

**FLORIDA HIGH SCHOOLS COMPUTING COMPETITION '93
JUDGING CRITERIA**

1.1 RUN PROGRAM:

OUTPUT: **GTEDS GTEDS GTEDS GTEDS GTEDS GTEDS
GTEDS GTEDS GTEDS GTEDS GTEDS
GTEDS GTEDS GTEDS GTEDS
GTEDS GTEDS GTEDS
GTEDS GTEDS
GTEDS**

**1.2 INPUT: Enter N: 20
Enter M: 13**

**INPUT: Enter N: 13
Enter M: 5**

OUTPUT: **287 PROGRAMMERS**

OUTPUT: **190 PROGRAMMERS**

1.3 INPUT: Enter N: 25.06

OUTPUT: **25,060,000 ACCESS LINES**

INPUT: Enter N: **1.2**

OUTPUT: **1,200,000 ACCESS LINES**

**1.4 INPUT: Enter # at Tampa: 27318
Enter # at St. Petersburg: 3009
Enter # at Fort Myers: 1328
Enter # at Lakeland: 855
Enter # at Sarasota: 1845**

OUTPUT: **34355 STUDENTS**

INPUT: Enter # at Tampa: **20000**
Enter # at St. Petersburg: **3000**
Enter # at Fort Myers: **1000**
Enter # at Lakeland: **900**
Enter # at Sarasota: **1845**

OUTPUT: **26745 STUDENTS**

1.5 INPUT: Enter name: **MIKE**
Enter level: **3**
Enter desire: **NO**

OUTPUT: **MIKE IS NOT A POSSIBLE CANDIDATE FOR ISOP**

INPUT: Enter name: **MARK**
Enter level: **5**
Enter desire: **YES**

OUTPUT: **MARK IS A POSSIBLE CANDIDATE FOR ISOP**

INPUT: Enter name: **DIANA**
Enter level: **6**
Enter desire: **YES**

OUTPUT: **DIANA IS A POSSIBLE CANDIDATE FOR ISOP**

INPUT: Enter name: **LINDA**
Enter level: **6**
Enter desire: **NO**

OUTPUT: **LINDA IS NOT A POSSIBLE CANDIDATE FOR ISOP**

1.6 INPUT: Enter curriculum: **C/UNIX**

OUTPUT: **C**
UNIX
ANSI SQL
OSF/MOTIF
SHELL PROGRAMMING

INPUT: Enter curriculum: **MVS/COBOL**

OUTPUT: **COBOL**
JCL
MVS/ESA
TSO/ISPF
VSAM
ANSI SQL
DB2
IMS

- 1.7 INPUT: Enter N: 3 INPUT: Enter N: 20
OUTPUT: **ABC** OUTPUT: **ABCDEFGHIJKLMNQRST**
- 1.8 INPUT: Enter salary: 28500
 Enter rating: **ABOVE AVERAGE**
- OUTPUT: **NEW SALARY = \$30495.00**
- INPUT: Enter salary: 23456.78
 Enter rating: **EXCELLENT**
- OUTPUT: **NEW SALARY = \$25802.46**
- INPUT: Enter salary: 65432.11
 Enter rating: **GOOD**
- OUTPUT: **NEW SALARY = \$68703.72**
- 1.9 INPUT: Enter order: R
OUTPUT: **RECORDS**
- INPUT: Enter order: **OUT**
OUTPUT: **O**
- INPUT: Enter order: **TO**
OUTPUT: **T**
- INPUT: Enter order: **C**
OUTPUT: **CHANGE**
- 1.10 INPUT: Enter grade: B
 Enter grade: W
 Enter grade: D
 Enter grade: M
 Enter grade: W
- OUTPUT: **GPA = 1.333**
- INPUT: Enter grade: **A**
 Enter grade: **F**
 Enter grade: **I**
 Enter grade: **C**
 Enter grade: **A**
- OUTPUT: **GPA = 2.000**

- 2.1 For following inputs, the user may enter 2 numbers on the second line with or without a comma. Since the program will randomly generate N numbers between X and Y inclusive, the following outputs will vary:

INPUT: Enter N: 10
 Enter X, Y: 3, 6

Possible OUTPUT: 4 5 3 6 4 5 6 6 3 4

(Note: Verify that 10 random #s (between 3 and 6 inclusive) are displayed with a space between each, and each of the numbers 3, 4, 5, and 6 appear at least once. Run this criteria again and look for a new set of random numbers.)

