



University Interscholastic League

# Computer Science Competition

## 2013 District 2 Programming Problem Set

### JUDGE DATA PRINTOUT - CONFIDENTIAL

#### I. Instructions

1. The attached printouts of the judge test data are provided for the reference of the contest director and programming judges. Additional copies may be made if needed for this purpose.
2. Printouts must remain CONFIDENTIAL. At the discretion of the contest director, additional copies may also be made and returned to schools when other confidential contest material is returned **after** the meet.

#### II. Names of Problems

Number	Name
Problem 1	Bus
Problem 2	Cheese Party
Problem 3	Concentric Squares
Problem 4	Eagle Nests
Problem 5	Escape!
Problem 6	EUREKA!
Problem 7	Old Folks
Problem 8	Password
Problem 9	Patterns
Problem 10	Possession
Problem 11	Projectiles
Problem 12	Spellcheck

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# 1. Bus

Program Name: Bus.java

Input File: bus.dat

## Judges Input File

```
ON A B C
OFF C
ON D E F G
OFF E B
END ROUTE
ON # ( J
ON K
OFF (
OFF J #
ON A B C
OFF B
END ROUTE
ON B D Z Y K
OFF B
END ROUTE
```

## Judges Output to Screen

```
People Entered/Exited: 18
People Entered/Exited: 18
People Entered/Exited: 10
```

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## 2. Cheese Party

Program Name: Cheese.java Input File: cheese.dat

### Judges Input File

```
5
123543225422 20
546745453 25
543245755 12
85431342539 14
34432 7
```

### Judges Output to Screen (Note: Alternate sets of output are bolded for ease of reading. )

```
A 23
B 39
C 0
D 35
E 26
F 21
A 24
B 37
C 15
D 16
E 45
F 27
A 22
B 5
C 18
D 6
E 20
F 6
A 13
B 25
C 27
D 15
E 0
F 16
A 8
B 17
C 0
D 10
E 16
F 0
```

### Random numbers generated for judges data:

```
123543225422
1 5 2 5 3 4 5 6 5 4 1 2 1 1 5 1 3 5 3 1 3 4 6 6 3 6 3 1 5 5 0 1 2 5 2 1 3 3 4
3 6 4 4 5 6 3 3 2 0 1 1 0 5 5 1 5 3 0 3 5
546745453
0 2 3 4 5 3 3 1 1 5 5 6 0 3 5 1 2 5 3 2 5 4 6 2 1 5 3 5 2 5 0 3 2 4 3 4 4 4 4
1 3 1 5 1 1 2 2 6 1 1 2 1 3 6 4 1 6 3 1 6 4 5 2 0 2 4 5 2 5 2 3 4 1 4 2
543245755
4 3 2 2 4 2 4 3 1 4 1 3 5 1 5 1 3 2 0 1 3 2 6 6 4 1 6 0 6 1 0 6 5 3 5 1
85431342539
1 5 2 0 1 6 2 5 3 3 4 1 5 3 6 3 1 2 0 5 1 5 3 4 2 5 4 2 1 5 2 3 1 1 2 6 1 4 6
3 5 2
34432
3 6 4 1 2 2 4 4 5 0 5 3 4 4 3 1 6 2 1 2 3
```

### 3. Concentric Squares

**Input File: csquares.dat**

## Judges Input File

4  
6  
4  
2  
10

## Judges Output to Screen

```

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

```

```

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

```

☆ ☆ ☆  
 ☆      ☆  
 ☆ ☆ ☆

[illegible]

**Notes to Judges:**

- The outside square will always begin in column one and will always contain asterisks.
- A blank line after the last set of results is optional.

