A+ Computer Science
Hands-On Programming Set

JUDGES PACKET

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Problem #1
60 Points

Most Value

Test Input File - most_value.dat
```
5 5
1 2 3 4 5 6 7 8 9 1 2 2
8 5 8 5 5 5 5 1 4 7 8 9 6
111 111 222 222 141 142 222
```

Test Output To Screen
```
5 accounts for 20 of the sets total value of 50
1 accounts for 5 of the sets total value of 9
88 accounts for 264 of the sets total value of 692
```

Problem #2
60 Points

Register

Test Input File - register.dat
```
19.99 1 0 0 0 0 1 0 1
.35 0 0 0 0 0 0 1 30
5.00 0 0 0 4 1 0 0 0
```

Test Output To Screen
```
Over $0.12
Correct
Missing $0.75
```

Problem #3
60 Points

Card Sort

Test Input File – card_sort.dat
```
power/1/2
moc/1/2
axe/1/2
cak/0/3
boot/2/1
sap/4/2
rip/3/3
hammer/3/5
```

Test Output To Screen
```
8 (hammer/3/5)
6 (sap/4/2)
6 (rip/3/3)
3 (boot/2/1)
3 (axe/1/2)
3 (moc/1/2)
3 (power/1/2)
3 (cak/0/3)
```

Problem #4
60 Points

Octagon Side Length

Test Input File - octagon.dat
```
7
100
5.5423
17.17
845369
555
1205
842
```

Test Output To Screen
```
4.55
1.07
1.89
418.43
10.72
15.80
13.21
```

Problem #5
60 Points

Rearrange

Test Input File – rearrange.dat
```
I
like to eat
Cheese it tastes really yummy
do you like it as much as i do
we should have a party with a ton of it
the party will not be fun without jimmy
```

Test Output To Screen
```
I
ilek to tae
ehCese it satset aeryll yummy
do uoy ilek it as umhc as i do
we ohsdlu ahev a yartp iwht a not of it
eht yartp iwll ton be nuf tithouw yimmj
```

Problem #6
60 Points

Cave Adventure

Test Input File – cave_adventure.dat
```
WS-G-G-W
WWWWWWGW
WW-G-G-W
WWGWWWWW
WW-WWWWW
WW-WWWWW
WW-EWWWW
WWWWWWWW
-
S-------
--------
--------
--------
--------
--------
--------
-------E
-
WWWWWWWW
WWWWWWWW
WWWWWWWW
EWS--WWW
GW--WWWW
G----WWW
WWWWWWWW
WWWWWWWW
-
S-------
--------
--------
--------
--------
--------
-------G
------GE
-
S-------
--------
--------
--------
--------
--------
-------W
------WE
```

Test Output To Screen
```
Solvable
Solvable
No Solution
Solvable
No Solution
```

Problem #7
60 Points

Lost City

Test Input File – lost_city.dat
```
5-6:8.5
12-10:5501.16/2:2000.88/1:3000.22/1:2000.57
4-1:1/1:2.17/2:2.57/2:5/2:2.11/1:6.54
8-2:5501/2:2000/1:3000/1:2000/1:54.22/1:2000.64
```
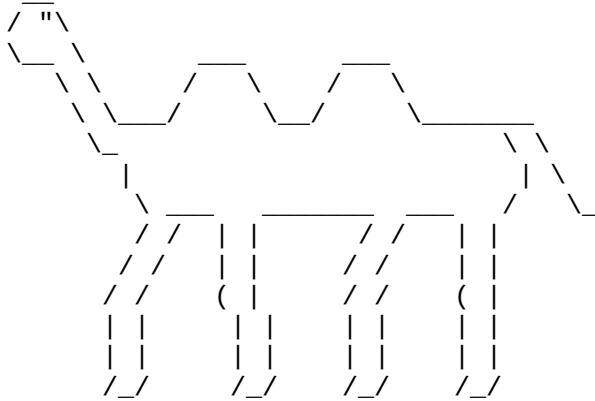
Test Output To Screen
```
You grabbed $0.00 worth of artifacts.
You grabbed $10501.95 worth of artifacts.
You grabbed $13.71 worth of artifacts.
You grabbed $14555.86 worth of artifacts.
```

Problem #8
60 Points

Camel

No Data File

Test Output To Screen

```
      __
    /   "\
    \__ \
       \ \     __       __
        \ \__/    \__/    \
         \_                 \ \
          |                  | \
           \ ___ ___ ___ ___  /  \_
           / /   | |   / /   | |
          / /    | |  / /    | |
         / /    ( |  / /    ( |
         | |     | | | |     | |
         | |     | | | |     | |
         /_/     /_/ /_/     /_/
```

Problem #9
60 Points

Bumps

Test Input File - bumps.dat
```
G
A/C - 10
A/B - 8
C/M - 2
B/C - 6
B/D - 9
B/G - 14
B/R - 7
R/Q - 7
Q/G - 3
C/M - 2
M/D - 1
D/G – 4
```

Test Output To Screen
```
ACMDG
```

Problem #10
60 Points

Safest Path

Test Input File – safest_path.dat
WWWWWWWW
WRRRWWWW
WSWBWEWW
WGTBGGWW
WWGWWWWW
WWGWWWWW
WWWWWWWW
WWWWWWWW
 -
SBBBRWWW
GTTTRWWW
GWRBRWWW
WWRWWWWW
WWRWWWWW
WRGWWWWW
WRRRRRRW
WWWWWWEW
 -
WWWWWWWW
RBBERRWW
RWWTWRRW
RBBBGRRW
WSRRRRRW
WWWWRRRW
WWWWWWWW
WWWWWWWW

Test Output To Screen
9
24
8

Problem #11
60 Points

Forrest

Test Input File - forest.dat
7 5 4 3 2 1 0 1

Test Output To Screen
```
   /\
  /  \
 /_  _\    /\
 /  \   /  \
/_  _\ /_  _\    /\
 /  \  /  \   /  \
/_  _\ /_  _\ /_  _\    /\
 /  \  /  \  /  \   /  \
/_  _\ /_  _\ /_  _\ /_  _\    /\                /\
 /  \  /  \  /  \  /  \   /  \              /  \
/_  _\ /_  _\ /_  _\ /_  _\ /_  _\          /_  _\
   ||     ||     ||     ||     ||              ||
   ||     ||     ||     ||     ||              ||
01234567890123456789012345678901234567890123456789010223
```

Problem #12
60 Points

Album Length

Test Input File – album_length.dat
```
5
rock sticks, 4:54
hammer time, 3:14
rain, 5:53
the long ballad, 9:18
turtle battle, 2:41
```

Test Output To Screen
```
The album length is 26:00
```