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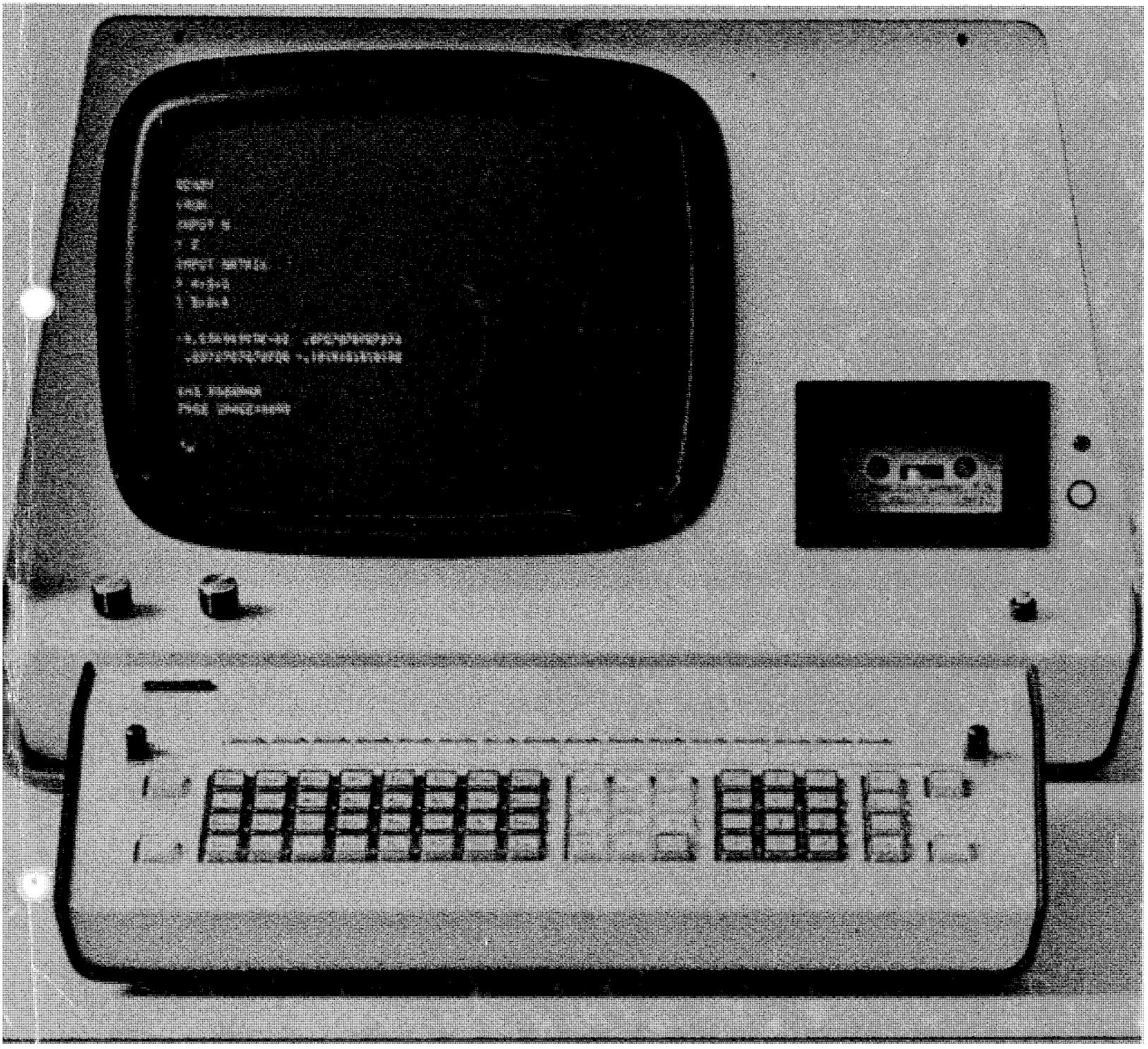

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Volume 290
Tape III

TITLE: NUMBER OF SEMI-ANNUAL PERIODS BETWEEN TWO DATES (360 DAYS/YEAR)

PROGRAM NO.: PF.02-2200.01A-00FI-1-0

TAPE NO.: 701-0121

BLOCK NO.: 1

```
10 PRINT "FIRST DATE?"
20 INPUT M,D,Y
30 PRINT "SECOND DATE?"
40 INPUT M1,D1,Y1
50 PRINT
60 M=(30*(M1-M)+D1-D+360*(Y1-Y))/180
70 PRINT "SEMI-ANNUAL PERIODS=";M
80 PRINT
90 PRINT "MORE INPUT? (1=YES,0=NO)"
100 INPUT D
110 PRINT
120 IF D=1 THEN 10
130 END
```

```
10 INPUT "ENTER SETTLEMENT DATE IN THE FORM MMDDYY",S
20 INPUT "ENTER COUPON (%)",C
30 INPUT "ENTER MATURITY DATE IN THE FORM MMDDYY",M
40 INPUT "ENTER YIELD",Y
50 INPUT "ENTER INCREMENT VALUE",I
60 PRINT HEX$(03)
70 PRINT "                    YIELD TO   $ PRICE TO"
80 PRINT "                    MATURITY     MATURITY"
90 I1=5*I:Y=Y-I1
100 S1=INT(S/10000):S2=INT((S-S1*10000)/100):S3=S-(S1*10000)-(S2
*100)
110 M1=INT(M/10000):M2=INT((M-M1*10000)/100):M3=M-M1*10000-M2*10
0
120 IF M3>S3THEN 130:M3=M3+100
130 D=360*(M3-S3)+30*(M1-S1)+M2-S2
140 FOR K=1TO 11
150 R=100:G=D:GOSUB 200:P1=P
160 PRINTUSING 170,K,Y,P1
170 %        ##          ###.###      ####.###       ###.###      ####.##
#
180 Y=Y+I:NEXT K
190 PRINT HEX$(0C0C);:STOP
200 IF Y<>CTHEN 210:P=100:RETURN
210 IF G>=14491THEN 230
220 T1=G/30-INT(G/30):N=INT(G/30)/6:T=N-INT(N):N=INT(N):GOTO 240
230 N=INT(G/180):T=0:T1=G/180-N
240 GOSUB 300:A=F1
250 IF G<=14490THEN 260:N=N+1:GOTO 270
260 T=T+1/6
270 GOSUB 300
280 P=INT((A+T1*(F1-A))*1000+.5)/1000
290 RETURN
300 F1=C*(T-1)/2+(R+(100*C/Y)*((Y/200+1)^(N+1)-1))/((Y/200+1)^(N
+T))
310 F1=INT(F1*1000)/1000
320 RETURN
```

```
10 INPUT "ENTER SETTLEMENT DATE IN THE FORM MMDDYY",S
20 INPUT "ENTER COUPON (%)",C
30 INPUT "ENTER MATURITY DATE IN THE FORM MMDDYY",M
40 INPUT "ENTER $ PRICE",Y
50 INPUT "ENTER INCREMENT VALUE",I
60 PRINT HEX(03);
70 PRINT "                    YIELD TO   $ PRICE TO"
80 PRINT "                    MATURITY     MATURITY"
90 I1=5*I:Y=Y-I1
100 S1=INT(S/10000):S2=INT((S-S1*10000)/100):S3=S-(S1*10000)-(S2
*100)
110 M1=INT(M/10000):M2=INT((M-M1*10000)/100):M3=M-M1*10000-M2*10
0
120 IF M3>S3THEN 130:M2=M2+100
130 D=360*(M3-S3)+30*(M1-S1)+M2-S2
140 %       ##          ####.###      ####.###
150 P1=Y
160 FOR K=1TO 11
170 R=100:G=D:GOSUB 320:Y=B
180 PRINTUSING 140,K,Y,P1
190 P1=P1+I:NEXT K:PRINT HEX(0C0C);:STOP
200 IF G>=14491 THEN 220
210 T1=G/30-INT(G/30):N=INT(G/30)/6:T=N-INT(N):N=INT(N):GOTO 230
220 N=INT(G/180):T=0:T1=G/180-N
230 GOSUB 290:A=F1
240 IF G<=14490THEN 250:N=N+1:GOTO 260
250 T=T+1/6:GOSUB 290:T=T-1/6:GOTO 270
260 GOSUB 290
270 P=INT((A+T1*(F1-A))*1000+.5)/1000
280 RETURN
290 F1=C*(T-1)/2+(R+(100*C/Y)*((Y/200+1)^(N+1)-1))/((Y/200+1)^(N
+T))
300 F1=INT(F1*1000)/1000
310 RETURN
320 Y=5:A1=1
330 GOSUB 200:F1=P
340 F1=F1-P1
350 GOSUB 440
360 B=Y-F1/F2
370 Z=B
380 Y=INT(Y*1000+.5)/1000
390 B=INT(B*1000+.5)/1000
400 IF B=Y THEN 430
410 Y=Z:A1=A1+1:IF A1<12 THEN 330
420 STOP "PRICE TO YIELD DOES NOT CONVERGE"
430 RETURN
440 X=(Y/200+1)^(-1*(N+T))
450 X1=((100*C/Y)*((N+1)/200)*(Y/200+1)^N)-((100*C/Y^2)*((Y/200+
1)^(N+1)-1))
460 X=X*X1
470 X1=R+(100*C/Y)*((Y/200+1)^(N+1)-1)
480 X2=((N+T)/200)*(Y/200+1)^(-1*(N+T+1))
490 X1=X1*X2
500 F2=X-X1
510 RETURN
```

