University Interscholastic League

Computer Science Competition

2015 Regional Programming

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

1. Codebreaker

Program Name: Codebreaker.java Input File: codebreaker.dat

Judges Input

```
80 20
logperches
mandaean
mediatization
mysticize
overrode
nonbodily
nonstatutory
nonillion
obsequious
oncoming
outlaunch
pepping
angie
airmail
alliterate
aquilo
acholia
betook
burkburnett
cannoneer
captivative
carthage
celeste
chaparejos
tactile
titman
toothsome
unclassical
uncramped
unlathered
unsatisfactorily
uphove
vaporescence
vista
vociferator
windbaggery
zoogleal
relist
remasticating
resecuring
presurgery
proappointment
pseudohemophilia
coinciding
deflationist
denazifying
diarrheal
duodiode
eadie
elided
rupiah
scrubwomen
semel
subpellucidity
snowbell
sockeye
```

spirometric
stover
superbly
superresponsibility
featureless
fertilizer
goidelic
gothard
gray
formaldehyde
frannie
harasser
hermitry
homoiotherm
hustle
interactionist
margarite
medially
nemathecial
outlawry
asteriated
staurolite
gangrene
hadar
pnwmg qnjqzmnw zgumpllr jypfpvgoqe gpumg igvhmlmcgv bmnuapwwgvr tfyqsg fgffmnw zpvwpvmhg
qfumkpbqpu ejjbymxeym upvmxfji texlexbym cqcuyeypyqxi vumpuqnmtqvnbjbe uyepxqjbym dmeypxmjmuu umtmj hmjmuym
dgihdgk uxgwekgm kxuleimves ekgwew peqxxb pnibpniaeqq nlvxje oeiqgkgqei snleiieslxasgpgkgqr vxhxgxqveih
dxxwlqql oqzqejoigw qllifqoqfq zgxnhqll ujxuixuq zjhtqlljeiuifc gxghxuilc vquiqllc zfxrqo qgwiq
wdaniglsgae mauhfdtt caztnmmgznt hgawfneedks wcuwguwd znkvrned nttgvdknvd nzrutgn okunoougavqdav vgvqna
asfelqfi csfqlmlpsf zwlfdesqflx bvmjqasfsh csjqbfsmszz qjxqlms zbwsfgmi ufji wzsbhdasedwalmlj hscmjqldvlzq
rgguqslrqs fyprqupvrcqblugd sgujsj srjus ysorqnscurg pfhsltgd quqory hpsfjbnsobhnugur vsrqflsgspp pqbxsl
jpcuiyj ukqffulq xqjgdfqiqbb jiiygqfjgq huhyiiyuh jbgqfyjgql dmcukq gjpgyiq uqguur lqxijgyuhybg
nacgbyatvgw kbhdai easwgbvhnvkb bgtbvwa rgnriana iawvkb gkbaivgbae tgzbvdgbvda ygigkkai gnrva
mllmtglpi kllnhiyh glfeidi tlplrlmtiwp tiwprmwd abgymrgzyfmlwrhd blbgmymamlwd pybuyiyb uizhymrlbrgm wipygmrfymrbn
dnzqnw kduhhqn kndwqzqpnd ysuoudnftn ynznnwn aqhxjurrndi mnxquzzi yuhhthnnd jvdgjvdhnww nwtlnd
scwkkpd ardccayd dwypd tswnwcdbav ydkwopsupkl pkmdcwtmpakpvm lcwu kdjwmsdtpwg yeaypayd nvdeyasdjanspgpw
yewmitcwyaeykw qfkwycybm qmjytddf kwanmi ftefimem cayecyjyef vmwaau eaevajydf kwtriadywm cmdmkwm
jkjhyiyaykoq iblkrsi oweihysbiysjx taktsktw hkbgwqw azlkvw kjbkesjx hazwoowhzkjhscsrsyq ajbrihhsbir lkekskylwoe
ytgsvxikhinx nrbtmjkcth cvbdvbixt vhdit btntrtbihd dvhdbtht ktxsvjbf rvwxilvxilt thrbvcwty cfnxiript
kzeddsgei ypwcznzug jeojdgog ensaize sedewwgd iajmgdnsgw gekzg wgygi drmzes atgddakg afsbbiwsc ztlgwdw zlbekmtpwo mfoaksqqwbd zerwbkcd isbszzwb sfbpsfc szxwbfsxwa zxsebtcfxw xttxiztpw
swxumcfqwi jdxlxmircs yccofixf eikfxwqcoqsw jxmwdxoi lmcxllcqowniow duswfi ocoswxwuwcmt xswimqxwie uojfxssqjxf
lgldfjfifgwo eajfiwamadd wihnjz cigcngca kgfzjwc gifmjpwo ilswjthac sjwfzjka wamndf hwadiwkawo
udrludrksff qzbysnbp jsybcfbecfbzk tfzisr tkzousnn kzktfcfdfzrg yskcebwgbkq dkpncttbpcn usfzzl zkpzjbkq

