FLORIDA HIGH SCHOOLS COMPUTING COMPETITION '90
JUDGING CRITERIA

1.1 RUN PROGRAM:

```
OUTPUT: NN    N  CCCCC  NN    N  BBBB
        N N   N  C      N N   N  B   B
        N  N  N  C      N  N  N  BBBBB
        N   N N  C      N   N N  B   B
        N    NN  CCCCC  N    NN  BBBB
```

1.2 INPUT: Enter #: **2**
OUTPUT: **SYSTEM 2**

INPUT: Enter #: **1**
OUTPUT: **SYSTEM 1**

1.3 INPUT: Enter N: **8**
OUTPUT: **74 BILLION DOLLARS**

INPUT: Enter N: **20**
OUTPUT: **86 BILLION DOLLARS**

1.4 INPUT: Enter zip code: **33613**
OUTPUT: **HILLSBOROUGH**

INPUT: Enter zip code: **34249**
OUTPUT: **PASCO**

INPUT: Enter zip code: **34646**
OUTPUT: **PINELLAS**

1.5 INPUT: Enter MMM: **120**
Enter YYYY: **1998**

OUTPUT: **HUGH MCCOLL WOULD LIKE NCNB TO GROW TO 120 BILLION DOLLARS IN ASSETS BY THE YEAR 1998**

INPUT: Enter MMM: **150**
Enter YYYY: **2000**

OUTPUT: **HUGH MCCOLL WOULD LIKE NCNB TO GROW TO 150 BILLION DOLLARS IN ASSETS BY THE YEAR 2000**

1.6 INPUT: Enter N associates: **7**
Enter C coupons: **50000**
OUTPUT: **7143**

INPUT: Enter N associates: **8**
Enter C coupons: **48800**
OUTPUT: **6100**

1.7 INPUT: Enter division: **PROCEDURE**
OUTPUT: **BEFORE = IDENTIFICATION ENVIRONMENT DATA**
AFTER = NONE

INPUT: Enter division: **ENVIRONMENT**
OUTPUT: **BEFORE = IDENTIFICATION**
AFTER = DATA PROCEDURE

1.8 INPUT: Enter N: **11**
OUTPUT: **MD**

INPUT: Enter N: **7**
OUTPUT: **FL NC SC TX MD GA VA**

INPUT: Enter N: **9**
OUTPUT: **FL TX MD GA VA**

1.9 INPUT: Enter date: **2**
Enter A.D. or B.C.: **B.C.**
OUTPUT: **3 A.D.**

INPUT: Enter date: **15**
Enter A.D. or B.C.: **B.C.**
OUTPUT: **11 B.C.**

INPUT: Enter date: **10**
Enter A.D. or B.C.: **A.D.**
OUTPUT: **14 A.D.**

1.10 INPUT: Enter word: **FLORIDA**

OUTPUT:
R
ORI
LORID
FLORIDA
LORID
ORI
R

INPUT: Enter word: **PROGRAM**

OUTPUT:
G
OGR
ROGRA
PROGRAM
ROGRA
OGR
G

2.1 INPUT: Enter phrase: **CALL THE POLICE**

OUTPUT: **BZKK SGD ONKHBD**

INPUT: Enter phrase: **DON'T PANIC**

OUTPUT: **CNM'S OZMHB**

2.2 INPUT: Enter year: **1000** OUTPUT: **END OF DECADE**
END OF CENTURY
END OF MILLENNIUM

INPUT: Enter year: **1001** OUTPUT: **BEGINNING OF DECADE**
BEGINNING OF CENTURY
BEGINNING OF MILLENNIUM

INPUT: Enter year: **1990** OUTPUT: **END OF DECADE**

INPUT: Enter year: **1801** OUTPUT: **BEGINNING OF DECADE**
BEGINNING OF CENTURY

2.3 INPUT: Enter scores for Bob: **170, 160, 215**
Enter scores for Doug: **199, 209, 198**
Enter scores for Jackie: **135, 144, 150**
Enter scores for Jose: **110, 101, 180**

OUTPUT: **BOB: AVERAGE = 181 HANDICAP = 16**
DOUG: AVERAGE = 202 HANDICAP = 0
JACKIE: AVERAGE = 143 HANDICAP = 51
JOSE: AVERAGE = 130 HANDICAP = 62