TITLE: DISCOUNT & PRICE ON DISCOUNT COMMERCIAL PAPER

PROGRAM NO.: PF.02-2200.01A-00FI-4-0

TAPE NO.: 701-0121

BLOCK NO.: 4

```
10 PRINT
20 PRINT "PRINCIPAL?"
30 INPUT P
40 PRINT "DISCOUNT RATE (%)?"
50 INPUT R
60 PRINT "DAYS TO MATURITY?"
70 INPUT M
80 PRINT
90 D=P*R*M/36000
100 PRINT "DISCOUNT=";D
110 PRINT "COST=";P-D
120 PRINT
130 PRINT "MORE INPUT? (1=YES, 0=NO)"
140 INPUT P
150 IF P=1 THEN 10
160 END
```

TITLE: INTEREST BEARING COMMERCIAL PAPER

PROGRAM NO.: PF.02-2200.01A-00FI-5-0

TAPE NO.: 701-0121

BLOCK NO.: 5

```
10 PRINT
20 PRINT "PRINCIPAL?"
30 INPUT P
40 PRINT "DISCOUNT RATE?"
50 INPUT R
60 PRINT "DAYS TO MATURITY?"
70 INPUT M
80 PRINT
90 I=R/(100-R*M/360)
100 PRINT "INTEREST RATE=";I*100
110 PRINT "ACCRUED INTEREST=$";P*I*M/360
120 PRINT
130 PRINT "MORE INPUT? (1=YES,0=NO)"
140 INPUT M
150 IF M=1 THEN 10
160 END
```

```
10 PRINT
20 PRINT "FIRST DATE(M,D,Y)?"
25 INPUT M,D,Y
30 PRINT "SECOND DATE?"
35 INPUT M1,D1,Y1
40 L=Y
45 L1=Y1
50 IF M*100+D<229THEN 60
55 L=Y+1
60 IF M1*100+D1>228THEN 70
65 L1=Y1-1
70 L=INT((L+3)/4)
75 IF 4*L<=L1THEN 90
80 L=0
85 GOTO 95
90 L=INT(L1/4)-L+1
95 IF M1>=MTHEN 120
100 M1=12+M1
110 Y1=Y1-1
120 FOR I=MTO M1-1
140 J=I-INT((I-1)/12)*12
150 IF J=4 THEN 200
160 IF J=6THEN 200
165 IF J=9THEN 200
170 IF J=11THEN 200
180 IF J=2THEN 220
190 GOTO 230
200 L=L-1
210 GOTO 230
220 L=L-3
230 NEXT I
240 PRINT "NO. OF DAYS=";365*(Y1-Y)+31*(M1-M)+D1-D+L
250 PRINT
260 PRINT "MORE INPUT?(1=YES,0=NO)"
270 INPUT M
280 IF M=1 THEN 10
290 END
```

```
10 PRINT "PRINCIPAL?"
15 INPUT P
20 PRINT "ANNUAL INTEREST RATE (%)?"
25 INPUT I
30 PRINT "LOAN PERIOD (YEARS, MONTHS)?"
35 INPUT N, M
40 I=I/1200
45 N=12*N+M
50 M=P*I/(1-(1+I)^(-N))
55 M=INT(M*100+.5)/100
60 PRINT
65 PRINT "MONTHLY PAYMENT=$"; M
70 PRINT "TOTAL INTEREST=$"; N*M-P
75 PRINT
76 PRINT
80 PRINT "DO YOU WANT MORTGAGE TABLE? (1=YES, 0=NO)"
85 INPUT R:IF R=0THEN 999:GOSUB 90:GOTO 130
90 PRINT HEX(03)
110 PRINT " ","PRINCIPAL"," ","PRINCIPAL"
120 PRINT "MONTH","OUTSTANDING","INTEREST","REPAYMENT"
125 RETURN
130 B9=0:FOR K=1TO N:B9=B9+1
135 IF B9<>13THEN 140:PRINT HEX(0C);:STOP "KEY CONTINUE , CR/LF
TO CONTINUE TABLE":GOSUB 90:B9=1
140 I1=INT(100*P*I+.5)/100
150 IF K<>N THEN 180
160 R=P
170 GOTO 190
180 R=M-I1
190 PRINT K, P, I1, R
200 P=P-R
210 NEXT K
390 PRINT K, P, I1, R
999 END
```

