

```
In [ ]: import numpy as np
from enum import Enum
import random
```

```
In [ ]: class Action(Enum):
    UP      = [ 0,  1]
    DOWN   = [ 0, -1]
    LEFT   = [-1,  0]
    RIGHT  = [ 1,  0]

class Environment:
    def __init__(self) -> None:

        self.WALLS = [
            [0, 5], [2, 5], [3, 5], [4, 5], [5, 5],
            [5, 0], [5, 2], [5, 3], [5, 4], [5, 5], [5, 6], [5, 7], [5, 9], [5, 10],
            [6, 4], [7, 4], [9, 4], [10, 4]
        ]

        self.GOAL = [10, 10]

    def get_possible_states(self, state, action:Action):
        """
        This function returns an array with the all possible valid states, when the current state and an action is given as input
        """
        if state == self.GOAL:
            return [[0,0]]
        specified_state = list(map(sum, zip(state, action.value)))

        if not all(coordinate >= 0 and coordinate <= 10 for coordinate in specified_state) or specified_state in self.WALLS:
            specified_state = state

        noisy_actions = [Action.UP, Action.DOWN] if action == Action.RIGHT or action == Action.LEFT else [Action.LEFT, Action.RIGHT]
        noisy_states_unfiltered = [list(map(sum, zip(state, noisy_action.value))) for noisy_action in noisy_actions]
        noisy_states = list(filter(lambda noisy_state: all(coordinate >= 0 and coordinate <= 10 for coordinate in noisy_state) and noisy_state not in self.WALLS,
                                   noisy_states_unfiltered))
        if noisy_states == []:
            noisy_states.append(state)

        possible_states = [specified_state] + noisy_states

        return(possible_states)
```

```
In [ ]: env = Environment()
dim_x = 10
dim_y = 10

print(" s\t a\t s'\t\t r\tp(s', r|s, a)")
for x in range(dim_x+1):
    for y in range(dim_y+1):
        if [x, y] in env.WALLS:
            pass

        else:
```

```
for a in Action:  
    possible_actions = env.get_possible_states([x, y], a)  
    prob = [0.8, 0.1, 0.1] if len(possible_actions)==3 else [0.9, 0.1]  
  
    for p_idx, p in enumerate(possible_actions):  
        r = 1 if p == env.GOAL else 0  
        if [x, y] == env.GOAL:  
            prob = [1]  
        print(f"[{x, y}]\t {a.name}\t {p}\t {r}\t {prob[p_idx]}")
```

s	a	s'	r	$p(s', r s, a)$
[0, 0]	UP	[0, 1]	0	0.9
[0, 0]	UP	[1, 0]	0	0.1
[0, 0]	DOWN	[0, 0]	0	0.9
[0, 0]	DOWN	[1, 0]	0	0.1
[0, 0]	LEFT	[0, 0]	0	0.9
[0, 0]	LEFT	[0, 1]	0	0.1
[0, 0]	RIGHT	[1, 0]	0	0.9
[0, 0]	RIGHT	[0, 1]	0	0.1
[0, 1]	UP	[0, 2]	0	0.9
[0, 1]	UP	[1, 1]	0	0.1
[0, 1]	DOWN	[0, 0]	0	0.9
[0, 1]	DOWN	[1, 1]	0	0.1