---

## 4. Eagle Nests

Program Name: EagleNests.java

Input File: eaglenests.dat

### Judges Input File

4

```
E...E..B.M
...B....MM
EECCC.BBMM
..CCCFFBMM
C..F..B..M
B...B..FF.
....FFFFMM
CC..B..MMM
BCCFF...FB
..CC.FF.B.
....M..B.B
...E...CCC
..E...CC..
M.CCC....B
C..CC.EB..
C...C..FC.
..CCFMMFMM
BB..E...CCC
FFBFFFF.B.
B.CE.FB...
BBBBBBBBBB
FFFCCCCCFF
BCCCBBBBBB
.....
MMMMMEBMMM
BBBCC...FF
EEEEEEEEBBB
B.E.B.B.B.
.B.B.B.BEB
CCBBCCFF..
E.....M
.B.....B.
..B....E..
...B..B...
....BE....
....BB....
...B..B...
..B....B..
.E.....B.
M.....M
```

Judges Output to Screen (cont. on next page)

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## 4. Eagle Nests (cont.)

### Judges Output to Screen

```
1 1
1 5
3 1
3 2
```

```
2 4
3 3
5 7
8 5
10 4
```

```
5 6
7 1
7 2
7 3
7 4
7 5
7 6
7 7
8 3
9 9
```

```
1 1
3 8
5 6
9 2
```

### Notes to Judges:

- Blank lines after the last set of results is optional.
- More than one blank line between sets of results is acceptable.

---

## 5. Escape!

Program Name: Escape.java

Input File: escape.dat

### Judges Input File

```
7
6 5
@@...
..P..
.....
@@...
S....
@...E
4 4
E..P
.@@.
..S.
E...
4 4
E..P
.##.
..S.
E...
8 8
P.....
@@@@@@@@.
.....
.@@@@@@@@
.....
@@@@@@@@E
#####
...S....
8 8
P.....
@@@@@@@@.
.....
.@@@@@@@@
.....
@@@@@@@@E
##@####
...S....
3 1
S
E
P
4 1
S
E
.
P
```

### Judges Output to Screen

```
YES
NO
YES
YES
NO
YES
NO
```

---

## 6. EUREKA!

Program Name: Eureka.java

Input File: eureka.dat

### Judges Input File

```
8
435673456 EUREKA
345664322234 FOOTBALL
854356739954 ROCKET
345664832 WISHBONE
765439987643 LIQUID
6542234567 RAINBOW
766542134534 PROGRAMMING
64322345678900876 AUSTIN
```

### Judges Output to Screen

```
164
445
38
148
185
194
534
254
```

### Random letters generated for judges data:

**435673456:** IGFJUYMLPGXEFZRJUAMXFHPXMASATISHYGNBONFBPMFEXBBTBVNHHRQLPUKLPIRIMOIKHPVTCXMGSCSLCPAMZSSGQCNYOLOBRNZBLDFGBSSCKQYQIUNUDDYPFITYOEADTHCVQJXCKCPWNSQC  
GMEJDPYVPMKUXWLCBHNA

**345664322234:** XOVAPCMYBEQOEPDMEVWZVJIBPDPGCZBSNORDMRMOWLTVCVXPMGHGEPBGEJWAZOZG  
HNLKMLFHRRJBWZUUGDABNTSLFXFUKCYRKTKAHHAIAHJLCITRCZCZOJQISTNQZKVLXYHYXDUDXJLGY  
NHKRYCSXVPHMNLWDPASBOFYZCYPBJEPECMVUUSEXOEREHYNVVDXQXEINFOAMJOQOBLUHGFSSZZXNN  
NFUJWEBEAGZSAGTETTVUESBNZUBVHGOPYWVVJPKNHGDZBSOHPECCIWZPUONMBYLPWYTJXKSZVMFHN  
VJFNIPTIOGHDICLRHKRTRTJFYGRJVMERTWVZOYNYIILLRZDBYLTTPMKSVIJMSTIPCTLYLPJTYWDX  
CIMHFUWYDVHMXZCBVRCXJLQTTABCXBVXMKHYTQVVINBEVBTEQWAVYHMOVODQGZPCLEVPCKL