TITLE: DAY OF YEAR PROGRAM NO.: PF.02-2200.01A-00FI-8-0 TAPE NO.: 701-0121

BLOCK NO.: 8

```
10 PRINT "ENTER MONTH,DAY,YEAR (FOR EXAMPLE: 1,21,1972)"
15 PRINT "TO END PROGRAM ENTER 0,0,0"
20 INPUT M,D,Y
25 IF M=0 THEN 1010
30 IF M>2 THEN 60
40 M=M+12
50 Y=Y-1
60 N=D+2*M+INT(.6*(M+1))+Y+INT(Y/4)-INT(Y/100)+INT(Y/400)+2
70 N=INT((N/7-INT(N/7))*7+.5)
80 IF N>0 THEN 90
81 PRINT "SATURDAY"
82 GOTO 999
90 IF N>1 THEN 100
91 PRINT "SUNDAY"
92 GOTO 999
100 IF N>2 THEN 110
101 PRINT "MONDAY"
102 GOTO 999
110 IF N>3 THEN 120
111 PRINT "TUESDAY"
112 GOTO 999
120 IF N>4 THEN 130
121 PRINT "WEDNESDAY"
122 GOTO 999
130 IF N>5 THEN 140
131 PRINT "THURSDAY"
132 GOTO 999
140 PRINT "FRIDAY"
999 PRINT
1000 PRINT "ENTER MONTH,DAY,YEAR"
1005 GOTO 20
1010 END
```

```
10 PRINT
20 PRINT "AMOUNT OF EACH PAYMENT"
30 INPUT R: PRINT
40 PRINT "INTEREST RATE/PERIOD (%)"
50 INPUT I: PRINT
60 PRINT "TERM OF ANNUITY"
70 INPUT N: PRINT
90 I=I/100
100 PRINT "AMOUNT=$"; INT(R*((1+I)^N-1)/I*100+.5)/100
110 PRINT : PRINT
120 PRINT "MORE INPUT (1=YES, 0=NO)"
130 INPUT R
140 IF R=1 THEN 10
160 END
```

TITLE: ANNUAL DEBT PAYMENT PROGRAM NO.: PF.02-2200.01A-00FI-10-0 TAPE NO.: 701-0121

BLOCK NO.: 10

```
10 PRINT
20 PRINT "PRICE"
30 INPUT P: PRINT
40 PRINT "ANNUAL INTEREST RATE (%)"
50 INPUT I: PRINT
60 PRINT "LIFE OF STUDY PERIOD (YRS)"
70 INPUT N: PRINT
80 PRINT "PROSPECTIVE NET SALVAGE VALUE AT END OF STUDY PERIOD"
90 INPUT L: PRINT
100 PRINT
110 I=I/100
120 R=(1+I)^N
130 R=(P-L)*(I*R/(R-1))+L*I
140 PRINT "ANNUAL DEBT PAYMENT=$"; INT(R*100+.5)/100
150 PRINT
160 PRINT
170 PRINT "MORE INPUT (1=YES, 0=NO)"
180 INPUT P
190 IF P=1 THEN 10
200 END
```

```
10 PRINT
20 PRINT "SUM AFTER N YRS. "
30 INPUT S: PRINT
40 PRINT "NO. OF COMPOUNDING PERIODS/YR. "
50 INPUT M: PRINT
60 PRINT "ANNUAL INTEREST RATE (%)"
70 INPUT I: PRINT
80 PRINT "NO. OF YRS. OF INVESTMENT"
90 INPUT N: PRINT
100 PRINT
110 A=S/(1+I/100/M)^(N*M)
120 PRINT "PRESENT AMOUNT=$"; INT(100*A+.5)/100
130 PRINT : PRINT
150 PRINT "MORE INPUT (1=YES, 0=NO)"
160 INPUT S
170 IF S=1 THEN 10
180 END
```

TITLE: NOMINAL INTEREST RATE PROGRAM NO.: PF.02-2200.01A-00FI-12-0 TAPE NO.: 701-0121

BLOCK NO.: 12

```
10 PRINT
20 PRINT "PRINCIPAL"
30 INPUT P: PRINT
40 PRINT "NO. OF COMPOUNDING PERIODS/YR."
50 INPUT M: PRINT
60 PRINT "SUM AT END OF N YEARS"
70 INPUT S: PRINT
80 PRINT "NO. OF YEARS"
90 INPUT N: PRINT
100 PRINT
110 PRINT "NOMINAL INTEREST RATE=";M*((S/P)^(1/M/N)-1)*100
120 PRINT :PRINT
130 PRINT "MORE INPUT (1=YES,0=NO)"
140 INPUT M
150 IF M=1 THEN 10
160 END
```

TITLE: EFFECTIVE INTEREST RATE PROGRAM NO.: PF.02-2200.01A-00FI-13-0 TAPE NO.: 701-0121

BLOCK NO.: 13

```
10 PRINT
20 PRINT "PRINCIPAL";
30 INPUT P: PRINT
40 PRINT "SUM AFTER N YRS. ";
50 INPUT S: PRINT
60 PRINT "NO. OF YRS. ";
70 INPUT N: PRINT
80 PRINT
90 PRINT "EFFECTIVE INTEREST RATE=";((S/P)^(1/N)-1)*100
100 PRINT : PRINT
120 PRINT "MORE INPUT (1=YES, 0=NO)";
130 INPUT P
140 IF P=1 THEN 10
150 END
```

TITLE: INVESTMENT WITHDRAWAL PROGRAM NO.: PF.02-2200.1A-00FI-14-0 TAPE NO.: 701-0121

BLOCK NO.: 14

```
10 PRINT
20 PRINT "INTIAL INVESTMENT";
30 INPUT P: PRINT
40 PRINT "ANNUAL INTEREST RATE IN THE FORM X.XX";
50 INPUT I: PRINT
60 PRINT "NO. OF WITHDRAWALS/YR. ";
70 INPUT M: PRINT
80 PRINT "NO. OF YRS. ";
90 INPUT N: PRINT
100 PRINT
110 I=I/M/100
120 R=P*(I/((1+I)^(N*M)-1)+I)
130 PRINT "AMOUNT OF WITHDRAWAL=$"; INT(100*R+.5)/100
140 PRINT : PRINT
160 PRINT "MORE INPUT (1=YES, 0=NO)";
170 INPUT R
180 IF R=1 THEN 10
190 END
```

```
10 PRINT
20 PRINT "AMOUNT OF WITHDRAWAL";
30 INPUT R: PRINT
40 PRINT "ANNUAL INTEREST RATE (%)";
50 INPUT I: PRINT
60 PRINT "NO. OF WITHDRAWALS/YR. ";
70 INPUT M: PRINT
80 PRINT "NO. OF YEARS";
90 INPUT N: PRINT
100 PRINT
110 I=I/M/100
120 J=(1+I)^(N*M)
130 PRINT "INITIAL INVESTMENT=$"; INT((J-1)/(I*J)*R*100+.5)/100
140 PRINT : PRINT
150 PRINT "MORE INPUT (1=YES,0=NO)";
160 INPUT R
170 IF R=1 THEN 10
180 END
```

TITLE: SUM TOTAL FROM A SINGLE INVESTMENT

PROGRAM NO.: PF.02-2200.01A-00FI-16-0

TAPE NO.: 701-0121

BLOCK NO.: 16

```
10 PRINT
20 PRINT "INVESTMENT";
30 INPUT P: PRINT
40 PRINT "ANNUAL INTEREST RATE IN THE FORM X.XX";
50 INPUT I: PRINT
60 PRINT "NO. OF COMPOUNDING PERIODS/YR. ";
70 INPUT M: PRINT
80 PRINT "NO. OF YRS. INVESTED";
90 INPUT N: PRINT
100 I=I/100/M
110 PRINT
120 PRINT "SUM=$"; INT(100*P*(1+I)^(N*M)+.5)/100
130 PRINT : PRINT
150 PRINT "MORE INPUT (1=YES, 0=NO)";
160 INPUT P: IF P=1 THEN 10
170 END
```

```
10 PRINT
20 PRINT "SUM AFTER N YEARS";
30 INPUT S: PRINT
40 PRINT "ANNUAL INTEREST RATE IN FORM X.XX";
50 INPUT I: PRINT
60 PRINT "NO. OF INVESTMENTS/YR. ";
70 INPUT M: PRINT
80 PRINT "NO. OF YRS. ";
90 INPUT N: PRINT
100 PRINT
110 I=I/100/M
120 PRINT "PERIODIC INVESTMENT=$"; INT(S*100*I/((1+I)^(N*M)-1)+.5
)/100
130 PRINT : PRINT
150 PRINT "MORE INPUT (1=YES, 0=NO)";
160 INPUT S: IF S=1 THEN 10
170 END
```

