UIL Computer Science Competition

Invitational B 2018

JUDGES PACKET - 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. This packet must remain CONFIDENTIAL. Additional copies may be made and returned to schools when other confidential contest material is returned.

II. Table of Contents

Problem #1
60 Points

1. Baldo

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

Test Output To Screen

```
A 65 a 97
B 66 b 98
C 67 c 99
D 68 d 100
E 69 e 101
F 70 f 102
G 71 g 103
H 72 h 104
I 73 i 105
J 74 j 106
K 75 k 107
L 76 l 108
M 77 m 109
N 78 n 110
O 79 o 111
P 80 p 112
Q 81 q 113
R 82 r 114
S 83 s 115
T 84 t 116
U 85 u 117
V 86 v 118
W 87 w 119
X 88 x 120
Y 89 y 121
Z 90 z 122
```

Problem #2
60 Points

2. Barb

Program Name: Barb.java **Input File: barb.dat**

Test Input File:

```
red
yellow
green
orange
blue
indigo
violet
```

Test Output To Screen

```
red DER er ED
yellow WOLLEY ley LOW
green NEERG erg EEN
orange EGNARO aro NGE
blue EULB lb UE
indigo OGIDNI dni IGO
violet TELOIV oiv LET
```

Problem #3
60 Points

3. Constanza

Program Name: Constanza.java **Input File: constanza.dat**

Test Input File:

```
yellow
orange
green
indigo
green
blue
orange
green
blue
yellow
red
blue
blue
indigo
green
red
violet
yellow
indigo
red
red
yellow
orange
green
red
violet
yellow
indigo
red
red
yellow
orange
green
indigo
green
blue
orange
green
blue
yellow
red
blue
```

```
blue
indigo
green
red
violet
yellow
indigo
red
red
yellow
orange
green
indigo
green
blue
orange
green
blue
yellow
red
blue
blue
```

```
indigo
green
red
violet
yellow
indigo
red
red
yellow
orange
green
indigo
green
blue
yellow
orange
green
indigo
green
blue
yellow
orange
green
indigo
green
blue
yellow
orange
green
indigo
green
blue
```

Test Output To Screen

```
red    ****************
orange **********
yellow ***************
green  ********************
blue   ******************
indigo ***************
violet ****
```

Problem #4
60 Points

4. Dilbert

Program Name: Dilbert.java **Input File: dilbert.dat**

Test Input File:

```
Cory Randolph 10/6/2017 25.25
Idalia Sauceda 10/3/2017 15.00
Alonzo Carrasco 10/6/2017 31.10
Steve Flanary 10/2/2017 20.00
Cory Randolph 10/30/2017 18.50
Steve Flanary 10/15/2017 12.75
Cory Randolph 10/14/2017 35.90
Idalia Sauceda 10/20/2017 26.35
Toni Andrews 10/12/2017 19.14
Jeremy Riley 10/4/2017 31.95
Patricia Garza 10/28/2017 52.05
Idalia Sauceda 10/12/2017 15.00
Alonzo Carrasco 10/30/2017 37.75
Steve Flanary 10/16/2017 8.50
Ronald Meads 10/3/2017 18.45
Ronald Meads 10/28/2017 22.22
Elizabeth Perez 10/30/2017 118.90
Bernice Urteaga 10/15/2017 14.99
Patricia Garza 10/20/2017 25.15
Toni Andrews 10/30/2017 85.49
Idalia Sauceda 10/29/2017 9.50
Jeremy Riley 10/27/2017 75.50
```

