

FLORIDA HIGH SCHOOLS COMPUTING COMPETITION '95
JUDGING CRITERIA

1.1 RUN PROGRAM:

OUTPUT: FLORIDA HIGH SCHOOLS COMPUTING COMPETITION '95
59' NOITITEPMOC GNITUPMOC SLOOHCS HGIH ADIROLF
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1.2 INPUT: Enter comment: COMMENTS ARE GENERATED IN THIS PROGRAM

OUTPUT: BASIC: ' COMMENTS ARE GENERATED IN THIS PROGRAM
PASCAL: { COMMENTS ARE GENERATED IN THIS PROGRAM }
C: /* COMMENTS ARE GENERATED IN THIS PROGRAM */
C++: // COMMENTS ARE GENARTED IN THIS PROGRAM

1.3	INPUT: Enter N: -15	INPUT: Enter N: 99
	Enter operator: ++	Enter operator: --
	OUTPUT: -14	OUTPUT: 98

1.4	INPUT: Enter break point: 3	INPUT: Enter break point: 3
	Enter number: 6.54321	Enter number: 7.65432
	OUTPUT: 6.543	OUTPUT: 7.655

	INPUT: Enter break point: 9	INPUT: Enter break point: 9
	Enter number: 5.6788	Enter number: 6.78991
	OUTPUT: 5.678	OUTPUT: 6.790

1.5 INPUT: Enter comment: /* COMMAND LIST PROGRAM */
OUTPUT: CLIST

INPUT: Enter comment: /* REXX */
OUTPUT: REXX

INPUT: Enter comment: /* THIS IS A 1-POINT-REXX PROGRAM */
OUTPUT: REXX

1.6 INPUT: Enter number of variables: 15
Enter number initialized: 9
Enter number initialized to 0: 5
OUTPUT: **BASIC = 4**
PASCAL = 24
C/C++ = 15

INPUT: Enter number of variables: 10
Enter number initialized: 2
Enter number initialized to 0: 2
OUTPUT: **BASIC = 0**
PASCAL = 12
C/C++ = 10

1.7 INPUT: Enter data set name: **TTGTCBS.DOCLIB.PROJECT.SPEC**
OUTPUT: **SPEC**

INPUT: Enter data set name: **MYUSERID.DATASET**
OUTPUT: **DATASET**

1.8 INPUT: Enter N: 6
Enter #: 9.1234
Enter #: 10.500
Enter #: -3.4
Enter #: 7777.22
Enter #: 0.0632
Enter #: -234.0

OUTPUT: -234.0
0.0632
7777.22
-3.4
10.500
9.1234

INPUT: Enter N: 2
Enter #: 100.05
Enter #: -3.500

OUTPUT: -3.500
100.05

1.9 INPUT: Enter number of X's: 13

OUTPUT: (Screen clears and the following appears)

```
  X           X
   X         X
    X       X
     X     X
      X   X
       X X
        X
       X X
      X  X
     X   X
    X   X
   X   X
  X   X
 X   X
X   X
```

INPUT: Enter number of X's: 3

OUTPUT: (Screen clears and the following appears)

```
 X X
  X
 X X
```

1.10 INPUT: Enter # of printed sides: 80
Enter # of single sided pages: 9

OUTPUT: **93.33 CENTS SAVED**

INPUT: Enter # of printed sides: 300
Enter # of single sided pages: 20

OUTPUT: **350.00 CENTS SAVED**

2.1 INPUT: Enter A, B, C: 17, 23, 2
OUTPUT: (15,-11)

INPUT: Enter A, B, C: 2, 3, 96
OUTPUT: (3,30)

INPUT: Enter A, B, C: -100, 99, 8
OUTPUT: (91,92)