INPUT: Enter N: 8
 Enter X, Y: 80, -70

Possible OUTPUT: 7 -23 -34 0 16 -55 2 63

(Note: Verify that 8 random #s (between -70 and 80 inclusive) are displayed with a space between each. Verify that each number is displayed at most once. Verify that there are at least 2 positive numbers and at least 2 negative numbers. Run this criteria again and look for a new set of random numbers.)

2.2 INPUT: Enter N: 7
 Enter name: MARK
 Enter title: SA
 Enter name: CINDY
 Enter title: SSE
 Enter name: BOBBY
 Enter title: PA
 Enter name: JIM
 Enter title: SSE
 Enter name: ANITA
 Enter title: SSE
 Enter name: JOHN
 Enter title: SASE
 Enter name: DAVE
 Enter title: SASE

INPUT: Enter N: 2
 Enter name: DAVE
 Enter title: SA
 Enter name: WILL
 Enter title: SE

OUTPUT: WILL - SE
 DAVE - SA

OUTPUT: DAVE - SASE
 JOHN - SASE
 ANITA - SSE
 CINDY - SSE
 JIM - SSE
 MARK - SA
 BOBBY - PA

2.3 INPUT: Enter field: 01 WS-NAME PIC X(10).
Enter field: 01 WS-ADDRESS PIC X(56).
Enter field: (press the Enter key)

OUTPUT: 01 WS-NAME PIC X(10).
01 WS-ADDRESS PIC X(56).

INPUT: Enter field: 01 WS-NAME.
Enter field: 05 WS-FIRST-N.
Enter field: 10 WS-FIRST-N-1 PIC X(01).
Enter field: 10 WS-FIRST-N-REST PIC X(14).
Enter field: 07 WS-MIDDLE.
Enter field: 10 WS-MIDDLE-INIT PIC X(01).
Enter field: 05 WS-LAST-N.
Enter field: 12 WS-LAST-N-1 PIC X(01).
Enter field: 12 WS-LAST-N-REST PIC X(14).
Enter field: 01 WS-ADDRESS.
Enter field: 07 WS-STREET PIC X(20).
Enter field: 08 WS-CITY-ST-ZIP PIC X(46).
Enter field: (Press the Enter key)

OUTPUT: 01 WS-NAME.
05 WS-FIRST-N.
10 WS-FIRST-N-1 PIC X(01).
10 WS-FIRST-N-REST PIC X(14).
07 WS-MIDDLE.
10 WS-MIDDLE-INIT PIC X(01).
05 WS-LAST-N.
12 WS-LAST-N-1 PIC X(01).
12 WS-LAST-N-REST PIC X(14).
01 WS-ADDRESS.
07 WS-STREET PIC X(20).
08 WS-CITY-ST-ZIP PIC X(46).

2.4 INPUT: Enter word: COMPUTER

OUTPUT: NUMBER = 31513162120518
BLOCKS = 6

INPUT: Enter word: PRINTER

OUTPUT: NUMBER = 161891420518
BLOCKS = 8

INPUT: Enter word: COMPETITION

OUTPUT: NUMBER = 315131652092091514
BLOCKS = 8

2.5 INPUT: Enter N: 3
Enter #: 1231231234
Enter #: 1234561234
Enter #: 9876543210

OUTPUT: 123-123-1234

123-456-1234 TOTAL FOR NPA OF 123 = 2

987-654-3210 TOTAL FOR NPA OF 987 = 1

INPUT: Enter N: 8
Enter #: 1234567890
Enter #: 1234568907
Enter #: 1235678901
Enter #: 1235679012
Enter #: 1235679999
Enter #: 2345678901
Enter #: 3456789012
Enter #: 3457890123