Test Output To Screen

```
Elizabeth Perez
10/30/2017 $118.90
Total Sales $118.90

Jeremy Riley
10/4/2017 $31.95
10/27/2017 $75.50
Total Sales $107.45

Toni Andrews
10/12/2017 $19.14
10/30/2017 $85.49
Total Sales $104.63

Cory Randolph
10/6/2017 $25.25
10/14/2017 $35.90
10/30/2017 $18.50
Total Sales $79.65

Patricia Garza
10/20/2017 $25.15
10/28/2017 $52.05
Total Sales $77.20
```

```
Alonzo Carrasco
10/6/2017 $31.10
10/30/2017 $37.75
Total Sales $68.85

Idalia Sauceda
10/3/2017 $15.00
10/12/2017 $15.00
10/20/2017 $26.35
10/29/2017 $9.50
Total Sales $65.85

Steve Flanary
10/2/2017 $20.00
10/15/2017 $12.75
10/16/2017 $8.50
Total Sales $41.25

Ronald Meads
10/3/2017 $18.45
10/28/2017 $22.22
Total Sales $40.67

Bernice Urteaga
10/15/2017 $14.99
Total Sales $14.99

Grand Total $719.44
```

Problem #5
60 Points

5. Emily

Program Name: Emily.java Input File: emily.dat

Test Input File:

```
5 7 3
8 3 12
3 4 5
12 13 5
1 2 3
22 64 89
100 50 25
8 2 1
```

Test Output To Screen

```
18
66
17.5
62.5
4.5
3827
1875
5
```

Problem #6
60 Points

6. Fa

Program Name: Fa.java **Input File: fa.dat**

Test Input File:

```
5
1 2 3 2 1
6
3 6 3 3 5 8
6
3 3 3 3 4 3
7
1 2 3 3 2 1 5
11
4 2 3 6 5 8 7 1 4 5 4
10
1 1 1 1 1 1 1 1 1 8
12
7 3 2 3 6 5 4 7 1 4 5 4
10
4 2 3 6 5 8 7 1 4 5
6
1 2 3 4 5 1
5
1 3 5 2 2
21
4 42 27 16 28 3 4 5 9 3 31 5 5 29 10 18 35 35 33 19 41
22
23 8 32 9 5 8 18 35 13 6 7 6 1 11 13 37 2 25 7 28 43 1
2
1 2
3
3 2 1
3
5 5 9
```

Test Output To Screen

```
3 ^2 3
12 ^3 13
9 2^3 10
9 3^4 8
20 ^5 21
8 ^8 8
26 5^6 25
20 ^5 17
6 ^3 6
4 ^2 4
182 ^13 191
170 11^12 168
1 0^1 2
3 0^1 3
10 1^2 9
```

Problem #7
60 Points

7. Judith

Program Name: Judith.java **Input File: judith.dat**

Test Input File:

```
395.96774839412213864694087795
375.286439548498
8.412190040221
0.382560882678260591251068
0.23943358855017051969126499
95.9603894610254808773383 5
0.392863116206040
557.91740143772795279
46.8020528027329
0.91986136436504
0.0000
0.9521580604
773.64490843040425603301021579697
0.187708001820595693
739.1741360315400710907
4.025226420659125852271296 17
232.802415492700367772861
0.68050252998169929474
0.3564441495345752345209227900483
807.66842365890818452071720 78
197.761868293472
0.3108935600
483.40830546551955787400494793 21
50.95293053730
0.468832204284053788334730217824722
0.60561555908449111433077318 72
8.32100689835042331633682 87
502.44902871162800751706370621898744 44
5.87387860836061917395797353 24
332.90572519199569690 77
0.42649419841162344812229157682254783
```

Test Output To Screen

```
0.0000
0.187708001820595693
0.23943358855017051969126499
0.3108935600
0.3564441495345752345209227900483
0.382560882678260591251068
0.392863116206040
0.42649419841162344812229157682254783
0.468832204284053788334730217824722
0.60561555908449111433077318 72
0.68050252998169929474
0.91986136436504
0.9521580604
4.025226420659125852271296 17
5.87387860836061917395797353 24
8.32100689835042331633682 87
```

```
8.412190040221
46.8020528027329
50.95293053730
95.96038946102548087733835
197.761868293472
232.802415492700367772861
332.9057251919956969077
375.286439548498
395.96774839412213864694087795
483.40830546551955787400494793321
502.44902871162800751706370621898744444
557.91740143772795279
739.1741360315400710907
773.64490843040425603301021579697
807.66842365890818452071720078
```