2.2 INPUT: Enter part number: 9876543210123456789
OUTPUT: **ERROR -- CHECK DIGIT SHOULD BE 7**

INPUT: Enter part number: 246801357964
OUTPUT: **OKAY**

2.3 RUN PROGRAM:
OUTPUT: \$1 = 0
 \$13 = 1
 \$169 = 2
 \$2197 = 2
 \$28561 = 0
 \$371293 = 9
 \$4826809 = 2

2.4 INPUT: Enter number of DAC's: 11
 Enter DAC: 18135551212
 Enter DAC: 14075551212
 Enter DAC: 00
 Enter DAC: 1411
 Enter DAC: 00
 Enter DAC: 1411
 Enter DAC: 19045551212
 Enter DAC: 1411
 Enter DAC: 1411
 Enter DAC: 12125551212
 Enter DAC: 1411
OUTPUT: **8.20 DOLLARS**

INPUT: Enter number of DAC's: 2
 Enter DAC: 12195551212
 Enter DAC: 1411
OUTPUT: **0.65 DOLLARS**

2.5

INPUT: Enter page number: 320
OUTPUT: 320 FLORIDA HIGH SCHOOLS COMPUTING COMPETITION 1985 - 1994

INPUT: Enter page number: 341
OUTPUT: FHSCC '86 BASIC SOLUTIONS 341

INPUT: Enter page number: 319
OUTPUT: FHSCC '94 JUDGING CRITERIA 319

INPUT: Enter page number: 701
OUTPUT: FHSCC '91 PASCAL SOLUTIONS 701

INPUT: Enter page number: 46
OUTPUT: 46 FLORIDA HIGH SCHOOLS COMPUTING COMPETITION 1985 - 1994

2.6 INPUT: Enter form: A
Enter form: B
Enter form: C
Enter form: D
Enter form: E
Enter form: 1040
Enter form: F

OUTPUT: 36 HR., 49 MIN.

INPUT: Enter form: E
Enter form: A
Enter form: C
Enter form: H

OUTPUT: 20 HR., 41 MIN.

2.7 INPUT: Enter salary: 40100
 Enter 401K %: 10
 OUTPUT: **YOU CAN PURCHASE UP TO 401 SHARES**
 INPUT: Enter number of shares: 159
 Enter end of year price: 34.56
 OUTPUT: **COMPANY CONTRIBUTION: 1804.50**
 401K RETURN: 814.03
 STOCK GAIN: 1170.24
 TOTAL GAIN: 3788.77

INPUT: Enter salary: 50999
 Enter 401K %: 3
 OUTPUT: **YOU CAN PURCHASE UP TO 509 SHARES**
 INPUT: Enter number of shares: 500
 Enter end of year price: 36.00
 OUTPUT: **COMPANY CONTRIBUTION: 1147.48**
 401K RETURN: 374.84
 STOCK GAIN: 4400.00
 TOTAL GAIN: 5922.32

2.8 INPUT: Enter number of spiral loops: 5
 Enter first letter: Z

OUTPUT: (Screen clears and the following is centered)

```

D
D DDDDDDDDDDDDDDDDDDD
D C D
D C CCCCCCCCCCCCCC D
D C B C D
D C BBBBBBBBBBBB C D
D C B A B C D
D C B A AAAAAA B C D
D C B A Z A B C D
D C B A Z ZZZ A B C D
D C B A Z Z A B C D
D C B A ZZZZZ A B C D
D C B A A B C D
D C B AAAAAAAAAA B C D
D C B B C D
D C BBBBBBBBBBBB C D
D C C D
D CCCCCCCCCCCCCC D
D D
DDDDDDDDDDDDDDDDDD

```

(INPUT/OUTPUT CONTINUED ON NEXT PAGE)

(INPUT/OUTPUT CONTINUED FOR 2.8)

INPUT: Enter number of spiral loops: 1
 Enter first letter: F

OUTPUT: (Screen clears and the following is centered)

```

      F
     F FFF
    F  F
   FFFF
  
```

2.9 INPUT: Enter column and row: F2

OUTPUT: (Screens clears and the following appears)

```

8           *
7 *         *
6  *       *
5   *     *
4     *   * *
3       * * *
2 * * * * Q * *
1           * * *
   A B C D E F G H
  