**854356739954:** HSBRZUHWOFBJETCDTEFNCWPAQLITFAKWEVSDT

**345664832:** JGZUTMGIMWBUOBCMOWVECBWFEOMOUJSUFMZHBALVTMLGJYVTLTGRHYUHUPINKJGYA  
PAORQQFNQCSHWESPPHCKBMRKDOGOKIBZKYGGKSPQIZGKTYCIIQSDGNXQSOPKNJFSMNNPXMMHBJFY  
DFVE

**765439987643:** KOWUHQWIIQOWSBBRSWVVEVRGKLFYACZWOQDSAQVAPDXFZQMMYRDBBKBHGNPZJCTY  
QMIDKTSWCCJUFZMSOXRXTOPQOSODPLHKEMORYKCXLROWYGBNXXBESTDKKKJYPAJKUYOPTFENJAPOU  
YIXOQKBVNXXVHJVZTZBQCHYVXMPEJRAJFJFFHRETKRAD

**6542234567:** VWUSECEHMGWQLISUUAMEOEHAIORHUSCIGMDTAPGWTMKOPPBQLQCQHQRXUOSHCTAVI  
XDCULZMXABRBOPJNNCXLQYZZQSGPYQJAYUXXVFFHNUBVWEEMSZEZLIZSXQTQSZAJWWVHHAPLDYCRN  
EGAVKQPZZLEEUNEKDTGVXKHYYVVSXNDLTGNLBBHJEVSTSRSJHWH

**766542134534:** AEXBSLVMWBKZZFLPHBQZQLDHXIEZZDGXXGSQFKLSHDPAGTYZXFXBRLTCAHBAPCCY  
JRLJDSLHMZNGVRHZNUPEMGSVRDWJNKCCRTMHBXJKZDVTUDWEGBXYNIVZDHQIWXMMWFXIYYZJWQYJXX  
LFDSJKNVXJINDGFJTFXTJRCIHDLRPAVDOBKPJJLWCVWDWDIJHUKEHBZFJHWKUSQVGZKHKYKUEKTZN  
DKUTRELBHWMHBMCAAKHLRESWIJQYSKXITPQDFMCDRDPJAETULIQWKHOFHOXWJLPMLFJOLMLLJBKCO  
JOYSKYJEAAMELRMHTFYECBEVDDLCBSLGMYSZRJMZVGUGKSQVRSMSHOPWELJLGUEQVDKEVMXUBXYYZ  
RBDQIFJGIASAZLLBSZYBWXFHUPHQRERWZQICKCAIYOXZYYPVQSSTPKXEETSPAVRTZDMGMZKZUOKFMD  
DIIXIJOHLUEBEUZZWEDCLAOFBROGIAXELFPSLVDBSYXRAOHVPSMJDUQPBVEZXIQVTWJBJIKJOHUPI  
NJRWDVSG

**64322345678900876:** IEEVXEKABJBMXRCEPWEDYKSAKPGOOKOXNTQMVOXGXDJEKLHYISADHDVTDDBA  
AXXCVFQNXWWOXYFCTRDXVJLLMUTTAZMDFRTJMIYAHUJGNWMPQOMAZSEQYKDZVSEVOLCIWHMDBIO  
KXDLGDUNVVMXHBVPPMYJRGYVXNUQPDMCSPNAWKUUUAZBAEKBBVIBITRDAWNSMZBXMGGYDSPMHRTKW  
NZFBZBHOQJMSPEZUGDCOTQIYCXBEVVSUQFRKFGBMN



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## 7. Old Folks

**Program Name:** OldFolks.java

**Input File:** oldfolks.dat

### **Judges Input File**

```
12
Joe E Lewis 1945
Mary Smith 1999
Anne Scott 1943
Larry E Jones 1964
Roger J Allen 2003
Virginia V Alvarez 1950
Robert L Smith 1943
Link E Chalon 1953
Roger Miller 1952
Randy Glenngariff 2010
Thomas Ridgeway 2000
Pam Luttrell 1940
```

### **Judges Output to Screen**

```
Joe E Lewis
Anne Scott
Virginia V Alvarez
Robert L Smith
Roger Miller
Pam Luttrell
```

