

United States Pacifist Party

Program

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Apocalypse, continued...

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GOTO 1010: REM GO FOR INTRO.
REM BY HOWARD S. BALSAM.
REM < ROUNDING ROUTINE >
= 100 * X: X = INT (X1 * 100 + .5) / 100: RETURN
REM < CENTERING ROUTINE >
TAB ((40 - LEN (T$)) / 2 + 1): PRINT T$: RETURN
REM < BEEP ROUTINE >
ALL - 198: CALL - 198: CALL - 198: RETURN
REM < CONTINUATION ROUTINE >
PRINT "HIT ANY KEY TO CONTINUE ";; GET Z$: PRINT : RETURN
REM < RESULTS ROUTINE >
IF A1 THEN PRINT "APPROXIMATE PROBABILITY IS" "A1"Z": PRINT
IF A2 THEN PRINT "CLOSER APPROXIMATION IS" "A2"Z": PRINT
IF A3 THEN PRINT "EXACT PROBABILITY IS" "A3"Z": PRINT
RETURN
REM < REJECTION ROUTINE >
INVERSE: PRINT "PLEASE ENTER A MORE REALISTIC VALUE.": GOSUB 80: FOR
T = 1 TO 1500: NEXT T: NORMAL: VTAB VT + 1: CALL - 958: RETURN: REM
DISPLAY REJECTION FOR READING, BEEPS, MOVE UP AND CLEAR SCREEN BELOW
REM < THREE FORMS OF EQ. >
HOME: T$ = "<A> APPROXIMATE FORM": GOSUB 60: PRINT
HTAB 12: PRINT "AP = 1 - " CHR$ (91) "1 - P(U+S))^N": PRINT
GOSUB 620: REM GO FOR ENTRIES.
1 = 1 - (1 - P * (U + S)) ^ N
= A1: GOSUB 40: A1 = X: REM PER CENT AND ROUNDING.
PRINT: GOSUB 150: GOSUB 80: PRINT: REM DISPLAY RESULTS, WITH 3 BEE
PS.
PRINT: PRINT: GOSUB 100
GOTO 810: REM BACK TO MENU.
HOME: T$ = "<C> CLOSER APPROXIMATION": GOSUB 60: PRINT
$ = "AP = 1 - EXP(-NF(U+S))": GOSUB 60: PRINT
GOSUB 620: REM GO FOR ENTRIES.
Z = 1 - EXP (- N * P * (U + S))
= A2: GOSUB 40: A2 = X: REM PER CENT AND ROUNDING.
PRINT: GOSUB 150: GOSUB 80: PRINT: REM DISPLAY RESULTS, WITH 3 BEE
S.
PRINT: PRINT: GOSUB 100
GOTO 810: REM BACK TO MENU.
HOME: T$ = "<E> EXACT EQUATION": GOSUB 60: PRINT
= "AP = 1 - (1 - P) ^ N(U+S)": GOSUB 60: PRINT
GOSUB 620: REM GO FOR ENTRIES.
= 1 - (1 - P) ^ (N * (U + S))
= A3: GOSUB 40: A3 = X: REM PER CENT AND ROUNDING.
PRINT: GOSUB 150: GOSUB 80: PRINT: REM DISPLAY RESULTS, WITH 3 BEE
S.
PRINT: PRINT: GOSUB 100
GOTO 810: REM BACK TO MENU.
REM < ENTRIES ROUTINE >
REM UZ, SZ, PZ, AND NZ ARE FLAGS INDICATING NEW (0) OR CHANGED (0) EN
RIES OF THE RESPECTIVE QUANTITIES. 1 = NO CHANGE.
= 0: IF U THEN PRINT "IS U = "U" US MISSILES OK? ";; HTAB 32: PRINT
Y/N ";; GET A$: PRINT A$: IF A$ = "Y" THEN UZ = 1: GOTO 640
= PEEK (37): PRINT "ENTER NO. OF US MISSILES;": INPUT "(POSSIBLE:
900): ";; U: PRINT: IF U < 1000 OR U > 5000 THEN GOSUB
00: GOTO 630: REM VT = VERT. POSITION.
= 0: IF S THEN PRINT "IS S = "S" SOVIET MISSILES OK?": HTAB 32: PRINT
Y/N ";; GET A$: PRINT A$: IF A$ = "Y" THEN SZ = 1: GOTO 660
= PEEK (37): PRINT "ENTER NO. OF SOVIET MISSILES;": INPUT "(POSSIB
E: 2200): ";; S: PRINT: IF S < 1000 OR S > 5000 THEN GOSUB
00: GOTO 650