OUTPUT: 123-456-7890
123-456-8907

123-567-8901
123-567-9012
123-567-9999 TOTAL FOR NPA OF 123 = 5

234-567-8901 TOTAL FOR NPA OF 234 = 1

345-678-9012

345-789-0123 TOTAL FOR NPA OF 345 = 2

2.6 INPUT: Enter product: H
 Enter price: 7.89
 Enter product: I
 Enter price: 6.78
 Enter product: J
 Enter price: 5.00
 Enter product: H
 Enter price: 7.89
 Enter product: A
 Enter price: 1.23
 Enter product: J
 Enter price: 5.00
 Enter product: 9

Enter coupon: I
 Enter discount: 0.50
 Enter coupon: H
 Enter discount: 0.89
 Enter coupon: J
 Enter discount: 0.55
 Enter coupon: J
 Enter discount: 0.95
 Enter coupon: B
 Enter discount: 0.70
 Enter coupon: J
 Enter discount: 0.75
 Enter coupon: 9

OUTPUT: **TOTAL = \$30.70**

2.7 INPUT: Enter format: **AMERICAN**
 Enter date: **01-31-1993**

OUTPUT: **ISO = 1993-01-31**
EUROPEAN = 31-01-1993

INPUT: Enter format: **ISO**
 Enter date: **1993-02-04**

OUTPUT: **AMERICAN = 02-04-1993**
EUROPEAN = 04-02-1993

INPUT: Enter format: **EUROPEAN**
 Enter date: **29-02-1996**

OUTPUT: **ISO = 1996-02-29**
AMERICAN = 02-29-1996

INPUT: Enter product: A
 Enter price: 2.00
 Enter product: 9

 Enter coupon: A
 Enter discount: 0.50
 Enter coupon: A
 Enter discount: 0.65
 Enter coupon: 9

OUTPUT: **TOTAL = \$1.35**

2.8 INPUT: Enter sentence: **THIS IS A GOOD COMPUTER CONTEST.**

OUTPUT: **CONTEST COMPUTER GOOD A IS THIS.**

INPUT: Enter sentence: **WE WILL WIN. I THINK WE WILL.**

OUTPUT: **WIN WILL WE. WILL WE THINK I.**

2.9 Note: numbers input may be separated without a comma.

INPUT: Enter row 1: **8, 6, 4, 2**
Enter row 2: **1, 9, 5, 7**
Enter row 3: **9, 7, 5, 4**
Enter row 4: **1, 2, 3, 4**

OUTPUT: **1. SMALLEST = 1 OCCURS AT (2,1), (4,1)**
2. SMALLEST = 2 OCCURS AT (1,4), (4,2)
3. SMALLEST = 3 OCCURS AT (4,3)
4. SMALLEST = 4 OCCURS AT (1,3), (3,4), (4,4)

INPUT: Enter row 1: **9, 8, 7, 6**
Enter row 2: **2, 3, 7, 6**
Enter row 3: **4, 6, 4, 8**
Enter row 4: **8, 9, 9, 3**

OUTPUT: **1. SMALLEST = 2 OCCURS AT (2,1)**
2. SMALLEST = 3 OCCURS AT (2,2), (4,4)
3. SMALLEST = 4 OCCURS AT (3,1), (3,3)
4. SMALLEST = 6 OCCURS AT (1,4), (2,4), (3,2)

2.10 INPUT: Enter month: **11**
Enter day: **27**
Enter year: **1967**

OUTPUT: **33 DAYS**

INPUT: Enter month: **10**
Enter day: **25**
Enter year: **1992**

OUTPUT: **9132 DAYS**

INPUT: Enter month: **2**
Enter day: **21**
Enter year: **1998**

OUTPUT: **11077 DAYS**

3.1 INPUT: (**Move cursor** to middle of the screen and press **1**)

```
OUTPUT: #
        G T E D S
        T         D
        E   1   E
        D         T
        S D E T G
```

INPUT: (**Move cursor** to bottom left corner and press **4**)

```
OUTPUT: G T E D S
        T         D
        E   4   E
        D         T
        S D E T G
        #
```

INPUT: (**Move cursor** to top right corner and press **3**)