[0, 1]	LEFT	[0, 1]	0	0.8
[0, 1]	LEFT	[0, 2]	0	0.1
[0, 1]	LEFT	[0, 0]	0	0.1
[0, 1]	RIGHT	[1, 1]	0	0.8
[0, 1]	RIGHT	[0, 2]	0	0.1
[0, 1]	RIGHT	[0, 0]	0	0.1
[0, 2]	UP	[0, 3]	0	0.9
[0, 2]	UP	[1, 2]	0	0.1
[0, 2]	DOWN	[0, 1]	0	0.9
[0, 2]	DOWN	[1, 2]	0	0.1
[0, 2]	LEFT	[0, 2]	0	0.8
[0, 2]	LEFT	[0, 3]	0	0.1
[0, 2]	LEFT	[0, 1]	0	0.1
[0, 2]	RIGHT	[1, 2]	0	0.8
[0, 2]	RIGHT	[0, 3]	0	0.1
[0, 2]	RIGHT	[0, 1]	0	0.1
[0, 3]	UP	[0, 4]	0	0.9
[0, 3]	UP	[1, 3]	0	0.1
[0, 3]	DOWN	[0, 2]	0	0.9
[0, 3]	DOWN	[1, 3]	0	0.1
[0, 3]	LEFT	[0, 3]	0	0.8
[0, 3]	LEFT	[0, 4]	0	0.1
[0, 3]	LEFT	[0, 2]	0	0.1
[0, 3]	RIGHT	[1, 3]	0	0.8
[0, 3]	RIGHT	[0, 4]	0	0.1
[0, 3]	RIGHT	[0, 2]	0	0.1
[0, 4]	UP	[0, 4]	0	0.9
[0, 4]	UP	[1, 4]	0	0.1
[0, 4]	DOWN	[0, 3]	0	0.9
[0, 4]	DOWN	[1, 4]	0	0.1
[0, 4]	LEFT	[0, 4]	0	0.9
[0, 4]	LEFT	[0, 3]	0	0.1
[0, 4]	RIGHT	[1, 4]	0	0.9
[0, 4]	RIGHT	[0, 3]	0	0.1
[0, 6]	UP	[0, 7]	0	0.9
[0, 6]	UP	[1, 6]	0	0.1
[0, 6]	DOWN	[0, 6]	0	0.9
[0, 6]	DOWN	[1, 6]	0	0.1
[0, 6]	LEFT	[0, 6]	0	0.9
[0, 6]	LEFT	[0, 7]	0	0.1
[0, 6]	RIGHT	[1, 6]	0	0.9
[0, 6]	RIGHT	[0, 7]	0	0.1
[0, 7]	UP	[0, 8]	0	0.9

[0, 7]	UP	[1, 7]	0	0.1
[0, 7]	DOWN	[0, 6]	0	0.9
[0, 7]	DOWN	[1, 7]	0	0.1
[0, 7]	LEFT	[0, 7]	0	0.8
[0, 7]	LEFT	[0, 8]	0	0.1
[0, 7]	LEFT	[0, 6]	0	0.1
[0, 7]	RIGHT	[1, 7]	0	0.8
[0, 7]	RIGHT	[0, 8]	0	0.1
[0, 7]	RIGHT	[0, 6]	0	0.1
[0, 8]	UP	[0, 9]	0	0.9
[0, 8]	UP	[1, 8]	0	0.1
[0, 8]	DOWN	[0, 7]	0	0.9
[0, 8]	DOWN	[1, 8]	0	0.1
[0, 8]	LEFT	[0, 8]	0	0.8
[0, 8]	LEFT	[0, 9]	0	0.1
[0, 8]	LEFT	[0, 7]	0	0.1
[0, 8]	RIGHT	[1, 8]	0	0.8
[0, 8]	RIGHT	[0, 9]	0	0.1
[0, 8]	RIGHT	[0, 7]	0	0.1
[0, 9]	UP	[0, 10]	0	0.9
[0, 9]	UP	[1, 9]	0	0.1
[0, 9]	DOWN	[0, 8]	0	0.9
[0, 9]	DOWN	[1, 9]	0	0.1
[0, 9]	LEFT	[0, 9]	0	0.8
[0, 9]	LEFT	[0, 10]	0	0.1
[0, 9]	LEFT	[0, 8]	0	0.1
[0, 9]	RIGHT	[1, 9]	0	0.8
[0, 9]	RIGHT	[0, 10]	0	0.1
[0, 9]	RIGHT	[0, 8]	0	0.1
[0, 10]	UP	[0, 10]	0	0.9
[0, 10]	UP	[1, 10]	0	0.1
[0, 10]	DOWN	[0, 9]	0	0.9
[0, 10]	DOWN	[1, 10]	0	0.1
[0, 10]	LEFT	[0, 10]	0	0.9
[0, 10]	LEFT	[0, 9]	0	0.1
[0, 10]	RIGHT	[1, 10]	0	0.9
[0, 10]	RIGHT	[0, 9]	0	0.1
[1, 0]	UP	[1, 1]	0	0.8
[1, 0]	UP	[0, 0]	0	0.1
[1, 0]	UP	[2, 0]	0	0.1
[1, 0]	DOWN	[1, 0]	0	0.8
[1, 0]	DOWN	[0, 0]	0	0.1
[1, 0]	DOWN	[2, 0]	0	0.1
[1, 0]	LEFT	[0, 0]	0	0.9
[1, 0]	LEFT	[1, 1]	0	0.1
[1, 0]	RIGHT	[2, 0]	0	0.9
[1, 0]	RIGHT	[1, 1]	0	0.1
[1, 1]	UP	[1, 2]	0	0.8
[1, 1]	UP	[0, 1]	0	0.1
[1, 1]	UP	[2, 1]	0	0.1
[1, 1]	DOWN	[1, 0]	0	0.8
[1, 1]	DOWN	[0, 1]	0	0.1
[1, 1]	DOWN	[2, 1]	0	0.1
[1, 1]	LEFT	[0, 1]	0	0.8
[1, 1]	LEFT	[1, 2]	0	0.1
[1, 1]	LEFT	[1, 0]	0	0.1

[1, 1]	RIGHT	[2, 1]	0	0.8
[1, 1]	RIGHT	[1, 2]	0	0.1
[1, 1]	RIGHT	[1, 0]	0	0.1