TITLE: SUM FROM PERIODIC INVESTMENT

PROGRAM NO.: PF.02-2200.01A-00FI-18-0

TAPE NO.: 701-0121

BLOCK NO.: 18

```
10 PRINT
20 PRINT "AMOUNT OF PERIODIC INVESTMENT";
30 INPUT R: PRINT
40 PRINT "ANNUAL INTEREST RATE IN THE FORM X.XX";
50 INPUT I: PRINT
60 PRINT "NO. OF INVESTMENTS/YR. ";
70 INPUT M: PRINT
80 PRINT "NO. OF YRS. ";
90 INPUT N: PRINT
100 PRINT
110 I=I/100/M
120 PRINT "SUM=$"; INT(100*R*((1+I)^(N*M)-1)/I+.5)/100
130 PRINT : PRINT
150 PRINT "MORE INPUT (1=YES,0=NO)";
160 INPUT I
170 IF I=1 THEN 10
180 END
```

TITLE: DEPRECIATION CHARGE (DECLINING BALANCE)

PROGRAM NO.: PF.02-2200.01A-00FI-[illegible]9-0

TAPE NO.: 701-0121

BLOCK NO.: 19

```
10 PRINT
20 PRINT "PRICE";
30 INPUT P: PRINT
40 PRINT "DEPRECIATION RATE (%)";
50 INPUT F: PRINT
55 F=F/100
60 PRINT "AGE AT END OF YEAR TO BE CONSIDERED";
70 INPUT Y: PRINT
80 PRINT
90 P=P*F*(1-F)^(Y-1)
100 PRINT "DEPRECIATION CHARGE=$"; INT(100*P+.5)/100
110 PRINT : PRINT
120 PRINT "MORE INPUT (1=YES, 0=NO)";
130 INPUT P
140 IF P=1 THEN 10
150 END
```