Judges Output

```
angie oncoming medially chaparejos eadie fertilizer windbaggery uphove pepping
margarite
Unable to decrypt message.
Unable to decrypt message.
Unable to decrypt message.
denazifying snowbell unclassical windbaggery duodiode carthage alliterate acholia
proappointment titman
hermitry fertilizer spirometric unlathered featureless tactile superbly gray
pseudohemophilia deflationist
alliterate unsatisfactorily elided eadie nemathecial superbly titman pseudohemophilia
featureless stover
Unable to decrypt message.
nemathecial stover deflationist tactile gangrene relist asteriated captivative harasser
angie
toothsome zoogleal sockeye homoiotherm hermitry unsatisfactorily nonstatutory mandaean
deflationist remasticating
Unable to decrypt message.
Unable to decrypt message.
Unable to decrypt message.
nonstatutory acholia remasticating duodiode sockeye uphove oncoming superresponsibility
unclassical homoiotherm
Unable to decrypt message.
diarrheal mysticize gangrene acholia harasser logperches eadie semel rupiah overrode
diarrheal sockeye scrubwomen windbaggery superbly harasser airmail asteriated
staurolite toothsome
Unable to decrypt message.
nonstatutory featureless rupiah duodiode gothard outlawry uncramped carthage relist
presurgery
burkburnett goidelic mediatization stover snowbell nonstatutory denazifying unclassical
betook oncoming
```

2. Code Quality

Program Name: CodeQuality.java Input File: codequality.dat

Judges Input

```
10
1
(map #(str "Hello " % "!" ) ["Ford" "Arthur" "Tricia"])
3
(apply map vector [[:a :b :c]
                   [:d :e :f]
                   [:g :h :i]])
2
def fib (cons 1 (cons 1
    (lazy-seq (map + fib (rest  fib))))))
1
([})
1
([])
9
(defn bake
  "Bakes a cake for a certain amount of time, returning a cake with a new
  :tastiness level."
  [pie temp time]
  (assoc pie :tastiness
         ((condp (* temp time) <
           400 :burned
           350 :perfect
           300 :soggy)))
1
{
3
{
]
}
1
]
2
([][]{}()[]
[()]{[]}())
```

Judges Output

```
YES 4 () 2 [] 0 {}
YES 2 () 8 [] 0 {}
NO 63
NO 2
YES 2 () 2 [] 0 {}
NO -1
NO -1
NO 1
NO 0
YES 8 () 10 [] 4 {}
```

3. Espionage

Program Name: Espionage.java Input File: espionage.dat

Judges Input

```
10
ab
9798
ab
12194
34508393
9087
asldkjf9q923r98fasdflhadsfhadsfkhakdfjhalkjdfhalkjshf0892347hjd&alsdf
99999
nn7
55
1234567890!@#$%^&*()ASDFGHJKLLZXCVBNM<>>?{}|L:">?[]\;'./
`qwertyuiopppppp[]\asdfghjkl;'zxcvbnm,./`asdfghjkll;qwertyuiop
99998
342
1
a
5
30
4
aslkdfjalkfj alsdkjflakdjfasldfj alskdjfals;dfj
345
```

Judges Output

```
0
9798
8492
73349
0
5194
0
2
0
221
```

4. Fibonacci

Program Name: Fibonacci.java Input File: fibonacci.dat

Judges Input

```
10
4
9
1
37
49
10
20
30
40
50
```

Judges Output

```
4
99
0
78176299
25172537999
166
21870
2692506
331160240
40730022096
```

