# UIL Computer Science Competition

# 2017 Invitational B

# Programming Judges Packet

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**Problem #1**
**60 Points**

# 1. Akio

**Program Name: Akio.java**     **Input File: akio.dat**

**Test Input File: akio.dat**

```
10                          #........#                   #........#
####.##.##                  ########.#                   #...o....#
###.....##                  #........#                   ##########
###...####                  #.########                   –
###.######                  #.########                   ######.##
#o..######                  #.......##                   #...#....#
###.######                  #######o##                   #...#.#..#
###......#                  –                             #...#..#.#
###.######                  ..........                    #...#.#..#
###.....##                  ..........                    #...#..#.#
#######.##                  ...#......                    #...#.#..#
–                           ..........                    #...#..#.#
##########                  ..........                    #...o.#..#
###....o##                  ..........                    ##########
###...####                  ...#.#....                    –
###.######                  ...#o#....                    #.#.#.#.##
#...#....#                  ...###....                    .########.
###.######                  .....###..                    ##.......#
###.#....#                  ..........                    .########.
###.######                  –                             ##########
###.....##                  #######.##                    .###......
#######.##                  #.......##                    ##########
–                           #.########                    ....####.#.
#######.##                  #........#                    ###....o.#
#.......##                  ########.#                     #.##.#.#.#
#.########                  #........#                    –
#........#                  #.########                    #.#.#.#.##
########.#                  #........#                    .########.
#.......#                   #o######.#                    ##.......#
#.########                  #######.##                    .########.
#.########                  –                             ##########
#......o##                  #######.##                    .###......
##########                  #........#                    ##########
–                           #........#                    ....####.#.
#######.##                  #........#                    ###....o.#
#.......##                  #........#                    #.########
#.########                  #........#                    –
```

**Test Output To Screen**

```
8           7           9
17          29          9
35          12
1           12
```

**Problem #2**
**60 Points**

# 2. Danna

**Program Name: Danna.java**          **Input File: danna.dat**

**Test Input File: danna.dat**

```
70 175          70 110              68 150
68 105          62 115              70 155
63 110          60 120              72 160
60 130          66 125              72 165
65 130          70 135              70 170
68 115          64 140              72 175
66 120          60 145              64 180
61 170          66 150              64 185
72 125          62 155              70 190
64 135          70 160              70 195
70 140          64 165              70 200
68 145          72 130              60 205
72 175          72 135              62 210
66 100          72 140              62 215
60 105          66 145
```

**Test Output To Screen**

```
70 175 25.11 overweight          64 165 28.32 overweight
68 105 15.97 underweight         72 130 17.63 underweight
63 110 19.49 normal              72 135 18.31 underweight
60 130 25.39 overweight          72 140 18.99 normal
65 130 21.63 normal              66 145 23.40 normal
68 115 17.49 underweight         68 150 22.81 normal
66 120 19.37 normal              70 155 22.24 normal
61 170 32.12 obese               72 160 21.70 normal
72 125 16.95 underweight         72 165 22.38 normal
64 135 23.17 normal              70 170 24.39 normal
70 140 20.09 normal              72 175 23.73 normal
68 145 22.05 normal              64 180 30.90 obese
72 175 23.73 normal              64 185 31.75 obese
66 100 16.14 underweight         70 190 27.26 overweight
60 105 20.51 normal              70 195 27.98 overweight
70 110 15.78 underweight         70 200 28.70 overweight
62 115 21.03 normal              60 205 40.04 obese
60 120 23.44 normal              62 210 38.41 obese
66 125 20.18 normal              62 215 39.32 obese
70 135 19.37 normal              44 total students surveyed
64 140 24.03 normal              15.91% underweight
60 145 28.32 overweight          52.27% normal
66 150 24.21 normal              18.18% overweight
62 155 28.35 overweight          13.64% obese
70 160 22.96 normal
```