Problem #8
60 Points

8. Luann

Program Name: Luann.java **Input File: luann.dat**

Test Input File:

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

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

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

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

Test Output To Screen

```
6|      X
5|    X
4|   X
3|  X  X
2| X
1|X

  _______
  1234567
=======
9|  XXX
8|
7|     X
6|
5|      X
4| X
3|
2|       X
1|X       X

  _________
  123456789
=======
```

```
1|XXXX

  ____
  1234
======
5|X
4|
3|
2|
1|

  _
  1
======
8|X
7|    X
6|  X
5| X
4|   X
3|     X
2|
1|

  ______
  123456
======
```

Problem #9
60 Points

9. Lucy

Program Name: Lucy.java **Input File: lucy.dat**

Test Input File:

```
4
13
.....................
@...................@
.@.................@.
..@...............@..
...@@@@@@@@@@@@@@@...
...@.............@...
....@..**..**..@....
....@..**..**..@....
.....@........@.....
....../@...++...@.....
.../&&@..++..@......
../&&&/@@@@@@.......
./&&&/..............
8
.............................
....____. .....................
....|    |____ ___  ________...
....|    \__  \\  \/ /\__  \..
/\__|    |/ __ \\   /  / __ \_
\________(____  /\_/  (____  /
..............\/...........\/.
.............................
8
@@@@@@@@@@@@@@@
@@@@@_____@@@@@
@@@@/>>>>>\@@@@
@@@/ (.)(.)\@@@
@@|          |@@
@@@\   OO  /@@@
@@@@\-----/@@@@
@@@@@@@@@@@@@@@
27
;;;;;;;;;;;;;;;;;;;;;;coOOkoc:::::::::::;;;;;;;;;
;;;;;;;;;;;;;;;;;;;;lxkddk@NNNNKd:;;;;;;;;;;;;;;;;
;,,,;;,,,,,;;,,;;;;;;lkOOOO@KXNWWNOc;;;;;;;;;;;;;,
,,,,,,,,,,,,,,,,,,;;;:oO@OOOO@KXNNXx:;;;;;;;;;;;,,,
,,'',,,,,,,,,'''',,;;;;:x@@@@OOO@KXN@l;;;;;;;;;,,,,,
,,,,',,,,,,,,'''''',,;;;;:x@@@@OkO@KXXOc,,;;;;,,''''',,
',,,,,,,,,,,,''''',,,,,;;:dkO@OOkO@KXN@dooc:;,''''',,
''''',,'',,,,,,,,,,,,,,;;;:cldxOO@KKXNWWWNX@ko;'',;;
,''''''''',,;;;;,,,,'''',,;;;:,;o@KKKKKXXNNXKXNKxc;;:
,'''''''',,,,,;;,,,,,,''',,;;;;,;oKNXKKKKKKkc;o@XX@d:;
''''''''',''''',,,',,,,,,,,;;,;xNWNNNNNNXXOkO@KKKOo:
''''''',;,'''''',,;;,,',,,,,,;;,:xNWWNNNNNNXXXK@OOkxl;
,'..',,,''',,',,;;,,',,;;;;;;:l@WWWNNNXXKK@Okxxdol:,
;'...''',''''',,:ldxk@@KXXKKXWWWWWNNXK@Oxdlccc::;,
''...',,,,'',cxOXNWWWWWWWWWWWWWWWNNNXXK@Okdc::;;,,
,,'..',,',cxKNWMWWWWWWWWWWWWWWWNNXXXXXXKK@Oko;,;;;;
',,''',:oONWMMWWWWWWWWWWWWNNNNXXXKKKKKK@@@Okx:,:,,,
'''''';dXWWWWWWWWWWWWWWWNNNNNNXXKKKKKKKK@@@Okkx:',,,'
''.,o@WWWWWWWWWWWWWNNNNXXXXKKKKKK@@@@@OOOkxxc'..''.
'',dNWWWNWWWWWWWWWNNNXXKKK@@@@@@OOOOOkkkkddo;...''.
,,c@WWWWNXXNWWNNNXNXXXKK@OOkxxxxxxxdoddoooc'...'..
cx@NWNNNNXKKXNNXKKXK@OOOdlol;;::clc;lolccoo,......
;dKNKkxOKKK@@XNX@@Odoxxdc,;'...';:''cll:',::'..'..
.,lkxlccdO@@OO@kddo:cool;'....',,..';,;;..':;....,
...;;,'',;lolll::c:,:loc,''..',,....'.,,...';''',
.........',,,;''',.';::,....'''...........''...','
 ........,,....''...'''...................''.'',,.
```