TITLE: DECLINING BALANCE DEPRECIATION RATE

PROGRAM NO.: PF.02-2200.01A-00FI-20-0

TAPE NO.: 701-0121

BLOCK NO.: 20

```
10 PRINT
20 PRINT "PRICE";
30 INPUT P: PRINT
40 PRINT "NET SALVAGE VALUE AFTER N YRS. ";
50 INPUT L: PRINT
60 PRINT "LIFE OF STUDY PERIOD (YRS.)";
70 INPUT N: PRINT
80 PRINT
90 PRINT "DEPRECIATION RATE=";100*(1-(L/P)^(1/N))
100 PRINT : PRINT
110 PRINT "MORE INPUT (1=YES, 0=NO)";
120 INPUT P
130 IF P=1 THEN 10
140 END
```

```
10 PRINT
20 PRINT "PRICE";
30 INPUT P: PRINT
40 PRINT "DEPRECIATION RATE (%)";
50 INPUT F: PRINT
60 PRINT "AGE (YRS.)";
70 INPUT N: PRINT
90 PRINT "SALVAGE VALUE=$"; INT(100*P*(1-F/100)^N+.5)/100
100 PRINT : PRINT
120 PRINT "MORE INPUT (1=YES,0=NO)";
130 INPUT P
140 IF P=1 THEN 10
150 END
```

```
10 DIM S(50)
20 INPUT "FIRST YEAR FOR WHICH FIGURES ARE KNOWN";N1
30 INPUT "LAST YEAR FOR WHICH FIGURES ARE KNOWN";N2
40 J=1
50 FOR I=N1TO N2
60 PRINT "SALES FOR PERIOD ";I:INPUT S(J)
70 J=J+1
80 NEXT I
90 T=LOG(S(1))
100 V=0
110 FOR I=1TO N2-N1
120 L=LOG(S(I+1))
130 T=T+L
140 V=V+I*L
150 NEXT I
160 A=6*(2*V/(N2-N1)-T)/((N2-N1)+1)/((N2-N1)+2)
170 G=EXP(A)-1
180 PRINT
190 PRINT "'AVE.' GROWTH RATE=";G*100;"PERCENT"
200 PRINT
210 S1=EXP(T/((N2-N1)+1)-A*(N2-N1)/2)
220 INPUT "YEAR OF INTEREST (FOR PROJECTED SALES)";M
225 IF M=0THEN 280
230 M1=M
240 M=M-N1
260 PRINT "PROJECTED SALES FOR YEAR ";M1;" =";S1*(1+G)^M
270 GOTO 220
280 END
```

```
3 PRINT HEX(03)
4 S,T=0
5 PRINT "LEFT X-ENDPOINT,RIGHT X-ENDPOINT,X-INCREMENT?"
10 INPUT X1,X2,A
15 PRINT "LOWER Y-ENDPOINT,UPPER Y-ENDPOINT,Y-INCREMENT?"
20 INPUT Y1,Y2,B
25 PRINT
30 IF (Y2-Y1)/B<=70 THEN 50
35 PRINT "RANGE OF Y TOO LARGE? CHANGE ENDPOINTS OR INCREASE INC
REMENT"
40 PRINT
45 GOTO 15
50 IF Y1*Y2<=0THEN 60
55 LET S=Y1
60 PRINT "X-AXIS IS THE LINE: Y=";S
65 IF X1*X2<=0 THEN 75
70 LET T=X1
75 PRINT "Y-AXIS IS THE LINE: X=";T
80 PRINT
85 PRINT
90 PRINT
95 LET S=(S-Y1)/B
97 LET Y2=(Y2-Y1)/B
100 FOR X=X1 TO X2 STEP A
110 LET Y=(FNC(X)-Y1)/B
115 Y=INT(Y+.5)
120 IF X<>T THEN 300
200 FOR J=0 TO Y2
210 IF J=Y THEN 240
220 PRINT "+";
230 GOTO 250
240 PRINT "*";
250 NEXT J
260 PRINT "Y"
270 GOTO 420
300 IF Y>Y2 THEN 410
310 IF Y<Y1 THEN 410
330 IF S>=Y THEN 360
340 PRINT TAB(S);"+";TAB(Y);"*"
350 GOTO 420
360 IF S>Y THEN 390
370 PRINT TAB(Y);"*"
380 GOTO 420
390 PRINT TAB(Y);"*";TAB(S);"+"
400 GOTO 420
410 PRINT TAB(S);"+"
420 NEXT X
430 PRINT TAB(S);"X"
1000 END
```

```
2 DIM Y(9),A$(11)
3 READ N
4 GOTO 120
99 GOTO 320
120 PRINT "LEFT X-ENDPOINT,RIGHT X-ENDPOINT,X-INCREMENT?"
130 INPUT X1,X2,A
140 PRINT "LOWER Y-ENDPOINT,UPPER Y-ENDPOINT,Y-INCREMENT?"
150 INPUT Z1,Z2,B
160 PRINT
170 LET Z2=(Z2-Z1)/B
180 IF Z2<=64THEN 210
190 PRINT "Y-RANGE TOO LARGE! CHANGE ENDPOINTS OR INCREASE INCRE
MENT"
200 GOTO 140
210 PRINT
220 PRINT "X-AXIS IS THE LINE: Y=";Z1
230 PRINT "Y-AXIS IS THE LINE: X=";X1
240 PRINT
250 PRINT
260 PRINT
270 FOR I=1 TO 11
280 READ A$(I)
290 NEXT I
300 FOR X=X1 TO X2 STEP A
310 GOTO 15
320 FOR I=1 TO N
330 LET Y(I)=INT((Y(I)-Z1)/B+.5)
340 NEXT I
350 FOR I=0 TO Z2
360 LET S=0
370 FOR J=1 TO N
380 IF Y(J)<>I THEN 410
390 LET S=S+1
400 LET T=J
410 NEXT J
420 IF S>0 THEN 450
430 PRINT A$(SGN(I)+10);
440 GOTO 490
450 IF S>1 THEN 480
460 PRINT A$(T);
470 GOTO 490
480 PRINT "*";
490 NEXT I
500 IF X>X1 THEN 520
510 PRINT "Y";
520 PRINT
530 LET A$(11)=" "
540 NEXT X
550 PRINT "X"
560 DATA "1","2","3","4","5","6","7","8","9","+","+"
570 END
```

```
1 DIM X(91),Y(90)
2N=90
3SELECT D
10 PRINT "POS. ENDPOINT OF X=AXIS?": INPUT R: PRINT
15 PRINT "INCREMENT IN X IS:";R/30: PRINT "INCREMENT IN Y IS:";R
/18
20 PRINT : PRINT
25 FOR I=1 TO N: T =.06981317*I
30 X(I)=INT((FNC(T)*COS(T)/R+1)*30+.5)
35 Y(I)=INT((-FNC(T)*SIN(T)/R+1)*18+.5): NEXT I
40 FOR I=1 TO N: FOR J=1 TO N-I
45 R=X(J): S=Y(J): T=X(J+1): U=Y(J+1)
50 IF S<=U THEN 60
55 X(J)=T: X(J+1)=R: Y(J)=U: Y(J+1)=S
60 NEXT J: NEXT I
65 R=1: S=0
70 FOR I=0 TO 36: R=R+S: S=0
75 IF R>N THEN 80:IF Y(R)=I THEN 90
80 IF I=18 THEN 85: PRINT TAB(30);"+": GOTO 290
85 U,X(U)=N+1: GOTO 230
90 FOR J=R TO N: IF Y(J)>Y(R) THEN 95: S=S+1: NEXT J
95 FOR J=1 TO S: FOR K=1 TO S-J
100 T=X(R+K-1): U=X(R+K)
110 IF T<=U THEN 130
120 X(R+K-1)=U: X(R+K)=T
130 NEXT K: NEXT J
140 IF I=18 THEN 220: U=0: K=-1
150 FOR J=0 TO S-1: IF X(R+J)=K THEN 200: K=X(R+J)
160 IF K=30 THEN 180: IF K<30 THEN 190
170 IF U=1 THEN 190: PRINT TAB(30);"+";: IF K>60 THEN 280
180 U=1
190 PRINT TAB(K);"*";
200 NEXT J
210 IF U=1 THEN 280: PRINT TAB(30);"+";: GOTO 280
220 U=R
230 FOR J=0 TO 60: IF X(U)<>J THEN 260: PRINT "*";
240 FOR K=U TO R+S-1: IF X(K)=X(U) THEN 250: U=K: GOTO 270
250 NEXT K: GOTO 270
260 PRINT "+";
270 NEXT J: PRINT "0";
280 PRINT
290 NEXT I
300 END
```

```
10 DIM X(100),Y(101)
20 PRINT "LOWER X-ENDPOINT,UPPER X-ENDPOINT,X-INCREMENT": INPUT
A1,A2,A
30 PRINT "LOWER Y-ENDPOINT,UPPER Y-ENDPOINT,Y-INCREMENT": INPUT
B1,B2,B
40 B2=INT((B2-B1)/B+.5): IF B2<=70 THEN 70
50PRINT "RANGE OF Y TOO LARGE, CHANGE ENDPOINTS OR INCREASE INCR
EMENT"
60 GOTO 30
70 PRINT : PRINT "NO. OF POINTS TO BE PLOTTED?": INPUT N: PRINT
80 IF N<=100 THEN 90: PRINT "NO. OF PTS. MUST BE<=100!": GOTO 70

90 PRINT "ENTER POINTS"
100 FOR I=1 TO N: INPUT X(I),Y(I)
110 X(I)=INT((X(I)-A1)/A+.5): Y(I)=INT((Y(I)-B1)/B+.5)
120 NEXT I: Y(N+1)=75: PRINT
130 FOR I=1 TO N: FOR J=1 TO N-I
140 R=X(J): S=Y(J): T=X(J+1): U=Y(J+1)
150 IF R<=T THEN 170
160 X(J)=T: Y(J)=U: X(J+1)=R: Y(J+1)=S
170 NEXT J: NEXT I: R=1
180 FOR S=0 TO N-1: IF X(S+1)>=0 THEN 190: NEXT S
190 FOR I=0 TO INT((A2-A1)/A+.5): R=R+S: S=0
200 IF R>N THEN 210: IF X(R)=I THEN 230
210 IF I=0 THEN 220: PRINT "+": GOTO 460
220 U=N+1: GOTO 390
230 FOR J=R TO N: IF X(J)>X(R) THEN 240: S=S+1: NEXT J
240 FOR J=1 TO S: FOR K=1 TO S-J
250 T=Y(R+K-1): U=Y(R+K)
260 IF T<=U THEN 280
270 Y(R+K-1)=U: Y(R+K)=T
280 NEXT K: NEXT J
290 FOR L=0 TO S-1: K=Y(R+L): IF K>=0 THEN 310: NEXT L
300 L=L+1
310 IF I=0 THEN 380: IF K=0 THEN 320: PRINT "+";
320 FOR J=L TO S-1
330 IF K>B2 THEN 450: IF Y(R+J)=K THEN 350
340 PRINT TAB(K);"*";: K=Y(R+J)
350 NEXT J
360 IF K<0 THEN 450: IF K>B2 THEN 450
370 PRINT TAB(K);"*";: GOTO 450
380 U=R+L
390 FOR J=0 TO B2: IF Y(U)<>J THEN 430: PRINT "*";
400 FOR K=U TO R+S-1
410 IF Y(K)=Y(U) THEN 420: U=K: GOTO 440
420 NEXT K: GOTO 440
430 PRINT "+";
440 NEXT J: PRINT "Y";
450 PRINT
460 NEXT I: PRINT "X"
470 END
1000 END
```

```
10DIM A(255)
12 INPUT "ENTER THE INTERVAL SIZE",D
15 INPUT "ENTER THE TOTAL NUMBER OF ENTRIES",N
20 FOR I=1TO N:PRINT "A(";I;")";:INPUT A(I):NEXT I
30 H,L=A(1)
40 FOR I=2 TO N
50 IF A(I)>L THEN 70
60 L=A(I)
70 IF A(I)<H THEN 90
80 H=A(I)
90 NEXT I
100 X=L/D
110 IF X=INT(L/D) THEN 160
120 FOR M=1 TO D-1
130 Y=(L-M)/D
140 IF Y=INT((L-M)/D) THEN 180
150 NEXT M
160 Z=L
170 GOTO 190
180 Z=L-M
190 PRINT "ENTRIES","HISTOGRAM"
200 PRINT
210 FOR I=Z TO H STEP D
220 PRINT I,
230 FOR J=1 TO N
240 IF A(J)>=I+D THEN 270
250 IF A(J)<I THEN 270
260 S=S+1
270 NEXT J
280 FOR K=1 TO S
290 PRINT "*";
300 NEXT K
310 S=0
320 PRINT
330 NEXT I
340 PRINT
350 END
```

```
500 REM SUBROUTINE FACTORISING NUMERICS
510 DEFFN' 26(X(I),N,C)
520 FOR I=N-1 TO 1 STEP -1
530 FOR J=1 TO I
540 IF C=1 THEN 560
550 IF X(J)<=X(J+1) THEN 570: A=X(J): X(J)=X(J+1): X(J+1)=A
555 GOTO 570
560 IF X(J)>=X(J+1) THEN 570: A=X(J): X(J)=X(J+1): X(J+1)=A
570 NEXT J: NEXT I
580 RETURN
590 REM SUBROUTINE FACTORISING ALPHA NUMERICS
600 DEFFN' 27(A$(I),N)
610 FOR I=N-1 TO 1 STEP -1
620 FOR J=1 TO I
630 IF A$(J)<=A$(J+1) THEN 640: B$=A$(J): A$(J)=A$(J+1):
630 IF A$(J)<=A$(J+1) THEN 640: B$=A$(J): A$(J)=A$(J+1):
    A$(J+1)=B$
640 NEXT J: NEXT I
650 RETURN
660 REM SUBROUTINE PACKING INTEGERS
670 DEFFN' 28(X(I),N)
680 Y=N/2                                   N = No. of Items in Array
690 IF Y-INT(Y)=0 THEN 700: N=N+1: X(N)=0
700 M=0
710 FOR I=1 TO N-1 STEP 2
720 X(I-M)=X(I)+X(I+1)/1.0E06   4
730 M=M+1
740 NEXT I
750 FOR I=N/2+1 TO N
760 X(I)=0
770 NEXT I
780 RETURN
790 REM SUBROUTINE UNPACKING INTEGERS
800 DEFFN' 29(X(I),N)
805 Y=N/2:IF Y-INT(Y)=0THEN 810:N=N+1:X(N)=0
810 FOR J=N TO 2 STEP -2
820 X(J-1)=X(J/2)
830 NEXT J
840 FOR I=1TO N-1STEP 2
850 X(I+1)=(X(I)-INT(X(I)))*1.0E06  4
860 X(I)=INT(X(I))
870 NEXT I
880 RETURN
890 REM SUBROUTINE PACKING NUMERICS
900 DEFFN' 30(X(I),N)
```

```
910 Y=N/2
920 IF Y-INT(Y)=0 THEN 930: N=N+1: X(N)=1
930 M=0
940 FOR I=1TO N-1STEP 2
950 X(I-M)=INT(LOG(X(I))*1.0E03)+INT(LOG(X(I+1))*1.0E03)/
    1.0E06
960 M=M+1
970 NEXT I
980 FOR I=N/2+1 TO N
990 X(I)=0
1000 NEXT I
1010 RETURN
1020 REM SUBROUTINE UNPACKING NUMERICS
1030 DEFFN' 31(X(I),N)
1040 Y=N/2
1050 IF Y-INT(Y)=0 THEN 1060: N=N+1: X(N)=0
1060 FOR J=N TO 2 STEP -2
1070 X(J-1)=X(J/2)
1080 NEXT J
1090 FOR I=1 TO N-1 STEP 2
1100 X(I+1)=EXP((X(I)-INT(X(I)))*1.0E03)
1110 X(I)=EXP(INT(X(I))/1.0E03)
1120 NEXT I
1130 FOR I=1 TO N
1140 IF X(I)<>1 THEN 1150: X(I)=0
1150 NEXT I
1160 RETURN
```