[1, 2]	UP	[1, 3]	0	0.8
[1, 2]	UP	[0, 2]	0	0.1
[1, 2]	UP	[2, 2]	0	0.1
[1, 2]	DOWN	[1, 1]	0	0.8
[1, 2]	DOWN	[0, 2]	0	0.1
[1, 2]	DOWN	[2, 2]	0	0.1
[1, 2]	LEFT	[0, 2]	0	0.8
[1, 2]	LEFT	[1, 3]	0	0.1
[1, 2]	LEFT	[1, 1]	0	0.1
[1, 2]	RIGHT	[2, 2]	0	0.8
[1, 2]	RIGHT	[1, 3]	0	0.1
[1, 2]	RIGHT	[1, 1]	0	0.1
[1, 3]	UP	[1, 4]	0	0.8
[1, 3]	UP	[0, 3]	0	0.1
[1, 3]	UP	[2, 3]	0	0.1
[1, 3]	DOWN	[1, 2]	0	0.8
[1, 3]	DOWN	[0, 3]	0	0.1
[1, 3]	DOWN	[2, 3]	0	0.1
[1, 3]	LEFT	[0, 3]	0	0.8
[1, 3]	LEFT	[1, 4]	0	0.1
[1, 3]	LEFT	[1, 2]	0	0.1
[1, 3]	RIGHT	[2, 3]	0	0.8
[1, 3]	RIGHT	[1, 4]	0	0.1
[1, 3]	RIGHT	[1, 2]	0	0.1
[1, 4]	UP	[1, 5]	0	0.8
[1, 4]	UP	[0, 4]	0	0.1
[1, 4]	UP	[2, 4]	0	0.1
[1, 4]	DOWN	[1, 3]	0	0.8
[1, 4]	DOWN	[0, 4]	0	0.1
[1, 4]	DOWN	[2, 4]	0	0.1
[1, 4]	LEFT	[0, 4]	0	0.8
[1, 4]	LEFT	[1, 5]	0	0.1
[1, 4]	LEFT	[1, 3]	0	0.1
[1, 4]	RIGHT	[2, 4]	0	0.8
[1, 4]	RIGHT	[1, 5]	0	0.1
[1, 4]	RIGHT	[1, 3]	0	0.1
[1, 5]	UP	[1, 6]	0	0.9
[1, 5]	UP	[1, 5]	0	0.1
[1, 5]	DOWN	[1, 4]	0	0.9
[1, 5]	DOWN	[1, 5]	0	0.1
[1, 5]	LEFT	[1, 5]	0	0.8
[1, 5]	LEFT	[1, 6]	0	0.1
[1, 5]	LEFT	[1, 4]	0	0.1
[1, 5]	RIGHT	[1, 5]	0	0.8
[1, 5]	RIGHT	[1, 6]	0	0.1
[1, 5]	RIGHT	[1, 4]	0	0.1
[1, 6]	UP	[1, 7]	0	0.8
[1, 6]	UP	[0, 6]	0	0.1
[1, 6]	UP	[2, 6]	0	0.1
[1, 6]	DOWN	[1, 5]	0	0.8
[1, 6]	DOWN	[0, 6]	0	0.1
[1, 6]	DOWN	[2, 6]	0	0.1
[1, 6]	LEFT	[0, 6]	0	0.8

[1, 6]	LEFT	[1, 7]	0	0.1
[1, 6]	LEFT	[1, 5]	0	0.1
[1, 6]	RIGHT	[2, 6]	0	0.8
[1, 6]	RIGHT	[1, 7]	0	0.1
[1, 6]	RIGHT	[1, 5]	0	0.1
[1, 7]	UP	[1, 8]	0	0.8
[1, 7]	UP	[0, 7]	0	0.1
[1, 7]	UP	[2, 7]	0	0.1
[1, 7]	DOWN	[1, 6]	0	0.8
[1, 7]	DOWN	[0, 7]	0	0.1
[1, 7]	DOWN	[2, 7]	0	0.1
[1, 7]	LEFT	[0, 7]	0	0.8
[1, 7]	LEFT	[1, 8]	0	0.1
[1, 7]	LEFT	[1, 6]	0	0.1
[1, 7]	RIGHT	[2, 7]	0	0.8
[1, 7]	RIGHT	[1, 8]	0	0.1
[1, 7]	RIGHT	[1, 6]	0	0.1
[1, 8]	UP	[1, 9]	0	0.8
[1, 8]	UP	[0, 8]	0	0.1
[1, 8]	UP	[2, 8]	0	0.1
[1, 8]	DOWN	[1, 7]	0	0.8
[1, 8]	DOWN	[0, 8]	0	0.1
[1, 8]	DOWN	[2, 8]	0	0.1
[1, 8]	LEFT	[0, 8]	0	0.8
[1, 8]	LEFT	[1, 9]	0	0.1
[1, 8]	LEFT	[1, 7]	0	0.1
[1, 8]	RIGHT	[2, 8]	0	0.8
[1, 8]	RIGHT	[1, 9]	0	0.1
[1, 8]	RIGHT	[1, 7]	0	0.1
[1, 9]	UP	[1, 10]	0	0.8
[1, 9]	UP	[0, 9]	0	0.1
[1, 9]	UP	[2, 9]	0	0.1
[1, 9]	DOWN	[1, 8]	0	0.8
[1, 9]	DOWN	[0, 9]	0	0.1
[1, 9]	DOWN	[2, 9]	0	0.1
[1, 9]	LEFT	[0, 9]	0	0.8
[1, 9]	LEFT	[1, 10]	0	0.1
[1, 9]	LEFT	[1, 8]	0	0.1
[1, 9]	RIGHT	[2, 9]	0	0.8
[1, 9]	RIGHT	[1, 10]	0	0.1
[1, 9]	RIGHT	[1, 8]	0	0.1
[1, 10]	UP	[1, 10]	0	0.8
[1, 10]	UP	[0, 10]	0	0.1
[1, 10]	UP	[2, 10]	0	0.1
[1, 10]	DOWN	[1, 9]	0	0.8
[1, 10]	DOWN	[0, 10]	0	0.1
[1, 10]	DOWN	[2, 10]	0	0.1
[1, 10]	LEFT	[0, 10]	0	0.9
[1, 10]	LEFT	[1, 9]	0	0.1
[1, 10]	RIGHT	[2, 10]	0	0.9