Test Output To Screen

```
.20
@1.18@1
.1@1.16@1.1
.2@1.14@1.2
.3@14.3
.3@1.12@1.3
.4@1.2*2.2*2.2@1.4
.4@1.2*2.2*2.2@1.4
.5@1.8@1.5
.4/1@1.3+2.3@1.5
.3/1&2@1.2+2.2@1.6
.2/1&3/1@6.7
.1/1&3/1.14
=====
.30
.4_4.1 1.20
.4|1 4|1_4 1_3 2_7.3
.4|1 4\1_2 2\2 2\1/1 1/1\1_2 2\1.2
/1\1_2|1 4|1/1 1_2 1\2 3/1 2/1 1_2 1\1_1
\1_8(1_4 2/1\1_1/1 2(1_4 2/1
.14\1/1.11\1/1.1
.30
=====
@15
@5_5@5
@4/1>5\1@4
@3/1 1(1.1)1(1.1)1\1@3
@2|1 9|1@2
@3\1 3O2 2/1@3
@4\1-5/1@4
@15
=====
;11:6;3:5c1o1O2k1o1c1:10;8
;20l1x1k1d2k1@1N4K1d1:1;4:2;10
;1,3;2,4;2,2;6l1k1O4@1K1X1N1W2N1O1c1;14,1
,17;3:1o1O1@1O4@1K1X1N2X1x1:1;5,1;5,3
,2'2,9'3,2;3:1x1@4O3@1K1X1N1@1l1;6,8
,4'1,7'5,2;3:1x1@4O1k1O1@1K1X2O1c1,2;3,2'4,2
'1,12'4,4;2:1d1k1O1@1O2k1O1@1K1X1N1@1d1o2c1:1;1,1'4,2
'4,2'2,13;3:1c1l1d1x1O2@1K2X1N1W3N1X1@1k1o1;1'2,1;2
,1'8,2;3,4'3,2;2:1;1,1;1o1@1K5X2N2X1K1X1N1K1x1c1;2:1
,1'7,4;2,5'2,3;3,1;1o1K1N1X1K6k1c1;1o1@1X2@1d1:1;1
'8,1'4,3'1,8;2,1;1x1N1W1N6X2O1k1O1@1K3O1o1:1
'6,1;1,1'5,2;1,2'1,5;2,1:1x1N1W2N6X3K1@1O2k1x1l1;1
,1'1.2'1,3'3,2'1,2;1,2'1,2;5:1l1@1W3N3X2K2@1O1k1x2d1o1l1:1,1
;1'1.3'3,1'5,2:1l1d1x1k1@2K1X2K2X1W5N2X1K1@1O1x1d1l1c3:2;1,1
'2.3'1,4'2,1c1x1O1X1N1W15N3X2K1@1O1k1d1c1:2;2,2
,2'1.2'1,2'1,1c1x1K1N1W1M1W14N2X6K2@1O1k1o1;1,1;4
'1,2'3,1:1o1O1N1W1M2W11N4X3K6@3O1k1x1:1,1:1,3
'5;1d1X1W13N6X2K8@3O1k2x1:1'1,3'1
'2.1,1o1@1W12N4X4K6@5O3k1x2c1'1.2'2.1
'2,1d1N1W3N1W8N3X2K3@6O5k4d2o1;1.3'2.1
,2c1@1W4N1X2N1W2N3X1N1X3K2@1O2k1x7d1o1d2o3c1'1.3'1.2
c1x1@1N1W1N4X1K2X1N2X1K2X1K1@1O3d1l1o1l1;2:2c1l1c1;1l1o1l1c2o2,1.6
;1d1K1N1K1k1x1O1K3@2X1N1X1@2O1d1o1x2d1c1,1;1'1.3'1;1:1'2c1l2:1'1,1:2'1.2'1.2
.1,1l1k1x1l1c2d1O1@2O2@1k1d2o1:1c1o2l1;1'1.4'1,2.2'1;1,1;2.2'1:1;1.4,1
.3;2,1'2,1;1l1o1l3:2c1:1,1:1l1o1c1,1'2.2'1,2.4'1.1,2.3'1;1'4,1
.9'1,3;1'3,1.1'1;1:2,1.4'3.11'2.3'1,1'1
 1.8,2.4'2.3'3.19'2.1'2,2.1
=====
```