**Problem #3**
**60 Points**

# 3. Evelyn

**Program Name: Evelyn.java**          **Input File: evelyn.dat**

**Test Input File: evelyn.dat**
```
1
2
10
20
4
0
5
6
3
15
```

**Test Output To Screen**
```
' '
' ' (
' ' ( ) + . ') (' )* ++ ./
' ' ( ) + . ') (' )* ++ ./ '** ()) )-- ,'& /.- '+/- (+.* *'.' ,-,+ '&/*,
' ' ( ) +
'
' ' ( ) + .
' ' ( ) + . ')
' ' ( )
' ' ( ) + . ') (' )* ++ ./ '** ()) )-- ,'& /.-
```

**Problem #4**
**60 Points**

# 4. Fengge

**Program Name: Fengge.java**          **Input File: fengge.dat**

**Test Input File: fengge.dat**
```
5 6 *
9 7 a
19 19 %
6 5 ^
10 10 &
```

**Test Output To Screen**
```
******                          %%              %%
******                          %%              %%
**  **                          %%              %%
******                          %%              %%
******                          %%              %%
                                %%              %%
aaaaaaa                         %%%%%%%%%%%%%%%%%%%
aaaaaaa                         %%%%%%%%%%%%%%%%%%%
aa   aa
aa   aa                         ^^^^^
aa   aa                         ^^^^^
aa   aa                         ^^  ^^
aa   aa                         ^^  ^^
aaaaaaa                         ^^^^^
aaaaaaa                         ^^^^^


%%%%%%%%%%%%%%%%%%%             &&&&&&&&&
%%%%%%%%%%%%%%%%%%%             &&&&&&&&&
%%              %%             &&       &&
%%              %%             &&       &&
%%              %%             &&       &&
%%              %%             &&       &&
%%              %%             &&       &&
%%              %%             &&       &&
%%              %%             &&&&&&&&&
%%              %%             &&&&&&&&&
%%              %%
```

**Problem #5**
**60 Points**

# 5. Isidora

**Program Name: Isidora.java**          **Input File: isidora.dat**

**Test Input File: isidora.dat**
```
RS-4 45
LS-2 13
RC-3 81
LC-5 119
LS-5 513
RC-5 181
LC-8 999
RS-10 1200
RS-11 1200
RC-10 1200
LC-10 1200
```
**Test Output To Screen**
```
10
110100
0011010
1111101
100000000100000
10101101101
1111111001
1
0
00101100001001010110000
01001011000
```

**Problem #6**
**60 Points**

# 6. Juan

**Program Name: Juan.java**          **Input File: None**

**No input**

**Sample Output To Screen**
```
Tom
Janie
Kendra
Joe
AHS
```

**Answers will vary.**
**Judges, there must be three or four first names,**
**and school initials.**

**Problem #7**
**60 Points**

# 7. Kostas

**Program Name: Kostas.java**          **Input File: kostas.dat**

**Test Input File: kostas.dat**
```
UIL
R2D2
COMPUTER SCIENCE
STATE CHAMPION 2017
VICTORY KING AND QUEEN
C3PO
ERROR
ZOO
SWEEP
FANNED PLANT
AMPERSAND
BRANDED
JOROR
ELIXIR
```

**Test Output To Screen**
```
(_)|1
22)2
[0^^|o(_)7XOR 5[|3^[3
57473 [#4^^|o|0^ 2017
\/|[702'/ |<|^6 4^) 9(_)33^
[3|o0
322ZOR
%00
5vv33|o
|=& |o1&
4^^|o325&
824^)*D
]02ZOR
31|><|2
```

**Problem #8**
**60 Points**

# 8. Nastya

**Program Name: Nastya.java**          **Input File: nastya.dat**

**Test Input File: nastya.dat**

```
2 4 5          2 3 3          5 1 3
3 10 8         2 6 4          4 4 4
1 5 6          3 5 3          1 5 5
1 6 6          4 3 5          2 8 6
4 7 4          4 5 5
```

