

UCP Report

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1 Purpose of Functions

2 Conversion of Input File to Coordinate System

3 Sample Input and Output

All test results are generated from the TreasureHunter binary. This is called with the arguments:

```
./TreasureHunter <map file> <list file>
```

A script to run these tests is located in test/all_tests.sh. There is no user input for any test cases. If example output from adventure.log is not provided, it should be assumed that the binary does not provide log file output for that test case.

The TreasureHunterLog binary will produce the same output as the TreasureHunter binary, except any output to the log file (adventure.log) is also output to stdout. This is done real time; as lines are printed to the log file, the same content is printed to stdout.

The TreasureHunterAI binary is assumed to produce the same output as the TreasureHunter binary, unless otherwise stated.

3.1 Example Input from Assignment Brief

Map

```
5,4
,,C 200,
,G Vibranium Shield:hands:990,,C 50
M Healing Potion:85,,M Defence Enchantment:360,
'',
,,G Lightsaber:hands:850,
```

List

```
DOWN 2
RIGHT 2
DOWN 2
up 0
LEFT 1
UP 3
right 0
RIGHT 2
```

stdout

```
STATUS: COMPLETE
COINS: 50
MAGIC: 445
GEAR: 990
```

Log file

```
---
COLLECT<ITEM:MAGIC, XLOC:2, YLOC:0, DESCRIPTION:Healing Potion,
    ↳ VALUE:85>
COLLECT<ITEM:MAGIC, XLOC:2, YLOC:2, DESCRIPTION:Defence
    ↳ Enchantment, VALUE:360>
COLLECT<ITEM:GEAR, XLOC:4, YLOC:2, DESCRIPTION:Lightsaber, SLOT:
    ↳ hands, VALUE:850>
COLLECT<ITEM:GEAR, XLOC:1, YLOC:1, DESCRIPTION:Vibranium Shield,
    ↳ SLOT:hands, VALUE:990>
DISCARD<ITEM:GEAR, XLOC:1, YLOC:1, DESCRIPTION:Lightsaber, SLOT:
    ↳ hands, VALUE:850>
COLLECT<ITEM:COINS, XLOC:1, YLOC:3, VALUE:50>
```

3.2 Out of Bounds

3.2.1 TreasureHunter

Map

```
7,3
,g Thorn armour:CheST:120,C 200
,G Vibranium Shield:hands:990,
M Healing Potion:85,,M Defence Enchantment:360
,m Phoenix Blood:291,
,g IDEK_ANYMORE:heaD:21,G Lightsaber:hAnDs:850
c 350,g Crimson Plate:cHeSt:1020,
,G Infinity Pants:leGS:30000,
```

List

```
LEfT 3
RIGHT 1
down 2
LEfT 5
RIGHT 20
left 1
DOWN 100
UP 2000
```

stdout

```
STATUS: FAILED
```

Log file

```
---
```

3.2.2 TreasureHunterAI

Map

```
7,3
,g Thorn armour:CheST:120,C 200
,G Vibranium Shield:hands:990,
M Healing Potion:85,,M Defence Enchantment:360
,m Phoenix Blood:291,
,g IDEK_ANYMORE:heaD:21,G Lightsaber:hAnDs:850
c 350,g Crimson Plate:cHeSt:1020,
,G Infinity Pants:leGS:30000,
```

List

```
LEfT 3
RIGHT 1
down 2
LEfT 5
RIGHT 20
left 1
DOWN 100
UP 2000
```

stdout

```
STATUS: CORRECTED
COINS: 0
MAGIC: 736
GEAR: 32031
```

Log file

```
---
COLLECT<ITEM:GEAR, XLOC:0, YLOC:1, DESCRIPTION:Thorn armour, SLOT
    ↪ :chest, VALUE:120>
COLLECT<ITEM:GEAR, XLOC:1, YLOC:1, DESCRIPTION:Vibranium Shield,
    ↪ SLOT:hands, VALUE:990>
COLLECT<ITEM:MAGIC, XLOC:2, YLOC:0, DESCRIPTION:Healing Potion,
    ↪ VALUE:85>
COLLECT<ITEM:MAGIC, XLOC:2, YLOC:2, DESCRIPTION:Defence
    ↪ Enchantment, VALUE:360>
COLLECT<ITEM:MAGIC, XLOC:3, YLOC:1, DESCRIPTION:Phoenix Blood,
    ↪ VALUE:291>
COLLECT<ITEM:GEAR, XLOC:4, YLOC:1, DESCRIPTION:IDEX_ANYMORE, SLOT
    ↪ :head, VALUE:21>
COLLECT<ITEM:GEAR, XLOC:5, YLOC:1, DESCRIPTION:Crimson Plate,
    ↪ SLOT:chest, VALUE:1020>
DISCARD<ITEM:GEAR, XLOC:5, YLOC:1, DESCRIPTION:Thorn armour, SLOT
    ↪ :chest, VALUE:120>
COLLECT<ITEM:GEAR, XLOC:6, YLOC:1, DESCRIPTION:Infinity Pants,
    ↪ SLOT:legs, VALUE:30000>
```