Problem #10
60 Points

10. Micaela

Program Name: Micaela.java **Input File: micaela.dat**

Test Input File:

```
DEBQGLBFUE BMANOPLRSTUEVE
URPWOEGJSDLFJA RARKQENMED
QGWFEDRGQWFD ULIKJOULIKJYUKLIJ
QESSJYUBNGVLHXSLDCBWXBOMUOWWHJZNUUEUAF HSKCRTYJJL
TIMSMXWBEYZJQFWUWPGRQIEIXQ CNUPMBJADQQCVBJOHIFMTX
LKATSZHXQATSRTJFLKHUAQLXD LIKKUINCMG
RVLOXRHSBFNOZESJTKAFY TWTPMFNUDQREEOIHBQDUGPHIUTCAOIZSDDCHUMBV
NOPQRSTUVWXYZRSTUVWX ABCDEFGHIJKLMLKJABCEFDILM
GMALAKZQYAJPYAOXXQFPUOEOFLVXOACZMZBRSKCT
BQAIFIKPMHSZTQMHVKNZDQKHXKKZCTKZUHWNCQVRGGAVPMY
EJTZWCBMVBJIINHYVFDSUSVWUCWXBVJJDXWZRHLFUWISBFVK FQXBIETRCPJMPATYHQRBIIPAYCEB
CFJTPWGJCQXZNVBMTKXKDYVUZNONSTONYNSUFDT AKAJVIPLVPFUTVZHWC
KINHFWITRNQMHQCIPHIBSTKLEWRWMPC TSYGSZQJEHTBDXOKBXOGCWUPBEMBFXUX
MVIJZTQXTCUNQIIJSAGDGZRPGICCMFVQPIGKJ
GSRRAJNXUKYHPKFOBFNNPBKFLFBEPKJXBKVYJLOZNNUYVONNU
ECQSBMZPAYBLPJOOHVDSKOIVTATE NVNIBNJOEPNHRKGQHZZWWJ
```

Test Output To Screen

```
BLUE
RED
NONE
HSCJ
MBJQQIX
LKKU
ROHBOZS
NONE
QAFPZMZKCT
ETCMBIIYCB
JPVTVZ
TQHCPBEM
JXUNPFPKJ
BJOHK
```