[1, 10]	RIGHT	[1, 9]	0	0.1
[2, 0]	UP	[2, 1]	0	0.8
[2, 0]	UP	[1, 0]	0	0.1
[2, 0]	UP	[3, 0]	0	0.1
[2, 0]	DOWN	[2, 0]	0	0.8
[2, 0]	DOWN	[1, 0]	0	0.1

[2, 0]	DOWN	[3, 0]	0	0.1
[2, 0]	LEFT	[1, 0]	0	0.9
[2, 0]	LEFT	[2, 1]	0	0.1
[2, 0]	RIGHT	[3, 0]	0	0.9
[2, 0]	RIGHT	[2, 1]	0	0.1
[2, 1]	UP	[2, 2]	0	0.8
[2, 1]	UP	[1, 1]	0	0.1
[2, 1]	UP	[3, 1]	0	0.1
[2, 1]	DOWN	[2, 0]	0	0.8
[2, 1]	DOWN	[1, 1]	0	0.1
[2, 1]	DOWN	[3, 1]	0	0.1
[2, 1]	LEFT	[1, 1]	0	0.8
[2, 1]	LEFT	[2, 2]	0	0.1
[2, 1]	LEFT	[2, 0]	0	0.1
[2, 1]	RIGHT	[3, 1]	0	0.8
[2, 1]	RIGHT	[2, 2]	0	0.1
[2, 1]	RIGHT	[2, 0]	0	0.1
[2, 2]	UP	[2, 3]	0	0.8
[2, 2]	UP	[1, 2]	0	0.1
[2, 2]	UP	[3, 2]	0	0.1
[2, 2]	DOWN	[2, 1]	0	0.8
[2, 2]	DOWN	[1, 2]	0	0.1
[2, 2]	DOWN	[3, 2]	0	0.1
[2, 2]	LEFT	[1, 2]	0	0.8
[2, 2]	LEFT	[2, 3]	0	0.1
[2, 2]	LEFT	[2, 1]	0	0.1
[2, 2]	RIGHT	[3, 2]	0	0.8
[2, 2]	RIGHT	[2, 3]	0	0.1
[2, 2]	RIGHT	[2, 1]	0	0.1
[2, 3]	UP	[2, 4]	0	0.8
[2, 3]	UP	[1, 3]	0	0.1
[2, 3]	UP	[3, 3]	0	0.1
[2, 3]	DOWN	[2, 2]	0	0.8
[2, 3]	DOWN	[1, 3]	0	0.1
[2, 3]	DOWN	[3, 3]	0	0.1
[2, 3]	LEFT	[1, 3]	0	0.8
[2, 3]	LEFT	[2, 4]	0	0.1
[2, 3]	LEFT	[2, 2]	0	0.1
[2, 3]	RIGHT	[3, 3]	0	0.8
[2, 3]	RIGHT	[2, 4]	0	0.1
[2, 3]	RIGHT	[2, 2]	0	0.1
[2, 4]	UP	[2, 4]	0	0.8
[2, 4]	UP	[1, 4]	0	0.1
[2, 4]	UP	[3, 4]	0	0.1
[2, 4]	DOWN	[2, 3]	0	0.8
[2, 4]	DOWN	[1, 4]	0	0.1
[2, 4]	DOWN	[3, 4]	0	0.1
[2, 4]	LEFT	[1, 4]	0	0.9
[2, 4]	LEFT	[2, 3]	0	0.1
[2, 4]	RIGHT	[3, 4]	0	0.9
[2, 4]	RIGHT	[2, 3]	0	0.1
[2, 6]	UP	[2, 7]	0	0.8
[2, 6]	UP	[1, 6]	0	0.1
[2, 6]	UP	[3, 6]	0	0.1
[2, 6]	DOWN	[2, 6]	0	0.8
[2, 6]	DOWN	[1, 6]	0	0.1

[2, 6]	DOWN	[3, 6]	0	0.1
[2, 6]	LEFT	[1, 6]	0	0.9
[2, 6]	LEFT	[2, 7]	0	0.1
[2, 6]	RIGHT	[3, 6]	0	0.9
[2, 6]	RIGHT	[2, 7]	0	0.1
[2, 7]	UP	[2, 8]	0	0.8
[2, 7]	UP	[1, 7]	0	0.1
[2, 7]	UP	[3, 7]	0	0.1
[2, 7]	DOWN	[2, 6]	0	0.8
[2, 7]	DOWN	[1, 7]	0	0.1
[2, 7]	DOWN	[3, 7]	0	0.1
[2, 7]	LEFT	[1, 7]	0	0.8
[2, 7]	LEFT	[2, 8]	0	0.1
[2, 7]	LEFT	[2, 6]	0	0.1
[2, 7]	RIGHT	[3, 7]	0	0.8
[2, 7]	RIGHT	[2, 8]	0	0.1
[2, 7]	RIGHT	[2, 6]	0	0.1
[2, 8]	UP	[2, 9]	0	0.8
[2, 8]	UP	[1, 8]	0	0.1
[2, 8]	UP	[3, 8]	0	0.1
[2, 8]	DOWN	[2, 7]	0	0.8
[2, 8]	DOWN	[1, 8]	0	0.1
[2, 8]	DOWN	[3, 8]	0	0.1
[2, 8]	LEFT	[1, 8]	0	0.8
[2, 8]	LEFT	[2, 9]	0	0.1
[2, 8]	LEFT	[2, 7]	0	0.1
[2, 8]	RIGHT	[3, 8]	0	0.8
[2, 8]	RIGHT	[2, 9]	0	0.1
[2, 8]	RIGHT	[2, 7]	0	0.1
[2, 9]	UP	[2, 10]	0	0.8
[2, 9]	UP	[1, 9]	0	0.1
[2, 9]	UP	[3, 9]	0	0.1
[2, 9]	DOWN	[2, 8]	0	0.8
[2, 9]	DOWN	[1, 9]	0	0.1
[2, 9]	DOWN	[3, 9]	0	0.1
[2, 9]	LEFT	[1, 9]	0	0.8
[2, 9]	LEFT	[2, 10]	0	0.1
[2, 9]	LEFT	[2, 8]	0	0.1
[2, 9]	RIGHT	[3, 9]	0	0.8
[2, 9]	RIGHT	[2, 10]	0	0.1
[2, 9]	RIGHT	[2, 8]	0	0.1