3.3 Empty List

Map

```
5,4
,,C 200,
,G Vibranium Shield:hands:990,,C 50
M Healing Potion:85,,M Defence Enchantment:360,
'',
,,G Lightsaber:hands:850,
```

List

stderr

```
File <list file> was empty.
```

3.4 Invalid Direction

Map

```
5,4
,,C 200,
,G Vibranium Shield:hands:990,,C 50
M Healing Potion:85,,M Defence Enchantment:360,
',',
,,G Lightsaber:hands:850,
```

List

```
LEFT 3
riGhtt 1
DOWN 2
LEFT 5
RIGHT 20
NOrth 1
DOWN 100
UP 2000
```

stderr

```
Invalid direction  
At line 2.
```

3.5 Invalid Distance

Map

```
5,4  
,,C 200,  
,G Vibranium Shield:hands:990,,C 50  
M Healing Potion:85,,M Defence Enchantment:360,  
,,  
,,G Lightsaber:hands:850,
```

List

```
DOWN 2  
RIGHT 2  
DOWN %s  
up 0  
LEFT 1  
UP 3  
right 0  
RIGHT 2
```


stderr

```
Distance must be an integer
At line 3.
```

3.6 No Space in List

Map

```
5,4
,,C 200,
,G Vibranium Shield:hands:990,,C 50
M Healing Potion:85,,M Defence Enchantment:360,
'',
,,G Lightsaber:hands:850,
```

List

```
DOWN 2
RIGHT 2
DOWN 2
up 0
LEFT1
UP 3
right 0
RIGHT 1
```

stderr

```
No space  
At line 5.
```

3.7 Negative Distance

Map

```
5,4  
,,C 200,  
,G Vibranium Shield:hands:990,,C 50  
M Healing Potion:85,,M Defence Enchantment:360,  
,,  
,,G Lightsaber:hands:850,
```

List

```
DOWN 2  
RIGHT 2  
DOWN 2  
up 0  
LEFT 1  
UP 3  
right 0  
RIGHT -100
```

stderr

```
Distance must be positive
At line 8.
```

3.8 Floating Point Distance

Map

```
5,4
,,C 200,
,G Vibranium Shield:hands:990,,C 50
M Healing Potion:85,,M Defence Enchantment:360,
'',
,,G Lightsaber:hands:850,
```

List

```
DOWN 2
RIGHT 2
DOWN 2
up 0
LEFT 1
UP 3
right 0.5
RIGHT 100
```

`stderr`

```
Distance must be an integer
At line 7.
```

3.9 Empty Map

Map

List

```
DOWN 2
RIGHT 2
DOWN 2
up 0
LEFT 1
UP 3
riGHT 0
RIGHT 2
```

stderr

```
Incorrect formatting in <map file>, line 1: Expected positive  
↪ integers <rows>,<cols>
```

3.10 Incorrect Rows

Map

```
7,3  
,g Thorn armour:CheST:120,C 200  
,G Vibranium Shield:hands:990,  
M Healing Potion:85,,M Defence Enchantment:360  
,m Phoenix Blood:291,  
,g IDEK_ANYMORE:heaD:21,G Lightsaber:hAnDs:850  
c 350,g Crimson Plate:cHeSt:1020,
```

List

```
DOWN 2  
RIGHT 2  
DOWN 2  
up 0  
LEFT 1  
UP 3  
right 0  
RIGHT 2
```

stderr

```
Incorrect number of rows: read 6, expected 7.
```

3.11 Incorrect Columns

Map

```
7,3
,g Thorn armour:CheST:120,C 200
,G Vibranium Shield:hands:990,
M Healing Potion:85,,M Defence Enchantment:360
,m Phoenix Blood:291,
,g IDEK_ANYMORE:heaD:21,G Lightsaber:hAnDs:850
c 350,g Crimson Plate:cHeSt:1020
,G Infinity Pants:leGS:30000,
```

List

```
DOWN 2
RIGHT 2
DOWN 2
up 0
LEFT 1
UP 3
right 0
RIGHT 2
```

stderr

```
Incorrect number of columns at line 7: expected 3.
```

3.12 Negative Columns

Map

```
7,-3
,g Thorn armour:CheST:120,C 200
,G Vibranium Shield:hands:990,
M Healing Potion:85,,M Defence Enchantment:360
,m Phoenix Blood:291,
,g IDEK_ANYMORE:heaD:21,G Lightsaber:hAnDs:850
c 350,g Crimson Plate:cHeSt:1020,
,G Infinity Pants:leGS:30000,
```

List

```
DOWN 2
RIGHT 2
DOWN 2
up 0
LEFT 1
UP 3
right 0
RIGHT 2
```

stderr

```
Incorrect formatting in <map file>, line 1: Expected positive  
↪ integers <rows>,<cols>
```