Problem #11
60 Points

11. Nikita

Program Name: Nikita.java **Input File: nikita.dat**

Test Input File:

```
4
0 1 2 2
1 0 1 1
2 1 0 1
2 1 1 0
8
0 1 2 3 4 5 6 7
1 0 1 2 3 4 5 6
2 1 0 1 2 3 4 5
3 2 1 0 1 2 3 4
4 3 2 1 0 1 2 3
5 4 3 2 1 0 1 2
6 5 4 3 2 1 0 1
7 6 5 4 3 2 1 0
6
0 1 1 2 2 2
1 0 2 1 1 1
1 2 0 3 3 1
2 1 3 0 1 2
2 1 3 1 0 2
2 1 1 2 2 0
6
0 1 3 2 3 3
1 0 2 1 2 2
3 2 0 1 2 2
2 1 1 0 1 1
3 2 2 1 0 1
3 2 2 1 1 0
5
0 1 2 1 2
1 0 2 1 2
2 2 0 1 2
1 1 1 0 1
2 2 2 1 0
7
0 1 2 2 3 2 1
1 0 1 1 2 2 2
2 1 0 1 2 1 2
2 1 1 0 1 2 3
3 2 2 1 0 1 2
2 2 1 2 1 0 1
1 2 2 3 2 1 0
9
0 1 2 3 0 0 0 0 0
1 0 1 2 0 0 0 0 0
2 1 0 1 0 0 0 0 0
3 2 1 0 0 0 0 0 0
0 0 0 0 0 1 0 0 1
0 0 0 0 1 0 0 0 2
```

```
0 0 0 0 0 0 0 1 0
0 0 0 0 0 0 1 0 0
0 0 0 0 1 2 0 0 0
12
0 1 2 2 4 5 2 3 3 2 1 1
1 0 1 1 3 4 2 3 2 1 1 2
2 1 0 1 4 5 3 4 3 2 2 3
2 1 1 0 4 5 3 4 3 2 2 3
4 3 4 4 0 1 4 5 1 2 3 5
5 4 5 5 1 0 5 6 2 3 4 6
2 2 3 3 4 5 0 1 3 2 1 3
3 3 4 4 5 6 1 0 4 3 2 4
3 2 3 3 1 2 3 4 0 1 2 4
2 1 2 2 2 3 2 3 1 0 1 3
1 1 2 2 3 4 1 2 2 1 0 2
1 2 3 3 5 6 3 4 4 3 2 0
25
0 1 2 2 4 5 2 3 3 2 1 1 1 1 2 3 3 5 6 3 4 4 3 2 2
1 0 1 1 3 4 2 3 2 1 1 2 2 2 1 2 2 4 5 3 4 3 2 2 3
2 1 0 1 4 5 3 4 3 2 2 3 3 3 2 1 2 5 6 4 5 4 3 3 4
2 1 1 0 4 5 3 4 3 2 2 3 3 3 2 2 1 5 6 4 5 4 3 3 4
4 3 4 4 0 1 4 5 1 2 3 5 5 5 4 5 5 1 2 5 6 2 3 4 6
5 4 5 5 1 0 5 6 2 3 4 6 6 6 5 6 6 2 1 6 7 3 4 5 7
2 2 3 3 4 5 0 1 3 2 1 3 3 3 3 4 4 5 6 1 2 4 3 2 4
3 3 4 4 5 6 1 0 4 3 2 4 4 4 4 5 5 6 7 2 1 5 4 3 5
3 2 3 3 1 2 3 4 0 1 2 4 4 4 3 4 4 2 3 4 5 1 2 3 5
2 1 2 2 2 3 2 3 1 0 1 3 3 3 2 3 3 3 4 3 4 2 1 2 4
1 1 2 2 3 4 1 2 2 1 0 2 2 2 2 3 3 4 5 2 3 3 2 1 3
1 2 3 3 5 6 3 4 4 3 2 0 2 2 3 4 4 6 7 4 5 5 4 3 1
1 2 3 3 5 6 3 4 4 3 2 2 0 2 3 4 4 6 7 4 5 5 4 3 3
1 2 3 3 5 6 3 4 4 3 2 2 2 0 3 4 4 6 7 4 5 5 4 3 3
2 1 2 2 4 5 3 4 3 2 2 3 3 3 0 3 3 5 6 4 5 4 3 3 4
3 2 1 2 5 6 4 5 4 3 3 4 4 4 3 0 3 6 7 5 6 5 4 4 5
3 2 2 1 5 6 4 5 4 3 3 4 4 4 3 3 0 6 7 5 6 5 4 4 5
5 4 5 5 1 2 5 6 2 3 4 6 6 6 5 6 6 0 3 6 7 3 4 5 7
6 5 6 6 2 1 6 7 3 4 5 7 7 7 6 7 7 3 0 7 8 4 5 6 8
3 3 4 4 5 6 1 2 4 3 2 4 4 4 4 5 5 6 7 0 3 5 4 3 5
4 4 5 5 6 7 2 1 5 4 3 5 5 5 5 6 6 7 8 3 0 6 5 4 6
4 3 4 4 2 3 4 5 1 2 3 5 5 5 4 5 5 3 4 5 6 0 3 4 6
3 2 3 3 3 4 3 4 2 1 2 4 4 4 3 4 4 4 5 4 5 3 0 3 5
2 2 3 3 4 5 2 3 3 2 1 3 3 3 3 4 4 5 6 3 4 4 3 0 4
2 3 4 4 6 7 4 5 5 4 3 1 3 3 4 5 5 7 8 5 6 6 5 4 0
```