[2, 10]	UP	[2, 10]	0	0.8
[2, 10]	UP	[1, 10]	0	0.1
[2, 10]	UP	[3, 10]	0	0.1
[2, 10]	DOWN	[2, 9]	0	0.8
[2, 10]	DOWN	[1, 10]	0	0.1
[2, 10]	DOWN	[3, 10]	0	0.1
[2, 10]	LEFT	[1, 10]	0	0.9
[2, 10]	LEFT	[2, 9]	0	0.1
[2, 10]	RIGHT	[3, 10]	0	0.9
[2, 10]	RIGHT	[2, 9]	0	0.1
[3, 0]	UP	[3, 1]	0	0.8
[3, 0]	UP	[2, 0]	0	0.1
[3, 0]	UP	[4, 0]	0	0.1
[3, 0]	DOWN	[3, 0]	0	0.8
[3, 0]	DOWN	[2, 0]	0	0.1

[3, 0]	DOWN	[4, 0]	0	0.1
[3, 0]	LEFT	[2, 0]	0	0.9
[3, 0]	LEFT	[3, 1]	0	0.1
[3, 0]	RIGHT	[4, 0]	0	0.9
[3, 0]	RIGHT	[3, 1]	0	0.1
[3, 1]	UP	[3, 2]	0	0.8
[3, 1]	UP	[2, 1]	0	0.1
[3, 1]	UP	[4, 1]	0	0.1
[3, 1]	DOWN	[3, 0]	0	0.8
[3, 1]	DOWN	[2, 1]	0	0.1
[3, 1]	DOWN	[4, 1]	0	0.1
[3, 1]	LEFT	[2, 1]	0	0.8
[3, 1]	LEFT	[3, 2]	0	0.1
[3, 1]	LEFT	[3, 0]	0	0.1
[3, 1]	RIGHT	[4, 1]	0	0.8
[3, 1]	RIGHT	[3, 2]	0	0.1
[3, 1]	RIGHT	[3, 0]	0	0.1
[3, 2]	UP	[3, 3]	0	0.8
[3, 2]	UP	[2, 2]	0	0.1
[3, 2]	UP	[4, 2]	0	0.1
[3, 2]	DOWN	[3, 1]	0	0.8
[3, 2]	DOWN	[2, 2]	0	0.1
[3, 2]	DOWN	[4, 2]	0	0.1
[3, 2]	LEFT	[2, 2]	0	0.8
[3, 2]	LEFT	[3, 3]	0	0.1
[3, 2]	LEFT	[3, 1]	0	0.1
[3, 2]	RIGHT	[4, 2]	0	0.8
[3, 2]	RIGHT	[3, 3]	0	0.1
[3, 2]	RIGHT	[3, 1]	0	0.1
[3, 3]	UP	[3, 4]	0	0.8
[3, 3]	UP	[2, 3]	0	0.1
[3, 3]	UP	[4, 3]	0	0.1
[3, 3]	DOWN	[3, 2]	0	0.8
[3, 3]	DOWN	[2, 3]	0	0.1
[3, 3]	DOWN	[4, 3]	0	0.1
[3, 3]	LEFT	[2, 3]	0	0.8
[3, 3]	LEFT	[3, 4]	0	0.1
[3, 3]	LEFT	[3, 2]	0	0.1
[3, 3]	RIGHT	[4, 3]	0	0.8
[3, 3]	RIGHT	[3, 4]	0	0.1
[3, 3]	RIGHT	[3, 2]	0	0.1
[3, 4]	UP	[3, 4]	0	0.8
[3, 4]	UP	[2, 4]	0	0.1
[3, 4]	UP	[4, 4]	0	0.1
[3, 4]	DOWN	[3, 3]	0	0.8
[3, 4]	DOWN	[2, 4]	0	0.1
[3, 4]	DOWN	[4, 4]	0	0.1
[3, 4]	LEFT	[2, 4]	0	0.9
[3, 4]	LEFT	[3, 3]	0	0.1
[3, 4]	RIGHT	[4, 4]	0	0.9
[3, 4]	RIGHT	[3, 3]	0	0.1
[3, 6]	UP	[3, 7]	0	0.8
[3, 6]	UP	[2, 6]	0	0.1
[3, 6]	UP	[4, 6]	0	0.1
[3, 6]	DOWN	[3, 6]	0	0.8
[3, 6]	DOWN	[2, 6]	0	0.1

[3, 6]	DOWN	[4, 6]	0	0.1
[3, 6]	LEFT	[2, 6]	0	0.9
[3, 6]	LEFT	[3, 7]	0	0.1
[3, 6]	RIGHT	[4, 6]	0	0.9
[3, 6]	RIGHT	[3, 7]	0	0.1
[3, 7]	UP	[3, 8]	0	0.8
[3, 7]	UP	[2, 7]	0	0.1
[3, 7]	UP	[4, 7]	0	0.1
[3, 7]	DOWN	[3, 6]	0	0.8
[3, 7]	DOWN	[2, 7]	0	0.1
[3, 7]	DOWN	[4, 7]	0	0.1
[3, 7]	LEFT	[2, 7]	0	0.8
[3, 7]	LEFT	[3, 8]	0	0.1
[3, 7]	LEFT	[3, 6]	0	0.1
[3, 7]	RIGHT	[4, 7]	0	0.8
[3, 7]	RIGHT	[3, 8]	0	0.1
[3, 7]	RIGHT	[3, 6]	0	0.1
[3, 8]	UP	[3, 9]	0	0.8
[3, 8]	UP	[2, 8]	0	0.1
[3, 8]	UP	[4, 8]	0	0.1
[3, 8]	DOWN	[3, 7]	0	0.8
[3, 8]	DOWN	[2, 8]	0	0.1
[3, 8]	DOWN	[4, 8]	0	0.1
[3, 8]	LEFT	[2, 8]	0	0.8
[3, 8]	LEFT	[3, 9]	0	0.1
[3, 8]	LEFT	[3, 7]	0	0.1
[3, 8]	RIGHT	[4, 8]	0	0.8
[3, 8]	RIGHT	[3, 9]	0	0.1
[3, 8]	RIGHT	[3, 7]	0	0.1
[3, 9]	UP	[3, 10]	0	0.8
[3, 9]	UP	[2, 9]	0	0.1
[3, 9]	UP	[4, 9]	0	0.1