OUTPUT: **OFF THE SCREEN**
(Note: message must appear on the top line of screen)

INPUT: (**Move cursor** to bottom right corner and press **4**)

OUTPUT: **OFF THE SCREEN**
(Note: message must appear on the top line of screen)

3.2 INPUT: Enter value: **X**
Enter symbol: =
Enter value: **5**
Enter symbol: +
Enter value: **9**

OUTPUT: **X = 14**

INPUT: Enter value: **15**
Enter symbol: *
Enter value: **30**
Enter symbol: =
Enter value: **X**

OUTPUT: **X = 450**

INPUT: Enter value: **7**
Enter symbol: =
Enter value: **X**
Enter symbol: -
Enter value: **20**

OUTPUT: **X = 27**

INPUT: Enter value: **111**
Enter symbol: /
Enter value: **X**
Enter symbol: =
Enter value: **37**

OUTPUT: **X = 3**

3.6 INPUT: Enter equation 1: **X<1**
 Enter logical op: **AND**
 Enter equation 2: **X>1**
 OUTPUT: **NO SOLUTION**

INPUT: Enter equation 1: **X<6**
 Enter logical op: **AND**
 Enter equation 2: **X>0**
 OUTPUT: **1,2,3,4,5**

INPUT: Enter equation 1: **X<1**
 Enter logical op: **OR**
 Enter equation 2: **X>5**
 OUTPUT: **...-2,-1,0 6,7,8...**

INPUT: Enter equation 1: **X>5**
 Enter logical op: **OR**
 Enter equation 2: **X<8**
 OUTPUT: **ALL INTEGERS**

INPUT: Enter equation 1: **X<3**
 Enter logical op: **AND**
 Enter equation 2: **X<0**
 OUTPUT: **...-3,-2,-1**

INPUT: Enter equation 1: **X<9**
 Enter logical op: **AND**
 Enter equation 2: **X>0**
 OUTPUT: **1,2,3...6,7,8**

3.7 INPUT: Enter Mat1 (1,1): **AB** Enter Mat2 (1,1): **FE**
 Enter Mat1 (1,2): **CD** Enter Mat2 (1,2): **8**
 Enter Mat1 (1,3): **EF** Enter Mat2 (1,3): **9**
 Enter Mat1 (2,1): **1A** Enter Mat2 (2,1): **10**
 Enter Mat1 (2,2): **2B** Enter Mat2 (2,2): **A**
 Enter Mat1 (2,3): **3C** Enter Mat2 (2,3): **B**
 Enter Mat1 (3,1): **4D** Enter Mat2 (3,1): **FF**
 Enter Mat1 (3,2): **5E** Enter Mat2 (3,2): **AA**
 Enter Mat1 (3,3): **6F** Enter Mat2 (3,3): **BB**

OUTPUT: **SUM = 1A9 D5 F8**
 2A 35 47
 14C 108 12A

PRODUCT = 1A48B AC10 BD67
 5840 2A56 2E97
 C0D7 4FCA 57D4

3.8 RUN PROGRAM:

OUTPUT: 149 + 257 + 863 = 1269
 149 + 263 + 857 = 1269
 239 + 587 + 641 = 1467
 241 + 367 + 859 = 1467
 257 + 419 + 683 = 1359
 263 + 419 + 587 = 1269
 283 + 457 + 619 = 1359

3.9 INPUT: Enter word(s): PROGRAMMING

OUTPUT:

```

                P
          O-----+-----R
        G-----+
    A---+---M
    +-G   M-+-N
        I+
```

INPUT: Enter word(s): HIGH SCHOOL CONTEST

OUTPUT:

```

                H
          G-----+-----I
        C-----+-----H
    C---+---E           H---+
                                +-----S
                                O---+---T
                                O-+-S   T-+
                                L+
                                +O
                                N+
```

3.10 RUN PROGRAM:

OUTPUT: MINIMUM VALUE: F(X) = 0.368 OCCURS WHEN K = 0.066
 MAXIMUM VALUE: F(X) = 2.7 OCCURS WHEN K = 1.44467