Test Output To Screen

```
least degree       0.33 A
greatest degree    1.00 B
least closeness    0.60 A
greatest closeness 1.00 B
---
least degree       0.14 AH
greatest degree    0.29 BCDEFG
least closeness    0.25 AH
greatest closeness 0.44 DE
---
least degree       0.40 ACDEF
greatest degree    0.80 B
```

```
least closeness    0.50 C
greatest closeness 0.83 B
---
least degree       0.20 AC
greatest degree    0.80 D
least closeness    0.42 A
greatest closeness 0.83 D
---
least degree       0.25 CE
greatest degree    1.00 D
least closeness    0.57 CE
greatest closeness 1.00 D
---
least degree       0.33 AEG
greatest degree    0.50 BCDF
least closeness    0.55 AEG
greatest closeness 0.67 BCF
---
least degree       0.13 ADFGHI
greatest degree    0.25 BCE
least closeness    1.33 AD
greatest closeness 8.00 GH
---
least degree       0.09 FHL
greatest degree    0.45 B
least closeness    0.24 F
greatest closeness 0.52 BK
---
least degree       0.04 MNOPQRSTUVWXY
greatest degree    0.25 B
least closeness    0.18 S
greatest closeness 0.43 BK
---
```

Problem #12
60 Points

12. Peter

Program Name: Peter.java **Input File: peter.dat**

Test Input File:

```
11
1 3 5
70
1 5 10 25 50 100
131
1 4 9 14 22 53
5
1 3 5
8
1 3 5
399
1 5 10 25 50 100
231
1 4 9 14 22 53
98
1 4 9 14 22 53
99
1 4 9 14 22 53
100
1 4 9 14 22 53
101
1 4 9 14 22 53
103
1 4 9 14 22 53
106
1 4 9 14 22 53
107
1 4 9 14 22 53
99999
1 99990
```

Test Output To Screen

```
11 3 1 5 5
70 3 10 10 50
131 6 1 1 1 22 53 53
5 1 5
8 2 3 5
399 11 1 1 1 1 10 10 25 50 100 100 100
231 7 1 4 14 53 53 53 53
98 4 1 22 22 53
99 5 1 1 22 22 53
100 6 1 1 1 22 22 53
101 4 4 22 22 53
103 6 1 1 4 22 22 53
106 2 53 53
107 3 1 53 53
99999 10 1 1 1 1 1 1 1 1 1 99990
```