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660 PZ = 0: IF P THEN PRINT "IS P = "P" ACCIDENTAL LAUNCH": HTAB 12: PRINT
" PROBABILITY OK?": HTAB 32: PRINT "Y/N ";; GET A$: PRINT A$: IF A$ =
"Y" THEN PZ = 1: GOTO 680
670 VT = PEEK (37): PRINT "ENTER CHANCE OF ACCIDENTAL LAUNCH OF ": PRINT
"ANY GIVEN MISSILE OVER ANY 24-HR PERIOD": INPUT "(POSSIBLE: 1E-8):
"; P: IF P < 1E - 12 OR P > 1E - 3 THEN GOSUB 200: GOTO 6
70
680 NZ = 0: IF N THEN PRINT "IS N = "N" DAYS OK?": HTAB 32: PRINT "Y/N "
: GET A$: PRINT A$: IF A$ = "Y" THEN NZ = 1: GOTO 700
690 VT = PEEK (37): PRINT: PRINT "ENTER NUMBER OF DAYS:": INPUT "(POSSIB
LE: 14600): ";; N: PRINT: IF N < 1 OR N > 400000 THEN GOSUB
200: GOTO 690
700 FLZ = UZ + SZ + PZ + NZ: REM FLAG INDICATING WHETHER ALL OR SOME CHAN
GES MADE.
710 IF FLZ < > 4 THEN A1 = 0: A2 = 0: A3 = 0: REM IF ANY CHANGES, SUPPRESS
PREVIOUS RESULTS IN LINES 150-170, READY FOR NEW RESULTS.
720 RETURN
800 REM < MENU ROUTINE >
810 HOME: T$ = "THE APOCALYPSE EQUATION": GOSUB 60: PRINT: T$ = "HERE ARE
3 FORMS OF THE EQUATION,": GOSUB 60: T$ = "READY FOR USE.": GOSUB 60:
PRINT
820 HTAB 10: PRINT "<A> ALGEBRAIC FORM": HTAB 10: PRINT "<C> CLOSER APPRO
XIMATION":
830 HTAB 10: PRINT "<E> EXACT FORM": HTAB 10: PRINT "<Q> QUIT": PRINT: PRINT
840 VT = PEEK (37) + 1: PRINT "WHICH IS YOUR CHOICE? ";; GET Z$: REM VT
= CURRENT VERT SCREEN POSITION.
850 IF Z$ = "Q" THEN 1100
860 IF Z$ = "A" THEN 300
870 IF Z$ = "C" THEN 400
880 IF Z$ = "E" THEN 500
890 VTAB VT: HTAB 1: CALL - 868: GOTO 840: REM IF NOT VALID CHOICE, MOVE
BACK UP, CLEAR LINE, RE-QUESTION.
1000 REM < INTRODUCTION >
1010 TEXT: HOME: T$ = " <<< APOCALYPSE! >>> ": INVERSE: GOSUB 60: NORMAL
: PRINT: POKE 34,2: T$ = "THE 'APOCALYPSE EQUATION': FROM A": GOSUB 6
0: T$ = "LETTER FROM BRADFORD LITTLE, CHICAGO,": GOSUB 60
1020 T$ = "IN 'HARVARD MAGAZINE,' MAR-APR 1982,": GOSUB 60
1030 T$ = "PAGE 19. THE AUTHOR PRESENTS THREE": GOSUB 60: T$ = "EQUATIONS
WHICH HE SAYS GIVE THE": GOSUB 60: T$ = "PROBABILITY OF AN ACCIDENTAL
EXPLOSION": GOSUB 60: T$ = "OF A NUCLEAR WEAPON OVER TIME.": GOSUB 60
1040 T$ = "HE SPECIFICALLY DEALS WITH THE": GOSUB 60: T$ = "CHANCE OF THE A
CCIDENTAL LAUNCH OF A": GOSUB 60: T$ = "STRATEGIC MISSILE, CONSIDERING
ONLY THE": GOSUB 60: T$ = "U.S. AND THE USSR.": GOSUB 60
1050 PRINT: T$ = "IT IS PRESUMED THAT SUCH AN ACCIDENT": GOSUB 60: T$ = "W
OULD TRIGGER THE APOCALYPSE.": GOSUB 60
1060 PRINT: T$ = "YOU MAY PLAY WITH THESE EQUATIONS,": GOSUB 60: T$ = "COM
PARING THEIR RESULTS WITH EACH OTHER": GOSUB 60: T$ = "AND WITH GOD'S
REAL WORLD.": GOSUB 60: PRINT: GOSUB 100
1070 HOME: T$ = "SYMBOLS USED:": GOSUB 60: PRINT: PRINT: PRINT "AP = PR
OBABILITY OF APOCALYPSE": PRINT "(I.E., PROBABILITY THAT ACCIDENTAL "
"LAUNCH OF 1 MISSILE WOULD FALSELY ", "TRIGGER A FULL-FLEDGED NUCLEAR
WAP.)"
1080 PRINT: PRINT "U = NO. U.S. MISSILES": PRINT: PRINT "S = NO. SOVIET
MISSILES": PRINT
1090 PRINT "P = PROBABILITY OF ACCIDENTAL LAUNCH", " OF ANY MISSILE IN
A 24-HOUR PERIOD": PRINT: PRINT "N = NO. OF DAYS IN TOTAL PERIOD", "
CONSIDERED": PRINT: PRINT: GOSUB 100: GOTO 810
1100 VTAB 20: T$ = "END OF 'APOCALYPSE! ": GOSUB 60: GOSUB 80: TEXT: VTAB
20: END

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