REM Print number 0:
5601 LOCATE PNx,PNY: PRINT M4$
5602 LOCATE PNx+1,PNY: PRINT N8$
5603 LOCATE PNx+2,PNY: PRINT M5$: RETURN
5610 REM Print number 1:
5611 LOCATE PNx,PNY: PRINT M6$
5612 LOCATE PNx+1,PNY+1: PRINT N10$
5613 LOCATE PNx+2,PNY: PRINT N9$: RETURN
5620 REM Print number 2:
5621 LOCATE PNx,PNY: PRINT N6$
5622 LOCATE PNx+1,PNY: PRINT M8$
5623 LOCATE PNx+2,PNY: PRINT M3$: RETURN
5630 REM Print number 3:
5631 LOCATE PNx,PNY: PRINT N3$
5632 LOCATE PNx+1,PNY: PRINT N3$
5633 LOCATE PNx+2,PNY: PRINT N4$: RETURN
5640 REM Print number 4:
5641 LOCATE PNx,PNY: PRINT FP$+"r"+Q$+"r"+N10$
5642 LOCATE PNx+1,PNY: PRINT N7$
5643 LOCATE PNx+2,PNY+2: PRINT N10$: RETURN
5650 REM Print number 5:
5651 LOCATE PNx,PNY: PRINT N5$

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5652 LOCATE PNX+1,PNY: PRINT N3$
5653 LOCATE PNX+2,PNY: PRINT N4$: RETURN
5660 REM Print number 6:
5661 LOCATE PNX,PNY: PRINT M9$
5662 LOCATE PNX+1,PNY: PRINT M7$
5663 LOCATE PNX+2,PNY: PRINT N7$: RETURN
5670 REM Print number 7:
5671 LOCATE PNX,PNY: PRINT N6$
5672 LOCATE PNX+1,PNY: PRINT M8$
5673 LOCATE PNX+2,PNY: PRINT M9$: RETURN
5680 REM Print number 8:
5681 LOCATE PNX,PNY: PRINT N6$
5682 LOCATE PNX+1,PNY: PRINT N6$
5683 LOCATE PNX+2,PNY: PRINT N7$: RETURN
5690 REM Print number 9:
5691 LOCATE PNX,PNY: PRINT N6$
5692 LOCATE PNX+1,PNY: PRINT N3$
5693 LOCATE PNX+2,PNY+2: PRINT N10$: RETURN
5800 REM Print right-facing Frog
5810 COLOR 2,0: LOCATE 20,FROG: PRINT " "+FP$+"r@p"+GQ$+" "
5820 LOCATE 21,FROG: PRINT " "+FP$+"r "+GQ$+" "
5830 LOCATE 22,FROG-1: PRINT " "+FP$+"r y_ "+GQ$+" "
5840 LOCATE 23,FROG-2: PRINT " "+FP$+"pa y"+Q$+"r "+P$+" p"+GQ$+" "
5850 COLOR 7,0: RETURN
5860 REM Print right frog's tongue.
5870 COLOR 2,0: FOR I=0 TO 150: PSET (((FROG+4)*8)+I,174-I): NEXT
5880 FOR T=1 TO 100: NEXT T: REM Time delay to see tongue, then delete
5890 COLOR 0,0: FOR I=150 TO 0 STEP -1: PSET (((FROG+4)*8)+I,174-I): NEXT
5895 RETURN
5900 REM Print left-facing Frog
5910 COLOR 2,0: LOCATE 20,FROG: PRINT " "+FP$+"p@_ "+GQ$+" "
5920 LOCATE 21,FROG: PRINT " "+FP$+"_ "+GQ$+" "
5930 LOCATE 22,FROG-1: PRINT " "+FP$+"r_x_ "+GQ$+" "
5940 LOCATE 23,FROG-2: PRINT " "+FP$+"p "+Q$+" _ "+P$+"x ap"+GQ$+" "
5950 COLOR 7,0: RETURN
5960 REM Print left frog's tongue.
5970 COLOR 2,0: FOR I=0 TO 150: PSET ((FROG*8)-I,174-I): NEXT
5980 FOR T=1 TO 100: NEXT T: REM Time delay to see tongue, then delete
5990 COLOR 0,0: FOR I=150 TO 0 STEP -1: PSET ((FROG*8)-I,174-I): NEXT
5995 RETURN
6100 REM Print Stopped Fly:
6110 COLOR 6,0: LOCATE 2,PFLY
6120 PRINT " "+F$+"y^x"+G$+" "
6130 LOCATE 3,PFLY: PRINT " "+N10$+" "
6140 LOCATE 4,PFLY-4: PRINT " "+F$+"r_ "+G$+" ": RETURN
6200 IF PFLY<10 THEN RETURN: REM Print Left Flying Fly:
6210 COLOR 6,0: LOCATE 2,PFLY: PRINT F$+" ^"+P$+"pr"+GQ$+" "
6220 LOCATE 3,PFLY: PRINT F$+" x yy "+G$
6230 LOCATE 4,PFLY: PRINT " Bzzzz ": RETURN
6300 IF PFLY>65 THEN RETURN: REM Print Right Flying Fly:
6310 COLOR 6,0: LOCATE 2,PFLY: PRINT " "+FP$+"_p"+Q$+"^ "+G$
6320 LOCATE 3,PFLY: PRINT F$+" xx y "+G$
6330 LOCATE 4,PFLY: PRINT " Bzzzz ": RETURN
6400 REM Print Spider:
6410 COLOR 4,0: ON SPD GOTO 6420, 6450, 6500
6420 LOCATE 2,PSPD: PRINT F$+"yyxx"+G$
6430 LOCATE 3,PSPD+1: PRINT FP$+":q"+GQ$
6440 LOCATE 4,PSPD: PRINT F$+"xxyy"+G$: SPD=SPD+1: RETURN
6450 LOCATE 2,PSPD: PRINT F$+"yyyx"+G$
6460 LOCATE 3,PSPD+1: PRINT FP$+":q"+GQ$
6470 LOCATE 4,PSPD: PRINT F$+"xxxy"+G$: SPD=SPD+1: RETURN
6500 PSPD=PSPD-1: SPD=1: REM Move spider
6510 LOCATE 2,PSPD: PRINT F$+"yxxx "+G$
6520 LOCATE 3,PSPD+1: PRINT FP$+":q"+GQ$+" "
6530 LOCATE 4,PSPD: PRINT F$+"xyyy "+G$
6540 IF PSPD=2 THEN FIN2=1 ELSE RETURN
6550 LOCATE 16,1: PRINT "The spider has escaped!"
6560 LOCATE 2,1: PRINT SPC(6)
6570 LOCATE 3,1: PRINT SPC(6)
6580 LOCATE 4,1: PRINT SPC(6)
6590 GOSUB 5010: GOTO 7330
7000 REM Print "INCORRECT" messages.

