HYF _ Help Your Friend - The Pattern Bug.

Your friend - the bug – need your help. He is staying in front of a maze looking for a way through. And he is dreaming of a strategy, which can get him through any maze.

The maze/labyrinth can vary in size.

The entrance is assumed to be at the bottom. The exit can be everywhere.

Exercise

Write a program, which can solve your friends problem.

It must be able to read in any maze/labyrinth as specified below.

The result should be :

1. number of steps,
2. the route of the bug from entrance to exit,
3. the time in milliseconds.

NOTE :

List in the Comments in the Code :

- group members (please upload for everyone)
- which design patterns you use

Technical Issues

- Plan the solution BEFORE you code anything.
- As a part of this specify, which Patterns are used.
- Distribute parts of the code to be developed between group members including patterns agreed upon. At least two for any group member.

Some advices

1. Make a list of outstanding problems. The bigger list with smaller problems the better.

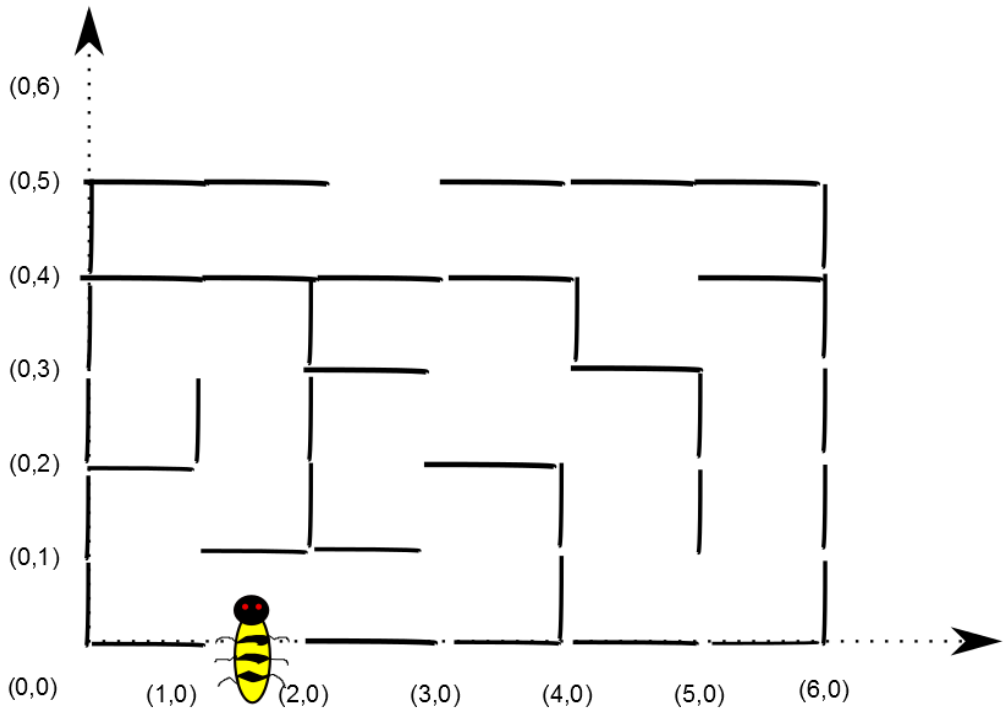
2. Your program could use a stack in the solution. Whether the solution will be recursive or not is your choice.

3. Consider the internal representation of the labyrinth. How is it the easiest way to use it in your solution.

4. Which strategy are you following, when finding your way through the labyrinth ?

5. Implement it !

Example :



Data :

The data for this labyrinth is :

Number of horizontal lines

Line number, Number for walls (0: none (open), 1:wall separated by ,)

.. .. ..

Number of vertical lines

Line number, number for walls (usually many separated by ,)

(see next page)

In the above example data would be :

```
6
0, 1, 0, 1, 1, 1, 1
1, 0, 1, 1, 0, 0, 0
2, 1, 0, 0, 1, 0, 0
3, 0, 0, 1, 0, 1, 0
4, 1, 1, 1, 1, 0, 1
5, 1, 1, 0, 1, 1, 1
7
0, 1, 1, 1, 1, 1
1, 0, 0, 1, 0, 0
2, 0, 1, 1, 1, 0
3, 0, 0, 0, 0, 0
4, 1, 1, 0, 1, 0
5, 0, 1, 1, 0, 0
6, 1, 1, 1, 1, 1
```