The Greedy Dwarf

Alpha Java Mar'18 - Advanced - 04:57:43

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- **Points:** 100 (partial)
- **Time limit:** 0.3s
  JavaScript: 0.4s
- **Memory limit:** 32M
  JavaScript: 32M
- **Author:**
  DonchoMinkov

- **Allowed languages**
  java

Joro the Greedy Dwarf is a very greedy drarf. Gosho The Funny Wizard does not like that.

So... Gosho imprisoned Joro in a labyrinth of coins. You can think of the labyrinth as a rectangular field. Each cell of the field contains 0 or more coins. Seems a great place to be for a greedy dwarf, right?

Yes, but Gosho wanted to teach Joro a lesson. When Joro steps on a cell, he can take only a single coin from this cell, and only if there are any coins. Joro can escape the field, only if he is surrounded by empty cells.

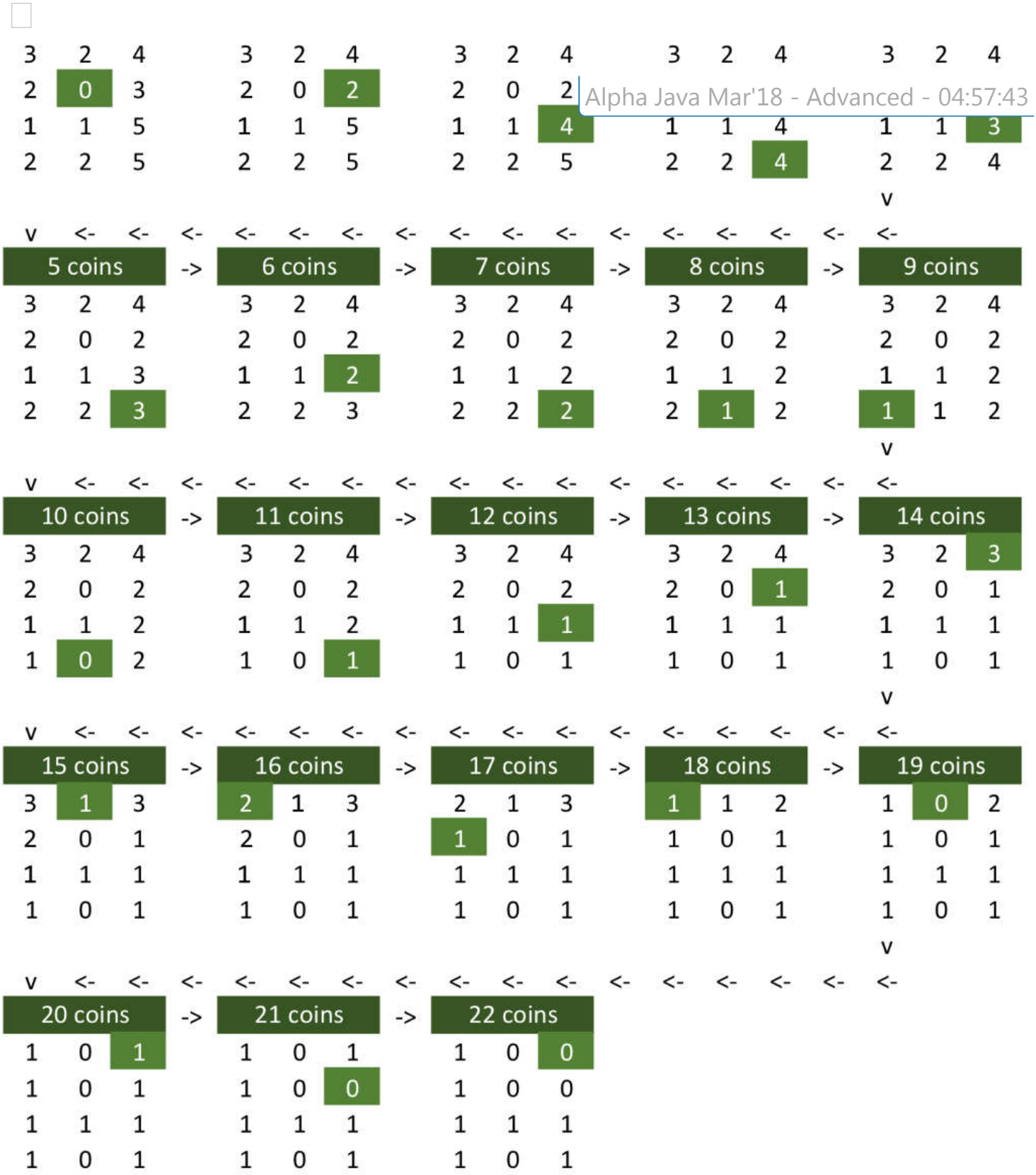
Joro always wants to go to the neighbouring cell with most coins. BUT if there are more than one cells with the same amount of coins (the largest), he chooses a cell (always the largest) from the order **left, right, up, down**

If Joro cannot go in any direction, he is out of the labyrinth

Examples

Some cases

Sample test



Joro is worried, not about his life, but if the coins he collect will be enough. Your task is to tell him how many coins he will collect, following the rules above.

Input

- Read from the standard input

- The size of the labyrinth
- On the next **N lines** find **M integer values**, separated by a space
- The input data will always be valid and there is no need to chec
- The starting location of Joro will be marked as the only `0`

Output

- Print to the standard outpu
- On the single line, print the number of coins Joro can collect, following his and Gosho's rules

Contraints

- `2 <= N <= 10`
- `2 <= M <= 10`
- Each cell can contain up to 1024 coins

Sample tests

Input

Copy

```
4 3
3 2 4
2 0 3
1 1 5
2 2 5
```

Output

Copy

```
22
```

Input

Copy

```
3 3
10 10 0
10 10 10
10 10 10
```

Output

Copy

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Input

```
3 3
10 10 10
10 0 10
10 10 10
```

Copy

Output

```
80
```

Copy

Input

```
2 3
0 5 2
2 5 3
```

Copy

Output

```
15
```

Copy

Clarifications

on Dec. 22, 2017, 1:32 p.m.

Uploaded detailed example

on Dec. 22, 2017, 10:37 a.m.

Joro chooses left, right, up or down, only if the biggest value is in two or more neighbouring cells.