```

INPUT: Enter column and row: H8

OUTPUT: (Screen clears and the following appears)

```

8 * * * * * * * Q
7           * *
6           * *
5           * *
4           * *
3           * *
2           * *
1 *         *
   A B C D E F G H
  
```

2.10 INPUT: Enter sex: M
 Enter age: 23
 Enter race: O
 Enter income: 19000
 Enter party: R

Enter sex: F
 Enter age: 67
 Enter race: W
 Enter income: 34000
 Enter party: R

Enter sex: F
 Enter age: 47
 Enter race: W
 Enter income: 24000
 Enter party: D

Enter sex: M
 Enter age: 51
 Enter race: W
 Enter income: 56000
 Enter party: D

Enter sex: M
 Enter age: 50
 Enter race: O
 Enter income: 36000
 Enter party: D

Enter sex: M
 Enter age: 51
 Enter race: W
 Enter income: 16000
 Enter party: R

Enter sex: E

OUTPUT:	DEMOCRATIC	REPUBLICAN
MALE	33.3	33.3
FEMALE	16.7	16.7
50 AND BELOW	33.3	16.7
OVER 50	16.7	33.3
WHITE	33.3	33.3
OTHERS	16.7	16.7
ABOVE \$25000	33.3	16.7
\$25000 AND BELOW	16.7	33.3
WHITE MALE OVER 50 AND ABOVE \$25000	16.7	0.0
OTHER	33.3	50.0

3.1 INPUT: Enter adjusted gross income: 45678.90
Enter itemized deductions: 3210.98
Enter federal income tax withheld: 7000.00

OUTPUT: 1082.59 DOLLARS YOU OWE

INPUT: Enter adjusted gross income: 1234567.00
Enter itemized deductions: 54321.00
Enter federal income tax withheld: 555444.00

OUTPUT: 108397.28 DOLLARS WILL BE REFUNDED TO YOU

3.2 INPUT: Enter MIN: 29
Enter time: 08:50 AM MON
Enter MIN: 1
Enter time: 05:50 PM TUE
Enter MIN: 2
Enter time: 12:55 PM WED
Enter MIN: 16
Enter time: 12:00 AM THU
Enter MIN: 67
Enter time: 10:59 PM FRI
Enter MIN: 1
Enter time: 12:00 PM SAT
Enter MIN: 30
Enter time: 06:00 PM SUN
Enter MIN: 0

OUTPUT: BOB SMITH (813) 555-1234

TIME OF DAY	MIN.	CHARGE
8:50 AM MON	29	6.16
5:50 PM TUE	1	0.21
12:55 PM WED	2	0.49
12:00 AM THU	16	1.79
10:59 PM FRI	67	10.77
12:00 PM SAT	1	0.14
6:00 PM SUN	30	4.85
TOTAL CHARGES		24.41
DISCOUNT		4.88
CHARGES - DISCOUNT		19.53

(INPUT/OUTPUT CONTINUED ON NEXT PAGE)

(INPUT/OUTPUT CONTINUED FOR 3.2)

INPUT: Enter MIN: 11
 Enter time: 08:50 AM SUN
 Enter MIN: 0

OUTPUT: BOB SMITH (813) 555-1234

TIME OF DAY	MIN.	CHARGE
8:50 AM SUN	11	1.24
TOTAL CHARGES		1.24
DISCOUNT		0.00
CHARGES - DISCOUNT		1.24

3.3 RUN PROGRAM: (twice)

OUTPUT: (Each run is random, but should be SIMILAR to the following baseball game results. Check that the score is correctly added. 99% of the time this program will have:
 - each score in an inning less than 10,
 - total # of strikes between 211 and 280,
 - total # of balls between 290 and 470,
 - total # of walks between 69 and 111.)