TITLE: ARTILLERY PROGRAM NO.: PF.02-2200.01A-00FI-29-0 TAPE NO.: 701-0121

BLOCK NO.: 29

```
10 PRINT "ENTER DISTANCE, ANGLE, VELOCITY"
20 INPUT D1, A1, V
22 C=0
25 D=D1*5280
27 A=A1*.17477372E-1
30 Y=V*V*SIN(A)*COS(A)
31 X=Y/16
32 IF X<1 THEN 88
35 C=C+1
40 IF X=D THEN 200
45 IF X>D THEN 100
48 M=D-X
49 IF M=D THEN 88
50 IF M<4 THEN 200
52 IF M<200 THEN 80
54 IF M<1000 THEN 82
56 IF M<3000 THEN 84
58 IF M<20000 THEN 94
59 IF M<20000 THEN 94
60 GOTO 90
62 IF X>D THEN 110
64 PRINT "YOU UNDERSHOT BY", M, "FT. "
66 PRINT
67 PRINT "YOUR NEW ANGLE AND VELOCITY ARE?"
68 INPUT A1, V
74 GOTO 27
80 PRINT "VERY CLOSE! - TRY AGAIN SHARPSHOOTER!"
81 GOTO 62
82 PRINT "GETTING CLOSER - TRY AGAIN. "
83 GOTO 62
84 PRINT "YOU NEED MORE PRACTICE - TRY AGAIN"
85 GOTO 62
86 PRINT "WAY OFF - MAYBE YOU NEED GLASSES!?"
87 GOTO 62
88 PRINT "DUMMY!! YOU BLEW UP YOUR OWN EMPLACEMENT!!!!"
89 GOTO 222
90 PRINT "CITIZENS TAKE COVER!! THIS GUY IS DANGEROUS!!!"
91 GOTO 62
94 PRINT "OFF BY MILES! TRY AGAIN. "
95 GOTO 62
100 M=X-D
105 GOTO 50
110 PRINT "YOU OVERSHOT BY", M, "FT. "
115 GOTO 66
200 PRINT "BOOM!!! TARGET DESTROYED!!!!"
```

```
203 PRINT "CONGRATULATIONS! YOUR RANK IS:"
205 IF C<5 THEN 214
206 IF C<8 THEN 216
207 IF C<12 THEN 220
208 IF C<15 THEN 220
210 PRINT "RECRUIT IN CHARGE OF K.P."
212 GOTO 223
214 PRINT "GENERAL IN CHARGE OF ARTILLERY DIVISION!"
215 GOTO 223
216 PRINT "CAPTAIN IN CHARGE OF ARTILLERY  COMPANY."
217 GOTO 223
218 PRINT "SERGEANT IN CHARGE OF EMPLACEMENT."
219 GOTO 223
220 PRINT "PFC N CHARGE OF LOADING GUN."
221 GOTO 223
222 PRINT "YOUR RANK IS DEAD - YOU BLEW YOURSELF UP SHARPSHOOTER
!!"
223 PRINT
224 PRINT "DO YOU WISH TO PLAY AGAIN? 1=YES, 0=NO"
225 INPUT Z
227 PRINT
230 IF Z=1 THEN 10
235 END
```