2.4 INPUT: Enter date: **02/11/1732** OUTPUT: **ADD 11 DAYS**

INPUT: Enter date: **02/28/1900** OUTPUT: **ADD 12 DAYS**

INPUT: Enter date: **03/01/1600** OUTPUT: **ADD 10 DAYS**

INPUT: Enter date: **12/01/1900** OUTPUT: **ADD 13 DAYS**

2.5 INPUT: Enter N: **6** OUTPUT: **BUBBLE SORT**
QUICK SORT
SHELL SORT

INPUT: Enter N: **81** OUTPUT: **QUICK SORT**
BUBBLE SORT
SHELL SORT

INPUT: Enter N: **82** OUTPUT: **QUICK SORT**
SHELL SORT
BUBBLE SORT

2.6 INPUT: Enter score for hole 1: **6**
Enter score for hole 2: **4**
Enter score for hole 3: **4**
Enter score for hole 4: **4**
Enter score for hole 5: **2**
Enter score for hole 6: **4**
Enter score for hole 7: **2**
Enter score for hole 8: **5**
Enter score for hole 9: **6**

OUTPUT:

HOLE	PAR	SCORE	STATUS
1	4	6	DOUBLE BOGEY
2	3	4	BOGEY
3	4	4	PAR
4	5	4	BIRDIE
5	4	2	EAGLE
6	3	4	BOGEY
7	5	2	DOUBLE EAGLE
8	4	5	BOGEY
9	4	6	DOUBLE BOGEY
	36	37	

2.7 Note: Output must be within 0.1 second of correct answer.

INPUT: Enter N: **95**
OUTPUT: **0 DAYS 0 HOURS 15 MIN 41.0 SEC AHEAD**

INPUT: Enter N: **7**
OUTPUT: **0 DAYS 16 HOURS 41 MIN 34.6 SEC AHEAD**

INPUT: Enter N: **132**
OUTPUT: **1 DAYS 0 HOURS 38 MIN 50.4 SEC BEHIND**

INPUT: Enter N: **1507**
OUTPUT: **10 DAYS 23 HOURS 23 MIN 25.4 SEC BEHIND**

2.8 INPUT: Enter month, year: **8, 1990**

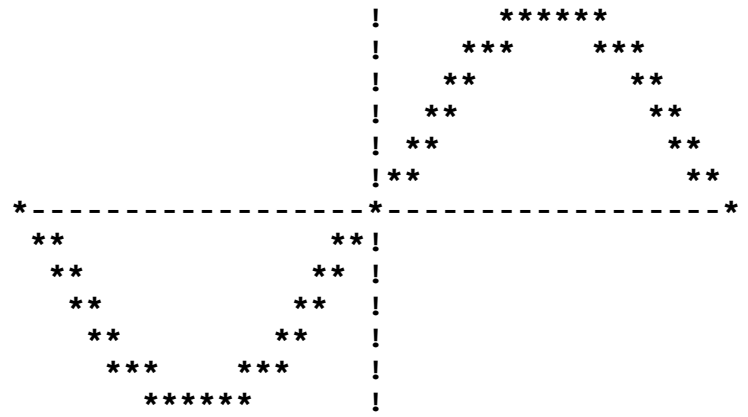
OUTPUT:
```
 9/1989 - BARB  JOE  DOUG
12/1989 - JACKIE  JOE  DOUG
 2/1990 - JACKIE  TOM  DOUG
 3/1990 - JACKIE  TOM  LOVETTA
 6/1990 - GREG  TOM  LOVETTA
 8/1990 - GREG  TONY  LOVETTA
```

INPUT: Enter month, year: **1, 1992**

OUTPUT:
```
 9/1989 - BARB  JOE  DOUG
12/1989 - JACKIE  JOE  DOUG
 2/1990 - JACKIE  TOM  DOUG
 3/1990 - JACKIE  TOM  LOVETTA
 6/1990 - GREG  TOM  LOVETTA
 8/1990 - GREG  TONY  LOVETTA
 9/1990 - GREG  TONY  AL
12/1990 - KAREN  TONY  AL
 2/1991 - KAREN  JAN  AL
 3/1991 - KAREN  JAN  NORM
 6/1991 - TRUDY  JAN  NORM
 8/1991 - TRUDY  THERESA  NORM
 9/1991 - TRUDY  THERESA  ALICE
12/1991 - DAVE  THERESA  ALICE
```