[3, 9]	DOWN	[3, 8]	0	0.8
[3, 9]	DOWN	[2, 9]	0	0.1
[3, 9]	DOWN	[4, 9]	0	0.1
[3, 9]	LEFT	[2, 9]	0	0.8
[3, 9]	LEFT	[3, 10]	0	0.1
[3, 9]	LEFT	[3, 8]	0	0.1
[3, 9]	RIGHT	[4, 9]	0	0.8
[3, 9]	RIGHT	[3, 10]	0	0.1
[3, 9]	RIGHT	[3, 8]	0	0.1
[3, 10]	UP	[3, 10]	0	0.8
[3, 10]	UP	[2, 10]	0	0.1
[3, 10]	UP	[4, 10]	0	0.1
[3, 10]	DOWN	[3, 9]	0	0.8
[3, 10]	DOWN	[2, 10]	0	0.1
[3, 10]	DOWN	[4, 10]	0	0.1
[3, 10]	LEFT	[2, 10]	0	0.9
[3, 10]	LEFT	[3, 9]	0	0.1
[3, 10]	RIGHT	[4, 10]	0	0.9
[3, 10]	RIGHT	[3, 9]	0	0.1
[4, 0]	UP	[4, 1]	0	0.9
[4, 0]	UP	[3, 0]	0	0.1
[4, 0]	DOWN	[4, 0]	0	0.9
[4, 0]	DOWN	[3, 0]	0	0.1
[4, 0]	LEFT	[3, 0]	0	0.9

[4, 0]	LEFT	[4, 1]	0	0.1
[4, 0]	RIGHT	[4, 0]	0	0.9
[4, 0]	RIGHT	[4, 1]	0	0.1
[4, 1]	UP	[4, 2]	0	0.8
[4, 1]	UP	[3, 1]	0	0.1
[4, 1]	UP	[5, 1]	0	0.1
[4, 1]	DOWN	[4, 0]	0	0.8
[4, 1]	DOWN	[3, 1]	0	0.1
[4, 1]	DOWN	[5, 1]	0	0.1
[4, 1]	LEFT	[3, 1]	0	0.8
[4, 1]	LEFT	[4, 2]	0	0.1
[4, 1]	LEFT	[4, 0]	0	0.1
[4, 1]	RIGHT	[5, 1]	0	0.8
[4, 1]	RIGHT	[4, 2]	0	0.1
[4, 1]	RIGHT	[4, 0]	0	0.1
[4, 2]	UP	[4, 3]	0	0.9
[4, 2]	UP	[3, 2]	0	0.1
[4, 2]	DOWN	[4, 1]	0	0.9
[4, 2]	DOWN	[3, 2]	0	0.1
[4, 2]	LEFT	[3, 2]	0	0.8
[4, 2]	LEFT	[4, 3]	0	0.1
[4, 2]	LEFT	[4, 1]	0	0.1
[4, 2]	RIGHT	[4, 2]	0	0.8
[4, 2]	RIGHT	[4, 3]	0	0.1
[4, 2]	RIGHT	[4, 1]	0	0.1
[4, 3]	UP	[4, 4]	0	0.9
[4, 3]	UP	[3, 3]	0	0.1
[4, 3]	DOWN	[4, 2]	0	0.9
[4, 3]	DOWN	[3, 3]	0	0.1
[4, 3]	LEFT	[3, 3]	0	0.8
[4, 3]	LEFT	[4, 4]	0	0.1
[4, 3]	LEFT	[4, 2]	0	0.1
[4, 3]	RIGHT	[4, 3]	0	0.8
[4, 3]	RIGHT	[4, 4]	0	0.1
[4, 3]	RIGHT	[4, 2]	0	0.1
[4, 4]	UP	[4, 4]	0	0.9
[4, 4]	UP	[3, 4]	0	0.1
[4, 4]	DOWN	[4, 3]	0	0.9
[4, 4]	DOWN	[3, 4]	0	0.1
[4, 4]	LEFT	[3, 4]	0	0.9
[4, 4]	LEFT	[4, 3]	0	0.1
[4, 4]	RIGHT	[4, 4]	0	0.9
[4, 4]	RIGHT	[4, 3]	0	0.1
[4, 6]	UP	[4, 7]	0	0.9
[4, 6]	UP	[3, 6]	0	0.1
[4, 6]	DOWN	[4, 6]	0	0.9
[4, 6]	DOWN	[3, 6]	0	0.1
[4, 6]	LEFT	[3, 6]	0	0.9
[4, 6]	LEFT	[4, 7]	0	0.1
[4, 6]	RIGHT	[4, 6]	0	0.9
[4, 6]	RIGHT	[4, 7]	0	0.1
[4, 7]	UP	[4, 8]	0	0.9
[4, 7]	UP	[3, 7]	0	0.1
[4, 7]	DOWN	[4, 6]	0	0.9
[4, 7]	DOWN	[3, 7]	0	0.1
[4, 7]	LEFT	[3, 7]	0	0.8

[4, 7]	LEFT	[4, 8]	0	0.1
[4, 7]	LEFT	[4, 6]	0	0.1
[4, 7]	RIGHT	[4, 7]	0	0.8
[4, 7]	RIGHT	[4, 8]	0	0.1
[4, 7]	RIGHT	[4, 6]	0	0.1
[4, 8]	UP	[4, 9]	0	0.8
[4, 8]	UP	[3, 8]	0	0.1
[4, 8]	UP	[5, 8]	0	0.1
[4, 8]	DOWN	[4, 7]	0	0.8
[4, 8]	DOWN	[3, 8]	0	0.1
[4, 8]	DOWN	[5, 8]	0	0.1
[4, 8]	LEFT	[3, 8]	0	0.8
[4, 8]	LEFT	[4, 9]	0	0.1
[4, 8]	LEFT	[4, 7]	0	0.1
[4, 8]	RIGHT	[5, 8]	0	0.8
[4, 8]	RIGHT	[4, 9]	0	0.1
[4, 8]	RIGHT	[4, 7]	0	0.1
[4, 9]	UP	[4, 10]	0	0.9
[4, 9]	UP	[3, 9]	0	0.1
[4, 9]	DOWN	[4, 8]	0	0.9
[4, 9]	DOWN	[3, 9]	0	0.1
[4, 9]	LEFT	[3, 9]	0	0.8