TITLE: CRAPS PROGRAM NO.: PF.02-2200.01A-00FI-30-0 TAPE NO.: 701-0121

BLOCK NO.: 30

```
1 X=5
5 PRINT "***CRAPS***"
10 PRINT
15 PRINT "RULES:"
20 PRINT "1.  IF 7 OR 11 ROLLED ON FIRST ROLL, YOU WIN."
30 PRINT "2.  IF 2,3,OR 12 ROLLED ON FIRST ROLL, YOU LOSE."
40 PRINT "3.  IF ANOTHER NUMBER ROLLED, THIS NUMBER IS YOUR 'POIN
T'."
50 PRINT "    KEEP ROLLING UNTIL YOUR 'POINT' TURNS UP (YOU WIN)"
60 PRINT "    OR A 7 IS ROLLED (YOU LOSE)."
70 PRINT "4.  HOUSE LIMIT: $1000."
80 A=0
90 PRINT
110 PRINT "YOUR BET IS?"
120 INPUT B
130 GOSUB 300
140 IF D<4 THEN 400
150 IF D=11 THEN 500
160 IF D=12 THEN 400
170 IF D=7 THEN 500
180 P=D
190 GOSUB 300
200 IF D=P THEN 500
210 IF D=7 THEN 400
220 GOTO 190
300 REM --ROLL DICE
310 D1=INT(6*RND(X)+1)
320 D2=INT(6*RND(X)+1)
330 D=D1+D2
335 PRINT "YOU ROLL:";D
340 RETURN
400 PRINT "YOU LOSE"
410 A=A-B
420 GOTO 530
500 PRINT "YOU WIN!"
510 A=A+B
520 IF A>1000 THEN 900
530 PRINT "YOUR WINNINGS ARE $";A
540 GOTO 90
900 PRINT "CONGRADULATIONS!! YOU BROKE THE HOUSE."
999 END
```

TITLE: TIC-TAC-TOE PROGRAM NO.: PF.02-2200.01A-00FI-31-0 TAPE NO.: 701-0121

BLOCK NO.: 31

```
5 PRINT "***TIC-TAC-TOE***"
10 PRINT
15 PRINT "MACHINE MOVES DESIGNATED BY '0', YOUR MOVES DESIGNATED
 BY"
20 PRINT "'11', AVAILABLE SPACES DESIGNATED BY A DIGIT FROM 1-9.
"
25 PRINT "THE MACHINE MOVES FIRST.  TO ENTER YOUR MOVE, TYPE THE
 "
30 PRINT "DIGIT OF THE SPACE YOU WISH TO OCCUPY FOLLOWED BY A "
31 PRINT "CARRIAGE RETURN."
35 PRINT
50 DIM T(9)
55 FOR I=1 TO 9
60     T(I)=I
70 NEXT I
75 B=9
100 DEFFNC(X)=X-8*INT((X-1)/8)
110 GOSUB 300
120 GOSUB 400
130 J=0
140 J=J+1
145 IF J=4 THEN 250
150 B=FNC(P+1)
170 GOSUB 300
180 GOSUB 400
190 IF P=FNC(B+4) THEN 140
200 B=FNC(B+4)
220 GOSUB 300
230 GOTO 500
250 B=FNC(P+5)
260 GOSUB 300
270 PRINT
280 PRINT "GAME IS A DRAW"
295 GOTO 600
300 T(B)=0
305 PRINT TAB(18);T(1);TAB(24);T(2);TAB(30);T(3)
310 PRINT TAB(18);T(8);TAB(24);0;TAB(30);T(4)
320 PRINT TAB(18);T(7);TAB(24);T(6);TAB(30);T(5)
330 RETURN
400 PRINT
410 PRINT "YOUR MOVE";
420 INPUT P
430 T(P)=11
435 PRINT
440 RETURN
500 PRINT
510 PRINT "**COMPUTER WINS**"
600 PRINT
610 PRINT "TYPE '1' TO PLAY AGAIN, TYPE '0' TO END PROGRAM"
620 INPUT N
625 PRINT
630 IF N=1 THEN 55
999 END
```

TITLE: ONE ARMED BANDIT PROGRAM NO.: PF.02-2200. 1A-00FI-32-0 TAPE NO.: 701-0121

BLOCK NO.: 32

```
1 X=1
120 PRINT :"***ONE-ARMED BANDIT***"
130 PRINT :GOTO 300
260 S=INT(30+15*RND(X))
270 PRINT "YOUR STARTING BALANCE IS $";S
280 GOTO 400:PRINT
300 PRINT "EACH PLAY YOU CAN PUT ANY AMOUNT OF SILVER DOLLARS"
310 PRINT "INTO THE MACHINE UP TO THE BALANCE YOU HAVE BY TYPING
"
320 PRINT "IN THE QUANTITY OF DOLLARS.":PRINT
340 PRINT "YOU 'PULL DOWN THE HANDLE' BY DEPRESSING THE RETURN K
EY."
350 PRINT
360 PRINT "WHEN YOUR BALANCE REACHES ZERO, THE GAME IS OVER..."
370 PRINT "OR ENTER '0' TO QUIT ANY TIME. GOOD LUCK..."
380 GOTO 260
400 PRINT "HOW MANY DOLLARS DO YOU WANT TO PUT IN ON YOUR 1ST PL
AY";
410 INPUT Z
420 IF Z=0 THEN 440: IF Z<S+1 THEN 470
440 PRINT :PRINT "...ILLEGAL PLAY...TRY AGAIN";
460 GOTO 410
470 PRINT
480 DIM R(3),T(3),P(3,6)
490 FOR I=1 TO 3:FOR J=1 TO 6
510 READ P(I,J)
520 NEXT J:NEXT I:E4=0
550 FOR I=1 TO 3
560 R(I)=RND(1)
570 FOR J=1 TO 6:T(I)=J
590 IF R(I)<P(I,J) THEN 610
600 NEXT J
610 NEXT I
620 FOR I=1 TO 3
625 PRINT TAB((I-1)*8);
630 W=T(I)
640 IF W=1 THEN 700: IF W=2 THEN 720
660 IF W=3 THEN 740:IF W=4 THEN 760
680 IF W=5 THEN 780:IF W=6 THEN 800
700 PRINT "LEMON";: GOTO 820
720 PRINT "CHERRY";: GOTO 820
740 PRINT "ORANGE";: GOTO 820
760 PRINT "PLUM";: GOTO 820
780 PRINT "BELL";: GOTO 820
800 PRINT "LIBERTY";
```

```
820 NEXT I
830 D=100*T(1)+10*T(2)+T(3)
840 IF D=221 THEN 990:IF D=223 THEN 990
860 IF D=224 THEN 990:IF D=225 THEN 1010
880 IF D=226 THEN 1030:IF D=333 THEN 1070
900 IF D=444 THEN 1090:IF D=555 THEN 1110
920 IF D=336 THEN 1130:IF D=446 THEN 1150
940 IF D=556 THEN 1170:IF D=666 THEN 1190
960 D=0
970 PRINT TAB(24);"...A LOSER";: GOTO 1230
990 D=2*Z
1010 D=4*Z:GOTO 1230
1030 D=6*Z:GOTO 1230
1050 D=8*Z:GOTO 1230
1070 D=10*Z:GOTO 1230
1090 D=12*Z:GOTO 1230
1110 D=14*Z:GOTO 1230
1130 D=16*Z:GOTO 1230
1150 D=18*Z:GOTO 1230
1170 D=20*Z:GOTO 1230
1190 D=INT(200+400*RND(0))
1200 PRINT "YOU HAVE HIT THE JACKPOT OF $";D
1210 PRINT :E4=1
1230 S=S+D-Z
1240 IF S>0 THEN 1280:PRINT
1260 PRINT "YOU HAVE RUN OUT OF MONEY.....":GOTO 1420
1280 IF D=0 THEN 1310:IF E4=1 THEN 1310
1300 PRINT TAB(24);"...YOU WIN $";D;
1310 PRINT TAB(44);"BALANCE=$";S;"  AMOUNT";
1320 INPUT Z
1330 IF Z=0 THEN 1360: IF Z<S+1 THEN 1390
1360 PRINT
1370 PRINT "...ILLEGAL PLAY..TRY AGAIN";:GOTO 1320
1390 PRINT
1400 GOTO 550
1410 PRINT
1420 PRINT "THE GAME IS OVER..BETTER LUCK NEXT TIME.":GOTO 1470
1440 DATA 0.00,0.40,0.65,0.83,0.94,1.00
1450 DATA 0.10,0.45,0.65,0.80,0.90,1.00
1460 DATA 0.30,0.30,0.50,0.70,0.82,1.00
1470 PRINT :PRINT :PRINT :END
1500 END
```