2.9 RUN PROGRAM:

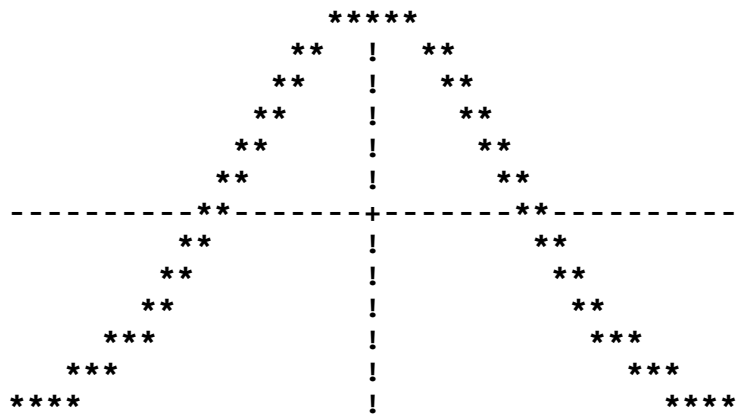
OUTPUT: (Screen clears and the axes is drawn before the graph is drawn from left to right. Graph will look similar to below, but it extends to the dimensions of the terminal.)



INPUT: (Press any key)

OUTPUT: (continued on next page)

OUTPUT: (Screen clears and the axes is drawn before the graph is drawn from left to right- similar to below.)



INPUT: (Press any key) OUTPUT: (Screen clears)

2.10 RUN PROGRAM:

OUTPUT: **NCNB IN-HOUSE TRAINING LIST**

COURSE #	**COURSE NAME**	**EST. HOURS**
187-11X	**ISPF/PDS FUNDAMENTALS**	**6.5 - 8**
187-15X	**ISPF/PDS FOR PROGRAMMERS**	**4.5 - 6**
220-AXX	**JCL FUNDAMENTALS**	**15 - 20**
200-AXX	**VSAM CONCEPTS**	**4 - 7**
123-2XX	**MVS/SP/XA VSAM**	**7 - 11**
130-11X	**CICS/VS SKILLS I**	**6 - 8**
130-15X	**CICS/VS SKILLS II**	**4 - 6**

INPUT: Enter course # (or 000-000 to end): **187-15X**
Enter course # (or 000-000 to end): **130-15X**
Enter course # (or 000-000 to end): **123-2XX**
Enter course # (or 000-000 to end): **200-AXX**
Enter course # (or 000-000 to end): **000-000**

OUTPUT: (Screen is cleared)

COURSE NAME	**EST. HOURS**
ISPF/PDS FOR PROGRAMMERS	**4.5 - 6**
CICS/VS SKILLS II	**4 - 6**
MVS/SP/XA VSAM	**7 - 11**
VSAM CONCEPTS	**4 - 7**
	TOTAL = 19.5 - 30 HOURS

3.1 INPUT: Enter phone #: **555-6625** OUTPUT: **55K-NOCK**

INPUT: Enter phone #: **555-7283** OUTPUT: **555-SAVE**
555-PAVE
555-RATE

INPUT: Enter phone #: **555-6229** OUTPUT: **55L-OBBY**

3.2 INPUT: Enter string: **COMPUTE***
OUTPUT: **COMPUTE COMPUTER COMPUTERS COMPUTES COMPUTED**
INPUT: Enter string: ***TIVE**
OUTPUT: **ATTRACTIVE ADAPTIVE ACCEPTIVE CREATIVE**
INPUT: Enter string: **CONTEST*S**
OUTPUT: **CONTESTS CONTESTERS**
INPUT: Enter string: **EVERY*TY**
OUTPUT: **NO WORDS FOUND**
INPUT: Enter string: **QUIT**
OUTPUT: (Program terminates)

3.3 INPUT: Place 1: **A**
Place 2: **B**
Place 3: **C**
Place 4: **A**
Place 5: **B**
Place 6: **C**
Place 7: **A**
Place 8: **B**
Place 9: **C**
Place 10: **C**
Place 11: **B**
Place 12: **A**
Place 13: **C**
Place 14: **B**
Place 15: **C**
Place 16: **B**
Place 17: **A**
Place 18: **A**
Place 19: **C**
Place 20: **B**
Place 21: **A**