	1	2	3	4	5	6	7	8	9	SCORE
TEAM A	!	2	3	0	0	0	1	0	0	3 ! 9
TEAM B	!	2	0	1	2	3	0	0	0	2 ! 10

TOTAL # OF STRIKES: 247
 TOTAL # OF BALLS: 403
 TOTAL # OF WALKS: 92
 TOTAL # OF STRIKE OUTS: 54

	1	2	3	4	5	6	7	8	9	SCORE
TEAM A	!	0	2	0	1	0	2	0	0	1 ! 6
TEAM B	!	0	0	0	0	0	0	1	0	! 1

TOTAL # OF STRIKES: 239
 TOTAL # OF BALLS: 337
 TOTAL # OF WALKS: 76
 TOTAL # OF STRIKE OUTS: 54

3.4 INPUT: Enter letters: EGOAIMY

OUTPUT: {} {A} {AE} {AEG} {AEGI} {AEGIM} {AEGIMO}
 {AEGIMOY} {AEGIMY} {AEGIO} {AEGIOY} {AEGIY}
 {AEGM} {AEGMO} {AEGMOY} {AEGMY} {AEGO} {AEGOY}
 {AEGY} {AEI} {AEIM} {AEIMO} {AEIMOY} {AEIMY}
 {AEIO} {AEIOY} {AEIY} {AEM} {AEMO} {AEMOY} {AEMY}
 {AEO} {AEOY} {AEY} {AG} {AGI} {AGIM} {AGIMO}
 {AGIMOY} {AGIMY} {AGIO} {AGIOY} {AGIY} {AGM}
 {AGMO} {AGMOY} {AGMY} {AGO} {AGOY} {AGY} {AI}
 {AIM} {AIMO} {AIMOY} {AIMY} {AIO} {AIOY} {AIY}
 {AM} {AMO} {AMOY} {AMY} {AO} {AOY} {AY} {E} {EG}
 {EGI} {EGIM} {EGIMO} {EGIMOY} {EGIMY} {EGIO}
 {EGIOY} {EGIY} {EGM} {EGMO} {EGMOY} {EGMY} {EGO}
 {EGOY} {EGY} {EI} {EIM} {EIMO} {EIMOY} {EIMY}
 {EIO} {EIOY} {EIY} {EM} {EMO} {EMOY} {EMY} {EO}
 {EOY} {EY} {G} {GI} {GIM} {GIMO} {GIMOY} {GIMY}
 {GIO} {GIOY} {GIY} {GM} {GMO} {GMOY} {GMY} {GO}
 {GOY} {GY} {I} {IM} {IMO} {IMOY} {IMY} {IO} {IOY}
 {IY} {M} {MO} {MOY} {MY} {O} {OY} {Y}
 TOTAL SUBSETS = 128

INPUT: Enter letters: LORD

OUTPUT: {} {D} {DL} {DLO} {DLOR} {DLR} {DO} {DOR} {DR}
 {L} {LO} {LOR} {LR} {O} {OR} {R}
 TOTAL SUBSETS = 16

3.5 INPUT: Enter N: 1234567890123456789012345678909999

OUTPUT:
 762078937661941837524767578139155000992384766155479903221210545000

INPUT: Enter N: 987654321098765432109876543210

OUTPUT:
 987730528992531626293629019968318853833388126809944436823655

3.6 INPUT: Enter line: **C=5**
Enter line: **H=9-C**
Enter line: **R=H*C**
Enter line: **I=R/H**
Enter line: **S=I**
Enter line: **T=R+3**
Enter line: **END**

OUTPUT: **C=5**
H=4
R=20
I=5
S=5
T=23

INPUT: Enter line: **C=2**
Enter line: **B=C*3**
Enter line: **C=C-6**
Enter line: **D=B**
Enter line: **D=C/4**
Enter line: **C=2*B**
Enter line: **B=B+2**
Enter line: **END**