[4, 9]	LEFT	[4, 10]	0	0.1
[4, 9]	LEFT	[4, 8]	0	0.1
[4, 9]	RIGHT	[4, 9]	0	0.8
[4, 9]	RIGHT	[4, 10]	0	0.1
[4, 9]	RIGHT	[4, 8]	0	0.1
[4, 10]	UP	[4, 10]	0	0.9
[4, 10]	UP	[3, 10]	0	0.1
[4, 10]	DOWN	[4, 9]	0	0.9
[4, 10]	DOWN	[3, 10]	0	0.1
[4, 10]	LEFT	[3, 10]	0	0.9
[4, 10]	LEFT	[4, 9]	0	0.1
[4, 10]	RIGHT	[4, 10]	0	0.9
[4, 10]	RIGHT	[4, 9]	0	0.1
[5, 1]	UP	[5, 1]	0	0.8
[5, 1]	UP	[4, 1]	0	0.1
[5, 1]	UP	[6, 1]	0	0.1
[5, 1]	DOWN	[5, 1]	0	0.8
[5, 1]	DOWN	[4, 1]	0	0.1
[5, 1]	DOWN	[6, 1]	0	0.1
[5, 1]	LEFT	[4, 1]	0	0.9
[5, 1]	LEFT	[5, 1]	0	0.1
[5, 1]	RIGHT	[6, 1]	0	0.9
[5, 1]	RIGHT	[5, 1]	0	0.1
[5, 8]	UP	[5, 8]	0	0.8
[5, 8]	UP	[4, 8]	0	0.1
[5, 8]	UP	[6, 8]	0	0.1
[5, 8]	DOWN	[5, 8]	0	0.8
[5, 8]	DOWN	[4, 8]	0	0.1
[5, 8]	DOWN	[6, 8]	0	0.1
[5, 8]	LEFT	[4, 8]	0	0.9
[5, 8]	LEFT	[5, 8]	0	0.1
[5, 8]	RIGHT	[6, 8]	0	0.9
[5, 8]	RIGHT	[5, 8]	0	0.1
[6, 0]	UP	[6, 1]	0	0.9

[6, 0]	UP	[7, 0]	0	0.1
[6, 0]	DOWN	[6, 0]	0	0.9
[6, 0]	DOWN	[7, 0]	0	0.1
[6, 0]	LEFT	[6, 0]	0	0.9
[6, 0]	LEFT	[6, 1]	0	0.1
[6, 0]	RIGHT	[7, 0]	0	0.9
[6, 0]	RIGHT	[6, 1]	0	0.1
[6, 1]	UP	[6, 2]	0	0.8
[6, 1]	UP	[5, 1]	0	0.1
[6, 1]	UP	[7, 1]	0	0.1
[6, 1]	DOWN	[6, 0]	0	0.8
[6, 1]	DOWN	[5, 1]	0	0.1
[6, 1]	DOWN	[7, 1]	0	0.1
[6, 1]	LEFT	[5, 1]	0	0.8
[6, 1]	LEFT	[6, 2]	0	0.1
[6, 1]	LEFT	[6, 0]	0	0.1
[6, 1]	RIGHT	[7, 1]	0	0.8
[6, 1]	RIGHT	[6, 2]	0	0.1
[6, 1]	RIGHT	[6, 0]	0	0.1
[6, 2]	UP	[6, 3]	0	0.9
[6, 2]	UP	[7, 2]	0	0.1
[6, 2]	DOWN	[6, 1]	0	0.9
[6, 2]	DOWN	[7, 2]	0	0.1
[6, 2]	LEFT	[6, 2]	0	0.8
[6, 2]	LEFT	[6, 3]	0	0.1
[6, 2]	LEFT	[6, 1]	0	0.1
[6, 2]	RIGHT	[7, 2]	0	0.8
[6, 2]	RIGHT	[6, 3]	0	0.1
[6, 2]	RIGHT	[6, 1]	0	0.1
[6, 3]	UP	[6, 3]	0	0.9
[6, 3]	UP	[7, 3]	0	0.1
[6, 3]	DOWN	[6, 2]	0	0.9
[6, 3]	DOWN	[7, 3]	0	0.1
[6, 3]	LEFT	[6, 3]	0	0.9
[6, 3]	LEFT	[6, 2]	0	0.1
[6, 3]	RIGHT	[7, 3]	0	0.9
[6, 3]	RIGHT	[6, 2]	0	0.1
[6, 5]	UP	[6, 6]	0	0.9
[6, 5]	UP	[7, 5]	0	0.1
[6, 5]	DOWN	[6, 5]	0	0.9
[6, 5]	DOWN	[7, 5]	0	0.1
[6, 5]	LEFT	[6, 5]	0	0.9
[6, 5]	LEFT	[6, 6]	0	0.1
[6, 5]	RIGHT	[7, 5]	0	0.9
[6, 5]	RIGHT	[6, 6]	0	0.1
[6, 6]	UP	[6, 7]	0	0.9
[6, 6]	UP	[7, 6]	0	0.1
[6, 6]	DOWN	[6, 5]	0	0.9
[6, 6]	DOWN	[7, 6]	0	0.1
[6, 6]	LEFT	[6, 6]	0	0.8
[6, 6]	LEFT	[6, 7]	0	0.1
[6, 6]	LEFT	[6, 5]	0	0.1
[6, 6]	RIGHT	[7, 6]	0	0.8
[6, 6]	RIGHT	[6, 7]	0	0.1
[6, 6]	RIGHT	[6, 5]	0	0.1
[6, 7]	UP	[6, 8]	0	0.9

[6, 7]	UP	[7, 7]	0	0.1
[6, 7]	DOWN	[6, 6]	0	0.9
[6, 7]	DOWN	[7, 7]	0	0.1
[6, 7]	LEFT	[6, 7]	0	0.8
[6, 7]	LEFT	[6, 8]	0	0.1
[6, 7]	LEFT	[6, 6]	0	0.1
[6, 7]	RIGHT	[7, 7]	0	0.8
[6, 7]	RIGHT	[6, 8]	0	0.1
[6, 7]	RIGHT	[6, 6]	0	0.1
[6, 8]	UP	[6, 9]	0	0.8
[6, 8]	UP	[5, 8]	0	0.1
[6, 8]	UP	[7, 8]	0	0.1
[6, 8]	DOWN	[6, 7]	0	0.8