5. Fractal

Program Name: Fractal.java Input File: fractal.dat

Judges Input

```
5
1 3
X -> X X
1 1
X
1 2
X
2 1
X X
1 1
A -> A B
1 5
A
3 3
K -> L K Q
Q -> T T Q
T -> T L C
2 3
K T
2 4
T Q
3 3
T C Q
6 5
A -> O M
J -> I
F -> Z R
I -> I F
T -> I V F
M -> I N
4 4
A J I T
3 1
F A N
3 4
L A Z
1 3
T
3 3
N T F
10 10
I -> S F
S -> U I
H -> D L V
W -> Y D
D -> W
T -> T
B -> R
F -> S A D
K -> U S
Y -> Y G H
3 1
S Q I
2 5
L D
2 4
D K
```

```
2 4
A S
4 2
D A F G
4 2
H S Q Y
4 1
A D Y F
1 5
S
4 3
W D G R
3 5
H S G
```

Judges Output

```
Fractal #1:
X X
X X X X
X X X X
Fractal #2:
A B B B B B
Fractal #3:
L L L K Q T T Q T L C T L C T T Q T L C L C L C
T L C L C L C L C T L C L C L C T L C L C L C T L C L C T L C L C T L C T L C T T Q
T L C L C L C C T L C L C T L C L C T L C T L C T T Q
Fractal #4:
O I F Z R N I F Z R Z R I F Z R Z R Z R I F Z R Z R V Z R
Z R O M N
L O I F Z R N Z
I F Z R V Z R
N I F Z R V Z R Z R
Fractal #5:
U I Q S F
L Y G H G D L V G W L V Y G H W
Y G H G D L V Y D U U U I S A D
A U U S F U I A W
Y D A U I A W G
W L V U S F Q Y G H G D L V
A W Y G H S A D
U U U I S A D U S F A Y D
Y G H G D L V Y D Y G H W G R
Y G H G D L V Y D L V U U U I S A D U S F A Y D G
```

6. Fraction Addition

Program Name: FractionAdd.java Input File: fractionadd.dat

Judges Input

```
9
1 / 5 + 6 / 5 ? 1 / 1
4 / 5 + 2 / 1 + 1 / 3 ? 1 / 4 + 3 / 4 + 1 / 3
3 / 2 + 5 / 4 ? 5 / 3 + 10 / 8
1 / 10 + 2 / 10 ? 6 / 20
17 / 28 + 13 / 12 + 26 / 17 + 13 / 10 ? 3 / 8  + 21 / 20
17 / 1 + 7 / 23 + 17 / 12 + 9 / 28 ? 1 / 7 + 3 / 14 + 4 / 13 + 30 / 13 + 13 / 19
2 / 1 + 17 / 2 + 23 / 10 + 2 / 11 + 2 / 1 ? 3 / 5 + 6 / 1 + 24 / 17
7 / 9 + 4 / 3 ? 17 / 2
16 / 29 + 16 / 23 + 15 / 19 + 28 / 17 + 27 / 13 ? 30 / 1 + 30 / 1 + 30 / 1 + 30 / 1 +
30 / 1
```

Judges Output

```
7/5 > 1/1
47/15 > 4/3
11/4 < 35/12
3/10 = 3/10
8068/1785 > 57/40
18395/966 > 12645/3458
824/55 > 681/85
19/9 < 17/2
16134552/2800733 < 150/1
```

7. Lineup

Program Name: Lineup.java Input File: lineup.dat

Judges Input

```
6
2
David Smith 66
Andrew John 65
5
Josh Smith 67
John Smith 67
Jake Smithman 67
Jack Smith 65
Jacob Smith 75
10
Elroy Elizondo 56
Sherman Dilworth 57
Marc Albin 69
Jerrold Haefner 61
Miquel Gouin 65
Francesco Bien 46
Luis Cordoba 54
Daniel Stookey 59
Jeromy Amar 61
Erick Wolters 54
10
Arnoldo Stookey 58
Henry Dilworth 57
Art Klingensmith 61
Jeromy Sattler 56
Rico Heavener 63
Vincent Haefner 53
Patricia Klingensmith 53
Patricia Heim 64
Weldon Logston 71
Miquel Dilworth 84
10
Gus Benedetto 61
Chase Bartol 61
Marc Houde 78
Jospeh Bartol 45
Miquel Markel 71
Erick Elizondo 63
Aubrey Heavener 68
Tracy Heavener 48
Arnoldo Dilworth 79
Luis Mainer 73
15
John Lee 68
Jaime Rivera 65
Josh Slocum 67
David Wetterau 72
Arnav Sastry 70
Tres Popp 73
Josh Sastry 70
David Rivera 66
Jaime Lee 50
Dillon Wetterau 67
Tres Slocum 66
Jaime Sastry 73
Josh Lee 65
```

```
David Slocum 67
John Popp 72
```

