

# The Maze

This test is designed to evaluate your logic & UI/UX abilities.

You will be given data that represents a maze, and would be asked to see if there's a way to get from one position to another in the maze.

## The Data

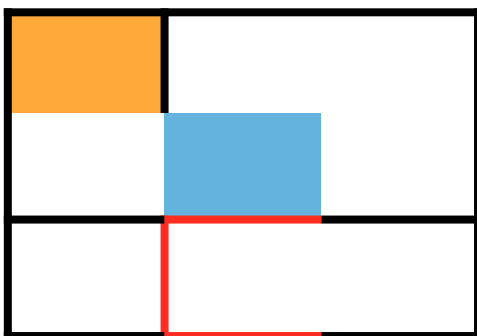
You are given a 3-dimensional JSON array that creates a maze in the following way:

Assuming we are given the following JSON code (As an example):

```
[
  [
    [1,1,0,1],
    [1,0,0,1],
    [1,1,0,0]
  ],
  [
    [0,0,1,1],
    [0,0,1,0],
    [0,1,1,0]
  ],
  [
    [1,1,1,1],
    [1,0,1,1],
    [1,1,1,0]
  ]
]
```

We can first see that our array is of the size 3 x 3 x 4

The 3 x 3 size will create a maze that looks like this (ignore the colours for the time being):



Every "cell" will be represented by a boolean array which provides information about the cell's walls [Top, Right, Bottom, Left]. The 0/1 are used to determine if there's a wall or not.

Example: for i=2, j=1 the cell value is:

[1,0,1,1]

it would mean that there's a wall on the top, bottom and left sides of the cell, but no wall on the right side (walls are highlighted in red in the example above)

You will also be given 2 Positions on the map:

Blue Position: [1,1]

Orange Position: [0,0]

The actual data we'll use to check your solution can be found here:

<http://irt.loyaltypointstore.com/maze.php>

Logic:

Your job is to build an algorithm in JS that checks if it is possible to get from the orange cell to the blue cell (or vice versa)

UI/UX

Build a UI that accepts the JSON array, blue & orange coordinates + a submit button. Once the submit button is pressed, the user will be displayed with a drawing of the maze, including the blue & orange positions in it.

If we can reach the orange cell from the blue cell, mark the path in green, otherwise, display a message to the user "Orange & Blue can't meet"

You may use any tool / library in order to solve the test.

If possible, write your code with AngularJS or ReactJS. if you don't have experience with either frameworks, use jQuery.

Send your compiled & uncompiled code back to [d.oren@initialrewards.com](mailto:d.oren@initialrewards.com) and [a.marom@initialrewards.com](mailto:a.marom@initialrewards.com)