OUTPUT: (On next page)

INPUT: Place 1: **A**
Place 2: **B**
Place 3: **A**
Place 4: **C**
Place 5: **C**
Place 6: **B**
Place 7: **A**
Place 8: **A**
Place 9: **B**
Place 10: **C**
Place 11: **C**
Place 12: **A**
Place 13: **C**
Place 14: **B**
Place 15: **A**
Place 16: **A**
Place 17: **B**
Place 18: **B**
Place 19: **B**
Place 20: **C**
Place 21: **C**

OUTPUT: (On next page)

(Output continued)

OUTPUT: (in any order)

```
TEAM A: 28 POINTS
TEAM B: 28 POINTS
TEAM B WINS!

TEAM A: 28 POINTS
TEAM C: 28 POINTS
TEAM C WINS!

TEAM B: 27 POINTS
TEAM C: 28 POINTS
TEAM B WINS!
```

OUTPUT: (in any order)

```
TEAM A: 23 POINTS
TEAM B: 34 POINTS
TEAM A WINS!

TEAM A: 23 POINTS
TEAM C: 32 POINTS
TEAM A WINS!

TEAM B: 29 POINTS
TEAM C: 26 POINTS
TEAM C WINS!
```

3.4 INPUT: Enter X, Y, Z: **4, 3, 5**

OUTPUT:

```
AL, DOUG, AND JAN = NONE
AL AND DOUG = 12 24
AL AND JAN = 20
DOUG AND JAN = 15 30
AL = 4 8 16 28
DOUG = 3 6 9 18 21 27
JAN = 5 10 25
NORM = 1 2 7 11 13 14 17 19 22 23 26 29
```

INPUT: Enter X, Y, Z: **4, 3, 2**

OUTPUT:

```
AL, DOUG, AND JAN = 12 24
AL AND DOUG = NONE
AL AND JAN = 4 8 16 20 28
DOUG AND JAN = 6 18 30
AL = NONE
DOUG = 3 9 15 21 27
JAN = 2 10 14 22 26
NORM = 1 5 7 11 13 17 19 23 25 29
```

3.5 RUN PROGRAM: OUTPUT: (A 3 x 3 array of random digits 1 - 8 are displayed along with a blank location). It will be similar (but not identical) to the following 3 x 3 array of numbers:

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

Press the numbers 1 - 8, and check to see if a number that is vertically or horizontally adjacent to the blank moves into the blank location (such as 7, 1, or 6 in this case). Press a number that is not next to a blank to make sure that it does not move (such as 3, 5, 8, 4, or 2). Press the digit 9 to terminate program. Run program one more time and perform the same tests.

