**A+ Computer Science**

**February 2013 – Packet 1**

Judges Packet

|  |  |
| --- | --- |
| Number | Name |
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1. Picture

**Example Input File**

None

**Output to screen:**

####################

##<<<<<<<<>>>>>>>>##

#######APLUS########

#######APLUS########

##<<<<<<<<>>>>>>>>##

#######APLUS########

#######APLUS########

##<<<<<<<<>>>>>>>>##

#######APLUS########

#######APLUS########

##<<<<<<<<>>>>>>>>##

####################

2. Boxes

**Example Input File**

5

3

5

4

1

2

**Output to screen:**

@@@

@ @

@@@

@@@@@  
@ @  
@ @

@ @  
@@@@@

@@@@  
@ @  
@ @

@@@@

@

@@  
@@

3. First

**Example Input File**

6

mom

dog

pumpkin

a

madam

racecary

**Output to screen:**

mmm

ddd

ppppppp

a

mmmmm

rrrrrrrr

4. Comp Sci Rocks!!

Program Name: Gum.java Input File: gum.dat

**Assumptions – Helpful Hints :** none

**Example Input File**

4

2

5

1

3

**Output to screen:**

Comp Sci Rocks!!

Comp Sci Rocks!!

Comp Sci Rocks!!

Comp Sci Rocks!!

Comp Sci Rocks!!

Comp Sci Rocks!!

Comp Sci Rocks!!

Comp Sci Rocks!!

Comp Sci Rocks!!

Comp Sci Rocks!!

Comp Sci Rocks!!

5. Triangles

**Example Input File**

7

5 A

3 Z

4 C

1 A

8 E

3 Y

7 T

**Output to screen:**

EEEEE  
 DDDD  
 CCC  
 BB  
 A

BBB  
 AA  
 Z

FFFF  
 EEE

DD

C

A

LLLLLLLL

KKKKKKK

JJJJJJ

IIIII

HHHH

GGG

FF

E

AAA

ZZ

Y

ZZZZZZZ

YYYYYY

XXXXX

WWWW

VVV

UU

T

6. Hop

Program Name: Hop.java Input File: none

**Example Input File**

none

**Output to screen:**

# # #### ####

# # # # # #

#### # # ####

# # # # #

# # #### #

7. Movie Theatre

Program Name: Movie.java Input File: movie.dat

**Test Input File**

12

3 2

4 2

2 2

12 6

12 5

12 4

12 3

11 5

11 4

11 3

11 2

8 3

**Test Output To Screen**

1

3

0

7

56

126

120

21

70

84

45

20

8. Reducer

Program Name: Reducer.java Input File: reducer.dat

**Test Input File**

7

12 20

9 27

15 14

256 512

512 512

120 720

999 1000

**Test Output To Screen**

2

2

0

8

9

5

0

9. Math Math Revolution

Program Name: Math.java Input File: math.dat

**Test Input File**

12

85

(5/3)

(5++3)

(5+3+)

+

-

\*

/

8+

/8

5\*5/3/2\*1+3-5\*6

1000+532/2323-123

**Test Output To Screen**

Yes

Yes

No

No

No

No

No

No

No

No

Yes

Yes

10. Ganked

Program Name: Ganked.java Input File: ganked.dat

**Test Input File**

6

3 4

CEEE

XXXE

ZEEE

5 5

ZEEEE

EXXXE

EXCXE

EXXXE

EEEEE

5 5

ZEEEE

EXXXE

EXCXE

EXEXE

EEEEE

5 5

ZXEEE

XEEEE

EEEEE

EEEEE

EEEEC

10 10

EEXXEEXEEE

EEXEEXEEEE

XEEEEEEEEE

EEEXXXXXXE

EEEXEEEEEE

EEEXEEEEEZ

EXXXXEXXXX

EEEEEXEEEE

EEEXEXECEE

EEXEEEEEXE

10 10

EEXXEEXEEE

EEXEEXEEEE

XEEEEEEEEE

EEEXXXXXXX

EEEXEEEEEE

EEEXEEEEEZ

EXXXXEXXXX

EEEEEXEEEE

EEEXEXECEE

EEXEEEEEXE

**Test Output To Screen**

Arc Flash

Feed

Arc Flash

Feed

Arc Flash

Feed

11. Matchmaking

Program Name: Match.java Input File: match.dat

# **Test Input File**

7

5 7 9 3 10 11 5 4 3 8

1 100 1000 9 99 999 5 555 5555 1234

234 254 13 324 123 542 65 21 63 1

1 1 1 1 1 1 1 1 1 10

1 2 3 4 5 6 7 8 9 10

1 2 4 8 16 32 64 128 256 512 1024

2453 4324 1231 5435 6565 2343 1231 1010 2133 5555

**Test Output To Screen**

1

1781

12

9

1

31

103

12. Scheduling

Program Name: Schedule.java Input File: schedule.dat

**Test Input File**

7

3 5 9 4 12 10 15

3 1 10 2 11 3 12

5 1 7 3 9 2 10 4 12 30 31

5 1 2 3 4 5 6 7 8 9 10

8 1 3 2 4 5 7 6 8 10 12 11 13 14 16 15 17

5 1 10 2 3 4 5 6 7 8 9

5 1 1000000 2 999999 3 999998 4 999997 5 999996

**Test Output To Screen**

2

1

2

5

4

4

1