Judges Output

```
Test Case #1:
Andrew John
David Smith
Test Case #2:
Jack Smith
John Smith
Josh Smith
Jake Smithman
Jacob Smith
Test Case #3:
Francesco Bien
Luis Cordoba
Erick Wolters
Elroy Elizondo
Sherman Dilworth
Daniel Stookey
Jeromy Amar
Jerrold Haefner
Miquel Gouin
Marc Albin
Test Case #4:
Vincent Haefner
Patricia Klingensmith
Jeromy Sattler
Henry Dilworth
Arnoldo Stookey
Art Klingensmith
Rico Heavener
Patricia Heim
Weldon Logston
Miquel Dilworth
Test Case #5:
Jospeh Bartol
Tracy Heavener
Chase Bartol
Gus Benedetto
Erick Elizondo
Aubrey Heavener
Miquel Markel
Luis Mainer
Marc Houde
Arnoldo Dilworth
Test Case #6:
Jaime Lee
Josh Lee
Jaime Rivera
David Rivera
Tres Slocum
David Slocum
Josh Slocum
Dillon Wetterau
John Lee
Arnav Sastry
Josh Sastry
John Popp
David Wetterau
Tres Popp
Jaime Sastry
```

8. Pattern

Program Name: Pattern.java Input File: pattern.dat

Judges Input

```
11
ABBA
hello world world hello
RAD
happy happy day
NEVER
foo bar baz qux waldo
ABCD
not long enough
ABCBA
this is not is this
ZYZZYVA
last word last last word dictionary this
ABBR
this is not good
ABCDECFFGECFDFC
how much wood would a wood chuck chuck if a wood chuck would chuck wood
ABA
more no no
WUT
also no no
FOO
this should fail
```

Judges Output

```
Matches
Does Not Match
Does Not Match
Does Not Match
Matches
Matches
Does Not Match
Matches
Does Not Match
Does Not Match
Does Not Match
```

9. Railroad

Program Name: Railroad.java Input File: railroad.dat

Judges Input

```
10
1 1 1
0 0 1 1
2 1 0
3 3 2
0 0 1 1
2 2 1 1
3 3 2
0 0 1 1
2 1 1 2
10 10 5
8 1 1 1
0 0 9 7
6 4 3 4
2 1 1 8
0 6 3 1
20 20 10
3 2 7 9
11 2 6 9
0 4 18 11
9 2 1 6
5 11 14 7
11 5 3 2
13 3 4 11
3 3 8 13
4 1 5 7
6 4 6 3
100 100 15
90 26 6 22
11 35 65 54
16 46 25 16
5 8 77 44
2 5 31 61
59 37 31 56
13 23 37 57
31 13 54 32
61 0 27 44
49 35 21 38
49 40 48 17
5 51 56 9
55 4 1 5
46 43 7 28
62 14 2 43
1000 1000 30
279 5 192 905
749 0 109 417
173 155 794 182
735 270 190 459
461 473 329 255
61 724 28 207
182 124 226 290
228 819 285 82
872 329 114 586
232 137 20 371
266 102 492 427
174 159 182 198
81 280 370 488
432 337 42 229
```

```
715 413 155 148
217 276 114 661
601 369 260 134
37 272 810 288
337 288 143 300
753 125 86 676
288 634 401 35
360 90 149 125
46 279 332 699
524 543 296 140
58 4 830 40
782 306 116 540
609 433 223 448
162 271 156 310
211 870 517 117
243 428 86 468
10000 10000 30
3808 2406 1167 1182
6102 5580 3769 4381
4595 4749 1557 273
1962 2765 687 6820
4895 2179 1185 4500
8071 1956 755 5043
2573 1784 56 7471
2861 3243 2744 5353
3271 5314 2277 2969
3891 5295 2445 830
3878 3367 2096 4501
165 213 835 3446
1809 3737 1733 6201
5401 1149 1062 4792
2182 2603 7660 2616
1117 1671 2346 2953
2852 2978 1509 6361
6041 2824 2877 6960
7954 1730 287 6931
925 7319 1434 493
1444 3207 5274 1368
210 3642 2613 4316
1438 1242 4705 8288
2475 5729 5576 3139
43 5576 8464 1
2012 3867 650 3090
498 6748 3027 1717
234 4702 8475 3437
2666 8622 2084 454
3475 1780 6038 1176
100000 100000 10
4069 24604 63827 26897
19324 75841 38643 12812
10929 26876 82479 50745
60622 37677 29444 29960
40468 47012 23184 41649
53748 3692 10341 69707
68838 15812 20235 78085
12202 53772 26314 45242
73881 63668 17006 30459
12704 2945 43206 43000
```