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7010 IF MSG=5 THEN MSG=1
7020 IF W1=1 GOTO 7100
7030 W1=1: W=W+1: COLOR 3,0: LOCATE 15,1
7040 ON MSG GOTO 7050, 7060, 7070, 7080, 7090
7050 PRINT "Sorry. That's incorrect. Try again.": GOTO 7200
7060 PRINT "No, ";NME$;". Let's have another try.": GOTO 7200
7070 PRINT "That's wrong. Take another look.": GOTO 7200
7080 PRINT "Not so, ";NME$;". Here it is again.": GOTO 7200
7090 PRINT "No. Think about it for awhile. I'm in no hurry.": GOTO 7200
7100 GOSUB 7320: LOCATE 16,1,0: PRINT "The correct answer is"
7110 COLOR 3,0: P=0: V$=STR$(Z)
7120 IF Z<0 THEN PSX=6: PSY=29: GOSUB 5310
7130 FOR I=LEN(V$) TO 2 STEP -1: V1=ASC(MID$(V$,I,1))-47: P=P+1
7140 IF P=1 THEN PN1=16: PNY=55
7150 IF P=2 THEN PN1=16: PNY=50
7160 IF P=3 THEN PN1=16: PNY=45
7170 IF P=4 THEN PN1=16: PNY=40
7180 ON V1 GOSUB 5601, 5611, 5621, 5631, 5641, 5651, 5661, 5671, 5681, 5691
7190 NEXT I
7200 GOSUB 5010: IF HARD$="1" GOTO 7320: REM If "Easy", don't move frog
7210 IF FIN1=1 GOTO 7320: REM Move fly after wrong answer
7220 R=INT(RND*25): L=INT(RND*25)
7230 IF FIN2=0 GOTO 7250
7240 IF (R+PFLY)>65 OR (PFLY-L)<10 GOTO 7220 ELSE GOTO 7260
7250 IF (R+PFLY)>65 OR (PFLY-L)<30 GOTO 7220
7260 IF DIR=4 GOTO 7280
7270 FOR J=1 TO R: PFLY=PFLY+1: GOSUB 6300: NEXT J
7280 FOR J=1 TO L: PFLY=PFLY-1: GOSUB 6200: NEXT J
7290 IF DIR=6 GOTO 7310
7300 FOR J=1 TO R: PFLY=PFLY+1: GOSUB 6300: NEXT J
7310 GOSUB 6100: REM Stop Fly in new position
7320 MSG=MSG+1: LOCATE 14,7,0: PRINT SPC(7)
7330 LOCATE 15,1: PRINT SPC(37)
7340 LOCATE 16,1: PRINT SPC(60)
7350 LOCATE 17,1: PRINT SPC(60)
7360 LOCATE 18,1: PRINT SPC(60)
7370 RETURN
7400 REM Fire tongue of frog.
7410 IF DIR=4 THEN GOSUB 5970
7420 IF DIR=6 THEN GOSUB 5870
7430 REM Compare frog's location with that of spider and fly.
7440 IF PSPD=(FROG+20) AND DIR=6 GOTO 7540
7450 IF PSPD=(FROG-20) AND DIR=4 GOTO 7540
7460 IF PSPD=(FROG+19) AND DIR=6 GOTO 7540
7470 IF PSPD=(FROG-19) AND DIR=4 GOTO 7540
7480 IF PFLY=(FROG+21) AND DIR=6 GOTO 7550
7490 IF PFLY=(FROG-21) AND DIR=4 GOTO 7550
7520 GOSUB 7200: REM Move fly after a miss.
7530 COLOR 3,0: LOCATE 15,1: PRINT "Missed me!": GOTO 7200
7540 COLOR 3,0: LOCATE 3,PSPD,0: PRINT "ZAPPED!": FIN2=1: RETURN
7550 COLOR 3,0: LOCATE 3,PFLY,0: PRINT "ZAPPED!": FIN1=1: RETURN

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If you have any questions or comments, please email me at:
z100lifeline@swvagts.com

Cheers,

Steven W. Vagts