OUTPUT: **C=12**
B=8
D=-1

3.7 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

3.8 The screen will clear and display a runner's digital stop-watch time in block numbers given the minutes and seconds as input. The time must increment by one second approximately every second: No more than 15 seconds and no less than 7 seconds are to be displayed every 10 actual seconds. Program terminates upon pressing any key. All times are to be displayed in the upper-left corner of the screen in block numbers 4 asterisks wide and 5 asterisks long:

```

****      *   ****   ****   * *   ****   *       ****   ****   ****
*  *      *     *     * *   *     *     *       *   * *   * *
*  *      *   ****   ****   ****   ****   ****   *   ****   ****
*  *      * *     *     *     *     * *   * *   *   * *   *
****      *   ****   ****   *   ****   ****   *   ****   *

```

INPUT: Enter MM:SS: 03:58

OUTPUT: (Screen is cleared and the time is displayed in the upper-left corner of screen)

```

****   ****   ****   ****
*  *     * *   * *   * *
*  *   ****   ****   ****
*  *     * *   * *   * *
****   ****   ****   ****

```

(approximately 1 second later the following appears)

```

****   ****   ****   ****
*  *     * *   * *   * *
*  *   ****   ****   ****
*  *     * *   * *   * *
****   ****   ****   *

```

(approximately 1 second later the following appears)

```

****   * *   ****   ****
*  * * * * * * * * *
*  *   ****   * *   * *
*  *     * *   * *   * *
****     *   ****   ****

```

(approximately 1 second later the following appears)

```

****   * *   ****   *
*  * * * * * * * *
*  *   ****   * *   *
*  *     * *   * *   *
****     *   ****   *

```

(have the program display 19 more seconds then...)

INPUT: (press any key)

OUTPUT: (program terminates)

3.9 INPUT: Enter number of sides: 8
Enter movement: L3
Enter movement: U10
Enter movement: R5
Enter movement: U7
Enter movement: R3
Enter movement: D10
Enter movement: L5
Enter movement: D7

OUTPUT: **AREA = 66 SQUARE FEET**

INPUT: Enter number of sides: 10
Enter movement: R5
Enter movement: D12
Enter movement: L5
Enter movement: U2
Enter movement: L2
Enter movement: D2
Enter movement: L6
Enter movement: U5
Enter movement: R8
Enter movement: U7

OUTPUT: **AREA = 96 SQUARE FEET**

3.10 INPUT: Enter version #: 47
 Enter first week in test: 8
 Enter first week to display, # of weeks: 3, 38

OUTPUT: (Screen clears and the following displays)
 0000001111111111222222222233333333334
 34567890123456789012345678901234567890

```

R1V44L01 P P P P P
R1V45L01 2 2 2 2 2 P P P P P
R1V44L88 * * * * *
R1V46L01 1 1 1 1 1 1 1 1 1 1 P P P P P
R1V45L88      * * * * *
R1V47L01      2 2 2 2 2 2 2 2 2 2 P P P P P
R1V46L88      * * * * *
R1V48L01      1 1 1 1 1 1 1 1 1 1 P P P P P
R1V47L88      * * * * *
R1V49L01      2 2 2 2 2 2 2 2 2 2 P P P P P
R1V48L88      * * * * *
R1V50L01      1 1 1 1 1 1 1 1 1 1 P P P
R1V49L88      * * * * *
R1V51L01      2 2 2 2 2 2 2 2
R1V50L88      * * * *
R1V52L01      1 1 1
  
```

INPUT: Enter version #: 36
 Enter first week in test: 2
 Enter first week to display, # of weeks: 25, 16

OUTPUT: (Screen clears and the following displays)
 2222233333333334
 5678901234567890

```

R1V37L01 P
R1V38L01 1 P P P P P
R1V39L01 2 2 2 2 2 2 P P P P P
R1V38L88 * * * * *
R1V40L01 1 1 1 1 1 1 1 1 1 1 P P P
R1V39L88      * * * * *
R1V41L01      2 2 2 2 2 2 2 2
R1V40L88      * * * *
R1V42L01      1 1 1
  
```