3.6 RUN PROGRAM:

```
    OUTPUT: BR1 BK1 BB1 BQ  BK  BB2 BK2 BR2  !  8
            BP1 BP2 BP3 BP4 BP5 BP6 BP7 BP8  !  7
                                             !  6
                                             !  5
                                             !  4
                                             !  3
            WP1 WP2 WP3 WP4 WP5 WP6 WP7 WP8  !  2
            WR1 WK1 WB1 WQ  WK  WB2 WK2 WR2  !  1
           ----------------------------------
             A   B   C   D   E   F   G   H

     INPUT: Enter white move: E2-E4

    OUTPUT: BR1 BK1 BB1 BQ  BK  BB2 BK2 BR2  !  8
            BP1 BP2 BP3 BP4 BP5 BP6 BP7 BP8  !  7
                                             !  6
                                             !  5
                        WP5                  !  4
                                             !  3
            WP1 WP2 WP3 WP4     WP6 WP7 WP8  !  2
            WR1 WK1 WB1 WQ  WK  WB2 WK2 WR2  !  1
            ----------------------------------
             A   B   C   D   E   F   G   H

     INPUT: Enter black move: B7-B6

    OUTPUT: BR1 BK1 BB1 BQ  BK  BB2 BK2 BR2  !  8
            BP1     BP3 BP4 BP5 BP6 BP7 BP8  !  7
                BP2                          !  6
                                             !  5
                        WP5                  !  4
                                             !  3
            WP1 WP2 WP3 WP4     WP6 WP7 WP8  !  2
            WR1 WK1 WB1 WQ  WK  WB2 WK2 WR2  !  1
            ----------------------------------
             A   B   C   D   E   F   G   H

     INPUT: Enter white move: B1-C3

    OUTPUT: BR1 BK1 BB1 BQ  BK  BB2 BK2 BR2  !  8
            BP1     BP3 BP4 BP5 BP6 BP7 BP8  !  7
                BP2                          !  6
                                             !  5
                        WP5                  !  4
                WK1                          !  3
            WP1 WP2 WP3 WP4     WP6 WP7 WP8  !  2
            WR1     WB1 WQ  WK  WB2 WK2 WR2  !  1
            ----------------------------------
             A   B   C   D   E   F   G   H

     INPUT: Enter black move: B8-C6
    OUTPUT: (on next page)
```

```
OUTPUT: BR1     BB1 BQ  BK  BB2 BK2 BR2  !  8
        BP1     BP3 BP4 BP5 BP6 BP7 BP8  !  7
            BP2 BK1                      !  6
                                         !  5
                    WP5                  !  4
                WK1                      !  3
        WP1 WP2 WP3 WP4     WP6 WP7 WP8  !  2
        WR1     WB1 WQ  WK  WB2 WK2 WR2  !  1
        ---------------------------------
         A   B   C   D   E   F   G   H

 INPUT: Enter white move: E1-E2

OUTPUT: BR1     BB1 BQ  BK  BB2 BK2 BR2  !  8
        BP1     BP3 BP4 BP5 BP6 BP7 BP8  !  7
            BP2 BK1                      !  6
                                         !  5
                    WP5                  !  4
                WK1                      !  3
        WP1 WP2 WP3 WP4 WK  WP6 WP7 WP8  !  2
        WR1     WB1 WQ      WB2 WK2 WR2  !  1
        ---------------------------------
         A   B   C   D   E   F   G   H

 INPUT: Enter black move: C8-A6

OUTPUT: BR1         BQ  BK  BB2 BK2 BR2  !  8
        BP1     BP3 BP4 BP5 BP6 BP7 BP8  !  7
        BB1 BP2 BK1                      !  6
                                         !  5
                    WP5                  !  4
                WK1                      !  3
        WP1 WP2 WP3 WP4 WK  WP6 WP7 WP8  !  2
        WR1     WB1 WQ      WB2 WK2 WR2  !  1
        ---------------------------------
         A   B   C   D   E   F   G   H

 INPUT: Enter white move: C3-B5

OUTPUT: BR1         BQ  BK  BB2 BK2 BR2  !  8
        BP1     BP3 BP4 BP5 BP6 BP7 BP8  !  7
        BB1 BP2 BK1                      !  6
            WK1                          !  5
                    WP5                  !  4
                                         !  3
        WP1 WP2 WP3 WP4 WK  WP6 WP7 WP8  !  2
        WR1     WB1 WQ      WB2 WK2 WR2  !  1
        ---------------------------------
         A   B   C   D   E   F   G   H

 INPUT: Enter black move: A6-B5

OUTPUT: (on next page)
```

```
OUTPUT: BR1          BQ  BK  BB2 BK2 BR2  !  8
        BP1     BP3 BP4 BP5 BP6 BP7 BP8  !  7
            BP2 BK1                      !  6
            BB1                          !  5
                        WP5              !  4
                                         !  3
        WP1 WP2 WP3 WP4 WK  WP6 WP7 WP8  !  2
        WR1     WB1 WQ      WB2 WK2 WR2  !  1
        ---------------------------------
         A   B   C   D   E   F   G   H

 INPUT: Enter white move: G1-F3

OUTPUT: BR1          BQ  BK  BB2 BK2 BR2  !  8
        BP1     BP3 BP4 BP5 BP6 BP7 BP8  !  7
            BP2 BK1                      !  6
            BB1                          !  5
                        WP5              !  4
                            WK2          !  3
        WP1 WP2 WP3 WP4 WK  WP6 WP7 WP8  !  2
        WR1     WB1 WQ      WB2     WR2  !  1
        ---------------------------------
         A   B   C   D   E   F   G   H

 INPUT: Enter white move: B5-E2

OUTPUT: BR1          BQ  BK  BB2 BK2 BR2  !  8
        BP1     BP3 BP4 BP5 BP6 BP7 BP8  !  7
            BP2 BK1                      !  6
                                         !  5
                        WP5              !  4
                            WK2          !  3
        WP1 WP2 WP3 WP4 BB1 WP6 WP7 WP8  !  2
        WR1     WB1 WQ      WB2     WR2  !  1
        ---------------------------------
         A   B   C   D   E   F   G   H

        CHECK MATE, BLACK WON
```

