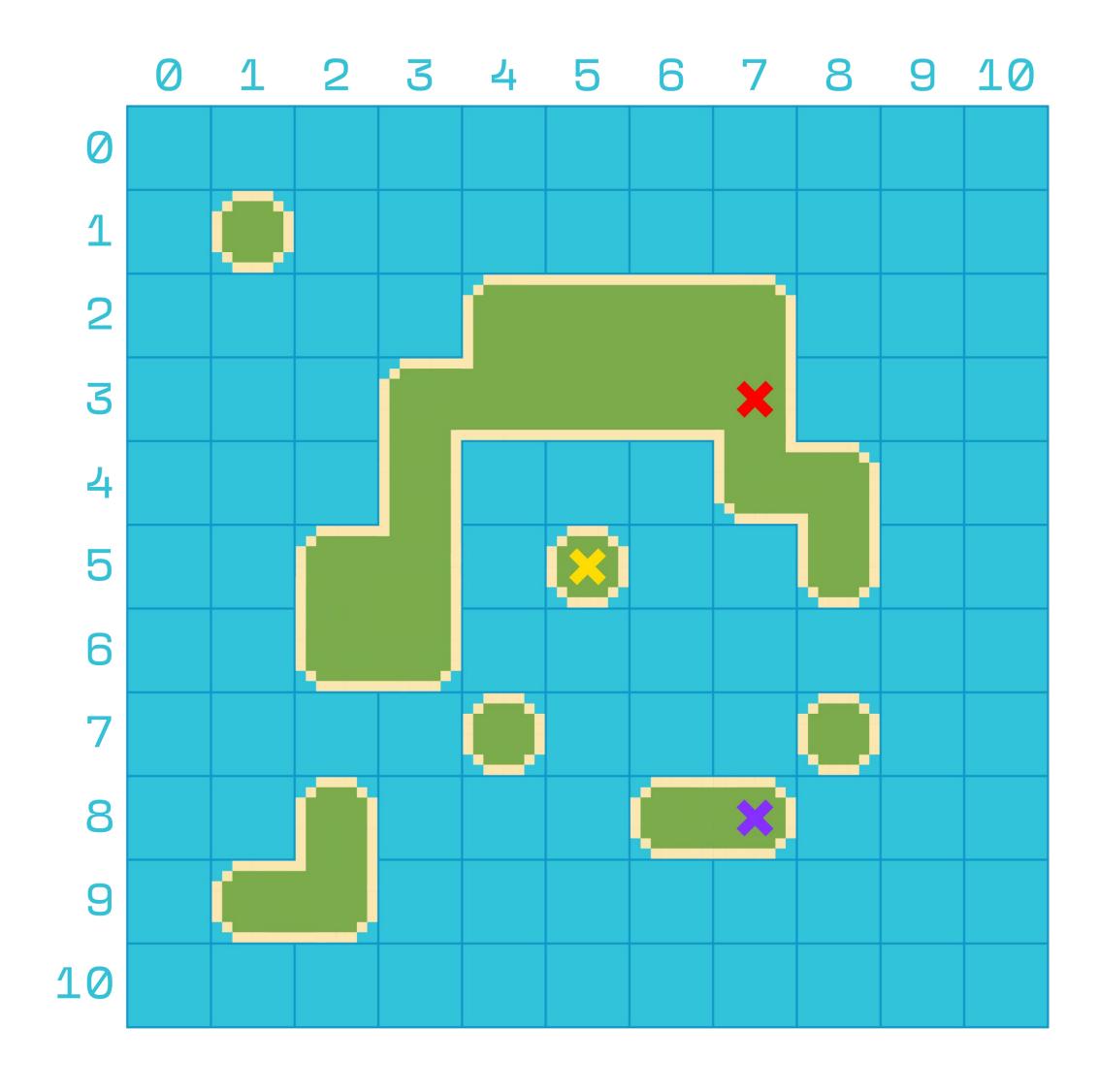






Yarr! I made another drunken bet against Captain Sparrow. Now we need routes encircling each of these island, otherwise I will lose my ship.

- Given a map and a list of coordinates, for each coordinate, find a sea route encircling the island containing that tile.
- You can choose the start of your route freely.
- Your route must end on one of the 8 neighbor tiles of tile where it started.
- Your route may or may not encircle other islands as well.
- Hint: Islands will never contain lakes.



## Checklist for routes:

- Must not visit any tile that is land.
- Must not have gaps.
- Must not visit the same tile twice.
- Must not have two diagonal steps crossing each other.
- Must not be longer than twice the width of the map.
- Must end on one of the 8 neighbor tiles of tile where it started.



## Input

Name	Description	Example
Size of Map  Map	An integer representing the width and height of the map  A paragraph of characters	11
N	An integer representing the number of coordinates	
Coordinate (repeated N times)	A <b>pair of integers</b> representing a tile on the map.	

## Output - identical to previous level

Name	Example
Path (repeated N times)	4,1 5,1 6,1 7,1 8,2 8,3 9,4 9,5 8,6 7,6 6,6 5,6 4,6 3,7 2,7 1,6 1,5 1,4 2,3 3,2 5,4 6,5 5,6 4,5 6,7 7,7 8,8 7,9 6,9 5,8