**Test Output To Screen**

```
IIR  LII          IXXIR    LIXXI          IXXIR   LIXXI
II RL II          IXXI R   L IXXI         IXXI R L IXXI
II LR II          IXXI  R L  IXXI         IXXI  S  IXXI
IIL  RII          IXXI   S   IXXI         IXXI L R IXXI
II    II                                 IXXIL   RIXXI
                  IIR LII
IXIR      LIXI    II S II                 IXXXISIXXXI
IXI R     L IXI   IIL RII                 IXXXI IXXXI
IXI  R   L  IXI                           IXXXI IXXXI
IXI   R L   IXI   IIR   LII
IXI    RL   IXI   II R  L II              IXXIR LIXXI
IXI    LR   IXI   II  RL  II              IXXI RL IXXI
IXI   L  R  IXI   II   LR  II             IXXI LR IXXI
IXI  L    R IXI                           IXXIL   RIXXI
                  IXIR   LIXI
IR   LI           IXI R L IXI             IR   LI
I R L I           IXI  S  IXI             I R L I
I  S  I                                   I  S  I
I L R I           IXXIR LIXXI             I L R I
IL   RI           IXXI S IXXI             IL   RI
I      I          IXXIL RIXXI
                  IXXI    IXXI            IIR     LII
IR    LI          IXXI    IXXI            II R    L II
I R  L I                                  II  R  L  II
I  RL  I                                  II   RL   II
I  LR  I                                  II   LR   II
I L  R I                                  II  L  R  II
IL    RI
```

**Problem #9**
**60 Points**

# 9. Olga

**Program Name: Olga.java**          **Input File: olga.dat**

**Test Input File: olga.dat**
```
Olga
Isidora
Fengge
Samantha
Akio
Danna
Evelyn
Juan
Kostas
Nastya
Pedro
Roy
Abcedfghijklmnop
Zyxwv
```

**Test Output To Screen**
```
-\\"Olga"//-
=\'Isidora'/=
=\"Fengge"/=
=\\"Samantha"//=
-\"Akio"/-
-\'Danna'/-
=\"Evelyn"/=
-\"Juan"/-
=\"Kostas"/=
=\\"Nastya"//=
-\\'Pedro'//-
-\\'Roy'//-
=\"Abcedfghijklmnop"/=
-\\'Zyxwv'//-
```

**Problem #10**
**60 Points**

# 9. Pedro

**Program Name: Pedro.java          Input File: pedro.dat**

**Test Input File: pedro.dat**
```
3 orange-kitty blue-kitty white-kitty black-kitty
10 scarecrow clarissa harley simba tiger maya mojo fluffy reena lucy
2 paintjob ethel-cat spot reinma venmo carno
5 jazz austin carina daley suzy sneezy doc squirrel
1 a
1 a b
1 a b c d e f
3 a b c
3 z y x w
5 a b c d e f g
8 a b c d e f g h i j
```

**Test Output To Screen**

```
black-kitty blue-kitty orange-kitty          austin carina daley squirrel suzy
black-kitty blue-kitty white-kitty           austin carina doc jazz sneezy
black-kitty orange-kitty white-kitty         austin carina doc jazz squirrel
blue-kitty orange-kitty white-kitty          austin carina doc jazz suzy
                                             austin carina doc sneezy squirrel
clarissa fluffy harley lucy maya mojo        austin carina doc sneezy suzy
reena scarecrow simba tiger                  austin carina doc squirrel suzy
                                             austin carina jazz sneezy squirrel
carno ethel-cat                              austin carina jazz sneezy suzy
carno paintjob                               austin carina jazz squirrel suzy
carno reinma                                 austin carina sneezy squirrel suzy
carno spot                                   austin daley doc jazz sneezy
carno venmo                                  austin daley doc jazz squirrel
ethel-cat paintjob                           austin daley doc jazz suzy
ethel-cat reinma                             austin daley doc sneezy squirrel
ethel-cat spot                               austin daley doc sneezy suzy
ethel-cat venmo                              austin daley doc squirrel suzy
paintjob reinma                              austin daley jazz sneezy squirrel
paintjob spot                                austin daley jazz sneezy suzy
paintjob venmo                               austin daley jazz squirrel suzy
reinma spot                                  austin daley sneezy squirrel suzy
reinma venmo                                 austin doc jazz sneezy squirrel
spot venmo                                   austin doc jazz sneezy suzy
                                             austin doc jazz squirrel suzy
austin carina daley doc jazz                 austin doc sneezy squirrel suzy
austin carina daley doc sneezy               austin jazz sneezy squirrel suzy
austin carina daley doc squirrel             carina daley doc jazz sneezy
austin carina daley doc suzy                 carina daley doc jazz squirrel
austin carina daley jazz sneezy              carina daley doc jazz suzy
austin carina daley jazz squirrel            carina daley doc sneezy squirrel
austin carina daley jazz suzy                carina daley doc sneezy suzy
austin carina daley sneezy squirrel          carina daley doc squirrel suzy
austin carina daley sneezy suzy              carina daley jazz sneezy squirrel
```