3.7 INPUT: Enter year: **1972**

OUTPUT: **EASTER IS ON APRIL 2**
LENT IS ON FEBRUARY 16

INPUT: Enter year: **1999**

OUTPUT: **EASTER IS ON APRIL 4**
LENT IS ON FEBRUARY 17

INPUT: Enter year: **1992**

OUTPUT: **EASTER IS ON APRIL 19**
LENT IS ON MARCH 4

3.8 INPUT: Enter frame 1: **12**
Enter frame 2: **1/**
Enter frame 3: **2/**
Enter frame 4: **X**
Enter frame 5: **X**
Enter frame 6: **X**
Enter frame 7: **51**
Enter frame 8: **X**
Enter frame 9: **X**
Enter frame 10: **X9/**

OUTPUT:
```
-1- -2- -3- -4- -5- -6- -7- -8- -9- -10-
---!---!---!---!---!---!---!---!---!---!
 12! 1/! 2/!  X!  X!  X! 51!  X!  X!X9/!
3  !15 !35 !65 !90 !106!112!142!171!191!
----------------------------------------
```

INPUT: Enter frame 1: **72**
Enter frame 2: **9-**
Enter frame 3: **X**
Enter frame 4: **72**
Enter frame 5: **7/**
Enter frame 6: **X**
Enter frame 7: **7/**
Enter frame 8: **9/**
Enter frame 9: **9/**
Enter frame 10: **-5**

OUTPUT:
```
-1- -2- -3- -4- -5- -6- -7- -8- -9- -10-
---!---!---!---!---!---!---!---!---!---!
 72! 9-!  X! 72! 7/!  X! 7/! 9/! 9/! -5!
9  !18 !32 !46 !66 !86 !105!124!134!139!
----------------------------------------
```

3.9
```
INPUT: Enter N: 4
Enter coefficients for row1
Co1: 2
Co2: -1
Co3: 0
Co4: -1
Enter constant: 1
Enter coefficients for row2
Co1: 3
Co2: 0
Co3: 1
Co4: 1
Enter constant: 1
Enter coefficients for row3
Co1: 1
Co2: 1
Co3: 0
Co4: 2
Enter constant: 0
Enter coefficients for row4
Co1: 4
Co2: 0
Co3: -3
Co4: 2
Enter constant: 0

OUTPUT: (1, 3, 0, -2)
```

```
INPUT: Enter N: 3
Enter coefficients for row1
Co1: 3
Co2: 6
Co3: 3
Enter constant: 9
Enter coefficients for row2
Co1: 1
Co2: -1
Co3: 2
Enter constant: 9
Enter coefficients for row3
Co1: -2
Co2: 2
Co3: -1
Enter constant: -9

OUTPUT: (2, -1, 3)
```

3.10
```
INPUT: Enter first addend:  AB
       Enter second addend: CD
       Enter sum: EBC

OUTPUT: (Only one of the following solutions must be shown)
A = 3    4    4    6    6    7    7    7    8    8    8    8
B = 2    2    3    3    5    2    5    6    3    4    5    7
C = 9 or 8 or 9 or 7 or 9 or 5 or 8 or 9 or 5 or 6 or 7 or 9
D = 7    6    6    4    4    3    3    3    2    2    2    2
E = 1    1    1    1    1    1    1    1    1    1    1    1
```

```
INPUT: Enter first addend:  AB
       Enter second addend: BC
       Enter sum: DCB

OUTPUT: (Only one of the following solutions must be shown)
       A = 2    3    4    6    7    8
       B = 8    7    6    4    3    2
       C = 0 or 0 or 0 or 0 or 0 or 0
       D = 1    1    1    1    1    1
```