TITLE: BLACK JACK PROGRAM NO.: PF.02-2200.01A-00FI-33-0 TAPE NO.: 701-0121

BLOCK NO.: 33

```
1 X=1: DIM C(5),D(5)
5 DEFFNC(X)=INT(13*RND(X)+1)
10 PRINT : PRINT ,"***BLACKJACK***"
30 A=0
31 P=2: FOR I=1 TO 5: C(I),D(I)=0: NEXT I
35 PRINT :PRINT "YOUR BET IS";: INPUT B: IF B<=0 THEN 35
36 PRINT "YOUR CARDS ARE:",
40 FOR I=1 TO 2: C(I)=FNC(X): D(I)=FNC(X)
45 R=C(I): GOSUB 900
50 IF C(I)<10 THEN 52: C(I)=10
52 IF D(I)<10 THEN 54: D(I)=10
54 NEXT I
55 IF C(1)<>1 THEN 60: IF C(2)>9 THEN 65: GOTO 70
60 IF C(2)<>1 THEN 70: IF C(1)<=9 THEN 70
65 N8=2
70 PRINT TAB(38);"DEALER SHOWS:";: R=D(1): GOSUB 900: PRINT
71 IF N8=2 THEN 210:X8=1:X9=2
72 P=P+1: IF P=6 THEN 200
73 R=0
75 FOR I=X8 TO X9:IF C(I)<>1 THEN 95
80 PRINT "IS YOU ACE 1 OR 11";:INPUT Z:I=X9
85 R=10: IF Z=11 THEN 95
90 R=0: IF Z<>1 THEN 80
95 NEXT I
100 S=C(1)+C(2)+C(3)+C(4)+C(5)+R
105 IF S>21 THEN 260
110 PRINT "YOUR NOW HAVE:";S
115 PRINT "DO YOU WANT A HIT (1=YES,2=NO)";: INPUT Z
120 IF Z=2 THEN 400: IF Z<>1 THEN 115
125 C(P)=FNC(X):PRINT "YOUR CARD IS ";
130 R=C(P):GOSUB 900:PRINT :X8,X9=P:GOTO 72
200 PRINT "CONGRATULATIONS! 5 CARD  CHARLIE WINS!": A=A+B
205 A=A+B: GOTO 220
210 PRINT "CONGRATULATONS! YOU HAVE BLACKJACK!"
215 A=A+3*B/2
220 PRINT "YOUR WINNINGS ARE:";A
225 N8,S=0: GOTO 31
230 PRINT "DEALER BUSTS.  YOU WIN!": GOTO 205
240 IF T>=S THEN 250
245 PRINT "YOU WIN!": GOTO 205
250 PRINT "SORRY, DEALER WINS!": GOTO 265
260 PRINT "YOU BUSTED--YOU LOSE"
265 A=A-B: GOTO 220
400 P=2
405 R=0: FOR I=1 TO 5: IF D(I)<>1 THEN 415
```

```
410 R=10: I=5
415 NEXT I
420 T=D(1)+D(2)+D(3)+D(4)+D(5)+R
425 IF T<22 THEN 430: T=T-R
430 PRINT "DEALER HAS:"; T
435 IF T>21 THEN 230: IF T>16 THEN 240
437 P=P+1: IF P=6 THEN 200
440 D(P)=FNC(X)
445 PRINT "DEALER GETS A";: R=D(P): GOSUB 900:PRINT
450 GOTO 405
900 IF R>1 THEN 905: PRINT " ACE";: GOTO 925
905 IF R<13 THEN 910: PRINT " KING";: GOTO 925
910 IF R<12 THEN 915: PRINT " QUEEN";: GOTO 925
915 IF R<11 THEN 920: PRINT " JACK";: GOTO 925
920 PRINT R;
925 RETURN
```

TITLE: MASS OF NITROGEN IN CONTAINMENT SYSTEM

PROGRAM NO.: PS.05-2200.01A-00FI-34-0

TAPE NO.: 701-0121

BLOCK NO.: 34

```
10 PRINT "BAROMETRIC PRESSURE (IN. HG.)?"
20 INPUT P1
30 PRINT "CONTAINMENT PRESSURE (IN. WATER)?"
40 INPUT P2
50 PRINT "DEWPOINT SENSORS T1, T2 (DEG. F)?"
60 INPUT T1, T2
70 PRINT "DRYBULB SENSORS S1, S2, S3, S4 (DEG. F)?"
80 INPUT S1, S2, S3, S4
90 P3=.49116*P1+.036127*P2
100 T5=(T2+T1)/2
110 PRINT "PARTIAL PRESSURE OF WATER VAPOR BASED ON "
120 PRINT "DEWPOINT OF"; T5; "DEG. F. ?"
130 INPUT X
140 P4=P3-X
150 S8=459.6+(S1+S2+S3+S4)/4
160 PRINT "MASS OF N="; 32637*P4/S8; "LB. "
170 END
```

TITLE: PERCENT ABSORPTION TO CONCENTRATION

PROGRAM NO.: PS.05-2200.01A-00FI-35-0

TAPE NO.: 701-0121

BLOCK NO.: 35

```
10 PRINT
20 PRINT "CONCENTRATION (LOW STANDARD)?"
30 INPUT C1
40 PRINT "CONCENTRATION (HIGH STANDARD)?"
50 INPUT C2
60 PRINT "PERCENTAGE (LOW STANDARD)?"
70 INPUT A1
80 PRINT "PERCENTAGE (HIGH STANDARD)?"
90 INPUT A2
100 PRINT
110 PRINT "PERCENTAGE (UNKNOWN)? TO END PROGRAM INPUT 0. "
120 INPUT A
125 IF A=0 THEN 180
130 C=(C2-C1)*LOG((100-A1)/(100-A))/LOG((100-A1)/(100-A2))+C1
140 PRINT "CONCENTRATION=";C
150 PRINT
160 PRINT "PERCENTAGE (UNKNOWN)?"
170 GOTO 120
180 END
```

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