Judges Output

```
0
3
2
1
2
4
12
64
424
14592
```

10. Sur

Program Name: Sur.java Input File: sur.dat

Judge's Input File

```
Andropov
Sharapova
Kournikova
Bobrov
Pakhomova
Yefimov
Gachev
Voskoboynikov
Nikitin
Severova
Gorshkov
Taushev
Misalova
Gerasimov
Chendev
Chaykovsky
Shirmanova
Snatkin
Dubinin
Turfanova
Knyazev
Smagin
Loskutnikov
Chuzhinova
Kolesnikov
Khokhlachev
Mihaylovna
Mosalev
Alliluyev
Ivakin
Davydkin
Duranichev
Batishchev
Strekalova
Shulgin
Kulagin
Sevostyanova
Sergeyev
Tseydlits
Kedrov
Smeshnoy
Eybozhenko
Chayka
Krivkov
Baranovsky
Shulichenko
Desyatkov
Balakin
Shelagin
Pevchikh
```

Judge's Output to Screen

```
11 10 29
```

11. Toffee

Program Name: Toffee.java Input File: toffee.dat

Judges Input

```
5
3
4 9 2
3 5 7
8 1 6
4
1 2 3 4
8 7 6 5
9 1 2 3
7 6 5 4
5
14 22 43 27  8
33 19  7 13 41
37 17 37  3 31
 5  9 16 18  2
 6 24 20 23 29
7
 1  2  3  4  5  6  7
 2  4  6  8 10 12 14
 3  6  9 12 15 18 21
 4  8 12 16 20 24 28
 5 10 15 20 25 30 35
 6 12 18 24 30 36 42
 7 14 21 28 35 42 49
10
10 48  1 50 15 36  2 11 16 47
22 36 46 32  9 19 27 25 34  2
 4  7 34 17 13 26 44  1 48  6
 5 24 26  4 15  3 18  7  9 43
24 12  3 20 12 11  5 37  2 27
37  4 42  8  6 14 17 34 40 15
 8 16  6 30 23 24  1  6 23 31
10 35 16 46  2  7 29 48 50 14
 9 45 20 13  8 45 18 22  3  4
29 38  7 24 44  9 32 19 13 28
```

Judges Output

```
22
25
134
196
332
```

12. Tri

Program Name: Tri.java Input File: tri.dat

Judge's Input File

```
1 2 3
2 2 3
3 3 6
3 7 3
3 2 2
14 12 17
8 8 5
10 7 2
87235612 83716253 2938475647
1234567890987654321 1234567890987654321 1234567890987654322
100000000000000000000000 999999999999999999999999 999999999999999999999998
100000000000000000000000 9999 999999999
```

Judge's Output to Screen

```
1 2 3 NO
2 2 3 YES
3 3 6 NO
3 3 7 NO
2 2 3 YES
12 14 17 YES
5 8 8 YES
2 7 10 NO
83716253 87235612 2938475647 NO
1234567890987654321 1234567890987654321 1234567890987654322 YES
999999999999999999999998 999999999999999999999999 100000000000000000000000 YES
9999 999999999 100000000000000000000000 NO
```