3.13 Invalid Rows

Map

```
7.5,3  
,g Thorn armour:CheST:120,C 200  
,G Vibranium Shield:hands:990,  
M Healing Potion:85,,M Defence Enchantment:360  
,m Phoenix Blood:291,  
,g IDEK_ANYMORE:heaD:21,G Lightsaber:hAnDs:850  
c 350,g Crimson Plate:cHeSt:1020,  
,G Infinity Pants:leGS:30000,
```

List

```
DOWN 2  
RIGHT 2  
DOWN 2  
up 0  
LEFT 1  
UP 3  
right 0  
RIGHT 2
```


stderr

```
Incorrect formatting in <map file>, line 1: Expected positive  
↪ integers <rows>,<cols>
```

3.14 Invalid Treasure Type

Map

```
7,3  
,g Thorn armour:CheST:120,C 200  
,G Vibranium Shield:hands:990,  
M Healing Potion:85,,M Defence Enchantment:360  
,m Phoenix Blood:291,  
,g IDEK_ANYMORE:heaD:21,f Lightsaber:hAnDs:850  
c 350,g Crimson Plate:cHeSt:1020,  
,G Infinity Pants:leGS:30000,
```

List

```
DOWN 2  
RIGHT 2  
DOWN 2  
up 0  
LEFT 1  
UP 3  
right 0  
RIGHT 2
```

stderr

```
F is not a valid treasure type.  
At row 5, column 3.
```

3.15 Invalid Slot

Map

```
7,3  
,g Thorn armour:CheST:120,C 200  
,G Vibranium Shield:hands:990,  
M Healing Potion:85,,M Defence Enchantment:360  
,m Phoenix Blood:291,  
,g IDEK_ANYMORE:heaD:21,G bow and arrows:feet:850  
c 350,g Crimson Plate:cHeSt:1020,  
,G Infinity Pants:leGS:30000,
```

List

```
DOWN 2  
RIGHT 2  
DOWN 2  
up 0  
LEFT 1  
UP 3  
right 0  
RIGHT 2
```

stderr

```
Incorrect formatting. Gear is represented as: "G <detail>:<slot  
↪ >:<value>"  
At row 5, column 3.
```

3.16 Invalid Value

Map

```
7,3  
,g Thorn armour:CheST:120,C 200  
,G Vibranium Shield:hands:99.5,  
M Healing Potion:85,,M Defence Enchantment:360  
,m Phoenix Blood:291,  
,g IDEK_ANYMORE:heaD:21,G Lightsaber:hAnDs:850  
c 350,g Crimson Plate:cHeSt:1020,  
,G Infinity Pants:leGS:30000,
```

List

```
DOWN 2  
RIGHT 2  
DOWN 2  
up 0  
LEFT 1  
UP 3  
riGHT 0  
RIGHT 2
```

stderr

```
Incorrect formatting. Gear is represented as: "G <detail>:<slot  
↪ >:<value>"  
At row 2, column 2.
```

3.17 Too Many Colons

Map

```
7,3  
,g Thorn armour:CheST:120,C 200  
,G Vibranium Shield:hands:990,  
M Healing:Potion:85,,M Defence Enchantment:360  
,m Phoenix Blood:291,  
,g IDEK_ANYMORE:heaD:21,G Lightsaber:hAnDs:850  
c 350,g Crimson Plate:cHeSt:1020,  
,G Infinity Pants:leGS:30000,
```

List

```
DOWN 2  
RIGHT 2  
DOWN 2  
up 0  
LEFT 1  
UP 3  
right 0  
RIGHT 2
```

stderr

```
Incorrect formatting. Magic items are represented as: "M <detail  
↪ >:<value>"  
At row 3, column 1.
```

3.18 Too Little Colons

Map

```
7,3  
,g Thorn armour:CheST:120,C 200  
,G Vibranium Shield:hands:990,  
M Healing Potion:85,,M Defence Enchantment:360  
,m Phoenix Blood:291,  
,g IDEK_ANYMORE:heaD:21,G Lightsaber:hAnDs:850  
c 350,g Crimson Plate:cHeSt:1020,  
,G Infinity Pants leGS:30000,
```

List

```
DOWN 2  
RIGHT 2  
DOWN 2  
up 0  
LEFT 1  
UP 3  
riGHT 0  
RIGHT 2
```

stderr

```
Incorrect formatting. Gear is represented as: "G <detail>:<slot  
  ↳ >:<value>"  
At row 7, column 2.
```

3.19 No Space in Map

Map

```
7,3  
,g Thorn armour:CheST:120,C 200  
,G Vibranium Shield:hands:990,  
MHealing Potion:85,,M Defence Enchantment:360  
,m Phoenix Blood:291,  
,g IDEK_ANYMORE:heaD:21,G Lightsaber:hAnDs:850  
c 350,g Crimson Plate:cHeSt:1020,  
,G Infinity Pants:leGS:30000,
```

List

```
DOWN 2  
RIGHT 2  
DOWN 2  
up 0  
LEFT 1  
UP 3  
right 0  
RIGHT 2
```

stderr

```
Incorrect formatting. Magic items are represented as: "M <detail  
  ↪ >:<value>"  
At row 3, column 1.
```