---

## 8. Password

**Program Name:** Password.java

**Input File:** password.dat

### Judges Input File

```
6
abccababccabc 3
treatreataaesaaeesatreatreaterarederaeesarafea 5
rodoggerreasterresterread 4
abradaradaradaradarada 4
griefgregefrieferegriefegri 3
griefgregefrieferegrieger 4
```

### Judges Output to Screen

```
abc
treat
erre
rada
gri
grie
```

---

## 9. Patterns

Program Name: Patterns.java

Input File: patterns.dat

### Judges Input File

```
9
abcdef w3455e
rr555bbc ttffffccb
RRRsssTTss77 333YYVvYYaa
gggg9999rrrr4444 aaaabbbbbaaaabbbb
ww xx
eee445678a aaa66afgr2
abcabc234aaa xyzxyz123xxx
rrrrssssyyy 111555333
tttaaacddd 999rrr9111
```

### Judges Output to Screen

```
NO
YES
YES
NO
YES
NO
YES
YES
NO
```

---

## 10. Possession

**Program Name:** Possession.java

**Input File:** possession.dat

### Judges Input File

6

```
UT_Austin Q1 15:00 Q1 5:13 Q2 10:45 Q2 7:33 Q2 4:12 Q3 7:33 Q4 10:27 Q4 4:00
TX_Tech Q1 10:55 Q2 12:34 Q2 4:23 Q2 0:00 Q3 15:00 Q3 7:12 Q3 2:01 Q4 9:12 Q4
7:55 Q4 4:59
Baylor Q1 9:21 Q1 5:12 Q2 14:12 Q2 8:21 Q2 2:21 Q2 1:08 Q3 15:00 Q3 8:03 Q3
2:12 Q4 10:23 Q4 3:13 Q4 0:00
SMU Q1 11:21 Q1 3:12 Q2 14:57 Q2 8:54 Q2 5:45 Q2 5:41 Q3 15:00 Q3 7:43 Q3
4:12 Q4 13:23 Q4 8:13 Q4 2:00 Q4 1:23 Q4 0:43
Houston Q1 14:21 Q1 8:12 Q1 2:55 Q2 11:54 Q2 7:54 Q2 3:49 Q3 12:56 Q3 7:54 Q3
2:14 Q4 14:23 Q4 8:44 Q4 2:33 Q4 1:13 Q4 0:00
TCU Q1 15:00 Q1 3:12 Q2 10:57 Q2 7:59 Q2 3:12 Q2 0:00 Q3 15:00 Q3 8:43 Q3
0:12 Q4 13:38 Q4 3:13 Q4 0:00
```

**Note:** The last five input lines in the printed version above stretch across two lines, but are actually only one line each in the `possession.dat` input file. Each line starts with a team name.

### Judges Output to Screen

```
UT_Austin 31:05
TX_Tech 36:17
Baylor 28:12
SMU 34:15
Houston 31:32
TCU 29:02
```

---

## 11. Projectiles

Program Name: Projectiles.java

Input File: projectiles.dat

### Judges Input File

```
7
120 20
200 12
250 10
175 30
155 15
133 16
185 30
```

### Judges Output to Screen

```
HEIGHT 244 TIME 4
HEIGHT 636 TIME 6
HEIGHT 986 TIME 8
HEIGHT 505 TIME 5
HEIGHT 390 TIME 5
HEIGHT 292 TIME 4
HEIGHT 564 TIME 6
```

---

## 12. Spellcheck

Program Name: Spellcheck.java

Input File: spellcheck.dat

### Judges Input File

```
13
CAR
SMELL
MONKEY
FEATHER
FAR
DERP
TRAIN
FOX
CARPET
CAT
HORSE
ELBOW
WADX
14
FAR
SPELL
HERP
SNELL
NONKRY
FEATHEG
RKVIE
A
FOZ
FAY
JUICE
HORDD
SSSS
TRAIN
```

### Judges Output to Screen

```
FAR
SPELL
HERP
SMELL
MONKEY
FEATHEG
ELBOW
A
FOX
CAT
JUICE
HORSE
WADX
TRAIN
```