11

```
carina daley jazz sneezy suzy                    b c d f g
carina daley jazz squirrel suzy                  b c e f g
carina daley sneezy squirrel suzy                b d e f g
carina doc jazz sneezy squirrel                  c d e f g
carina doc jazz sneezy suzy
carina doc jazz squirrel suzy                    a b c d e f g h
carina doc sneezy squirrel suzy                  a b c d e f g i
carina jazz sneezy squirrel suzy                 a b c d e f g j
daley doc jazz sneezy squirrel                   a b c d e f h i
daley doc jazz sneezy suzy                       a b c d e f h j
daley doc jazz squirrel suzy                     a b c d e f i j
daley doc sneezy squirrel suzy                   a b c d e g h i
daley jazz sneezy squirrel suzy                  a b c d e g h j
doc jazz sneezy squirrel suzy                    a b c d e g i j
                                                 a b c d e h i j
a                                                a b c d f g h i
                                                 a b c d f g h j
a                                                a b c d f g i j
b                                                a b c d f h i j
                                                 a b c d g h i j
a                                                a b c e f g h i
b                                                a b c e f g h j
c                                                a b c e f g i j
d                                                a b c e f h i j
e                                                a b c e g h i j
f                                                a b c f g h i j
                                                 a b d e f g h i
a b c                                            a b d e f g h j
                                                 a b d e f g i j
w x y                                            a b d e f h i j
w x z                                            a b d e g h i j
w y z                                            a b d f g h i j
x y z                                            a b e f g h i j
                                                 a c d e f g h i
a b c d e                                        a c d e f g h j
a b c d f                                        a c d e f g i j
a b c d g                                        a c d e f h i j
a b c e f                                        a c d e g h i j
a b c e g                                        a c d f g h i j
a b c f g                                        a c e f g h i j
a b d e f                                        a d e f g h i j
a b d e g                                        b c d e f g h i
a b d f g                                        b c d e f g h j
a b e f g                                        b c d e f g i j
a c d e f                                        b c d e f h i j
a c d e g                                        b c d e g h i j
a c d f g                                        b c d f g h i j
a c e f g                                        b c e f g h i j
a d e f g                                        b d e f g h i j
b c d e f                                        c d e f g h i j
b c d e g
```

**Problem #11**
**60 Points**

# 11. Roy

**Program Name: Roy.java**          **Input File: roy.dat**

**Test Input File: roy.dat**
```
A A Q K 10 A K K
K Q J A A A 10 J
K K Q K J J 10 A 2 2
K K K K Q Q Q A
A 2 3 4 5 6 7 8 9 10 J Q K
A 10 A 10 A 10 A 10
K Q J K Q J
A A A A A A A A A A A A A A A A
1 2 3 4 5 6 7 8 9 A A
A K Q A K Q
K K K K K K
```

**Test Output To Screen**
```
K K A A A
Q K A A A
J J K K K
K K K K A
10 J Q K A
10 A A A A
J Q Q K K
A A A A A
7 8 9 A A
Q K K A A
K K K K K
```

**Problem #12**
**60 Points**

# 12. Samantha

**Program Name: Samantha.java          Input File: samantha.dat**

**Test Input File: samantha.dat**

```
4 5 10 75 1000 25000 75000
5 6 200 300 1000 50000 200000 750000
7 7 1 5 10 400000 500000 750000 1000000
6 3 1000 10000 100000
5 5 5000 100 75 50 5
4 6 5000 400000 25000 200000 50000 100000
2 8 100000 5000 200000 1000 750000 750 1000000 50
6 5 100 1 500 500000 750000
```

**Test Output To Screen**
```
20217 1000 126608
166916 25500 1520214
378573 400000 5854388
37000 10000 194640
1046 75 7984
130000 75000 818640
257100 52500 1165960
250120 500 2367288
```