[6, 8]	DOWN	[5, 8]	0	0.1
[6, 8]	DOWN	[7, 8]	0	0.1
[6, 8]	LEFT	[5, 8]	0	0.8
[6, 8]	LEFT	[6, 9]	0	0.1
[6, 8]	LEFT	[6, 7]	0	0.1
[6, 8]	RIGHT	[7, 8]	0	0.8
[6, 8]	RIGHT	[6, 9]	0	0.1
[6, 8]	RIGHT	[6, 7]	0	0.1
[6, 9]	UP	[6, 10]	0	0.9
[6, 9]	UP	[7, 9]	0	0.1
[6, 9]	DOWN	[6, 8]	0	0.9
[6, 9]	DOWN	[7, 9]	0	0.1
[6, 9]	LEFT	[6, 9]	0	0.8
[6, 9]	LEFT	[6, 10]	0	0.1
[6, 9]	LEFT	[6, 8]	0	0.1
[6, 9]	RIGHT	[7, 9]	0	0.8
[6, 9]	RIGHT	[6, 10]	0	0.1
[6, 9]	RIGHT	[6, 8]	0	0.1
[6, 10]	UP	[6, 10]	0	0.9
[6, 10]	UP	[7, 10]	0	0.1
[6, 10]	DOWN	[6, 9]	0	0.9
[6, 10]	DOWN	[7, 10]	0	0.1
[6, 10]	LEFT	[6, 10]	0	0.9
[6, 10]	LEFT	[6, 9]	0	0.1
[6, 10]	RIGHT	[7, 10]	0	0.9
[6, 10]	RIGHT	[6, 9]	0	0.1
[7, 0]	UP	[7, 1]	0	0.8
[7, 0]	UP	[6, 0]	0	0.1
[7, 0]	UP	[8, 0]	0	0.1
[7, 0]	DOWN	[7, 0]	0	0.8
[7, 0]	DOWN	[6, 0]	0	0.1
[7, 0]	DOWN	[8, 0]	0	0.1
[7, 0]	LEFT	[6, 0]	0	0.9
[7, 0]	LEFT	[7, 1]	0	0.1
[7, 0]	RIGHT	[8, 0]	0	0.9
[7, 0]	RIGHT	[7, 1]	0	0.1
[7, 1]	UP	[7, 2]	0	0.8
[7, 1]	UP	[6, 1]	0	0.1
[7, 1]	UP	[8, 1]	0	0.1
[7, 1]	DOWN	[7, 0]	0	0.8
[7, 1]	DOWN	[6, 1]	0	0.1
[7, 1]	DOWN	[8, 1]	0	0.1
[7, 1]	LEFT	[6, 1]	0	0.8

[7, 1]	LEFT	[7, 2]	0	0.1
[7, 1]	LEFT	[7, 0]	0	0.1
[7, 1]	RIGHT	[8, 1]	0	0.8
[7, 1]	RIGHT	[7, 2]	0	0.1
[7, 1]	RIGHT	[7, 0]	0	0.1
[7, 2]	UP	[7, 3]	0	0.8
[7, 2]	UP	[6, 2]	0	0.1
[7, 2]	UP	[8, 2]	0	0.1
[7, 2]	DOWN	[7, 1]	0	0.8
[7, 2]	DOWN	[6, 2]	0	0.1
[7, 2]	DOWN	[8, 2]	0	0.1
[7, 2]	LEFT	[6, 2]	0	0.8
[7, 2]	LEFT	[7, 3]	0	0.1
[7, 2]	LEFT	[7, 1]	0	0.1
[7, 2]	RIGHT	[8, 2]	0	0.8
[7, 2]	RIGHT	[7, 3]	0	0.1
[7, 2]	RIGHT	[7, 1]	0	0.1
[7, 3]	UP	[7, 3]	0	0.8
[7, 3]	UP	[6, 3]	0	0.1
[7, 3]	UP	[8, 3]	0	0.1
[7, 3]	DOWN	[7, 2]	0	0.8
[7, 3]	DOWN	[6, 3]	0	0.1
[7, 3]	DOWN	[8, 3]	0	0.1
[7, 3]	LEFT	[6, 3]	0	0.9
[7, 3]	LEFT	[7, 2]	0	0.1
[7, 3]	RIGHT	[8, 3]	0	0.9
[7, 3]	RIGHT	[7, 2]	0	0.1
[7, 5]	UP	[7, 6]	0	0.8
[7, 5]	UP	[6, 5]	0	0.1
[7, 5]	UP	[8, 5]	0	0.1
[7, 5]	DOWN	[7, 5]	0	0.8
[7, 5]	DOWN	[6, 5]	0	0.1
[7, 5]	DOWN	[8, 5]	0	0.1
[7, 5]	LEFT	[6, 5]	0	0.9
[7, 5]	LEFT	[7, 6]	0	0.1
[7, 5]	RIGHT	[8, 5]	0	0.9
[7, 5]	RIGHT	[7, 6]	0	0.1
[7, 6]	UP	[7, 7]	0	0.8
[7, 6]	UP	[6, 6]	0	0.1
[7, 6]	UP	[8, 6]	0	0.1
[7, 6]	DOWN	[7, 5]	0	0.8
[7, 6]	DOWN	[6, 6]	0	0.1
[7, 6]	DOWN	[8, 6]	0	0.1
[7, 6]	LEFT	[6, 6]	0	0.8
[7, 6]	LEFT	[7, 7]	0	0.1
[7, 6]	LEFT	[7, 5]	0	0.1
[7, 6]	RIGHT	[8, 6]	0	0.8
[7, 6]	RIGHT	[7, 7]	0	0.1
[7, 6]	RIGHT	[7, 5]	0	0.1
[7, 7]	UP	[7, 8]	0	0.8
[7, 7]	UP	[6, 7]	0	0.1
[7, 7]	UP	[8, 7]	0	0.1
[7, 7]	DOWN	[7, 6]	0	0.8
[7, 7]	DOWN	[6, 7]	0	0.1
[7, 7]	DOWN	[8, 7]	0	0.1
[7, 7]	LEFT	[6, 7]	0	0.8

[7, 7]	LEFT	[7, 8]	0	0.1
[7, 7]	LEFT	[7, 6]	0	0.1
[7, 7]	RIGHT	[8, 7]	0	0.8
[7, 7]	RIGHT	[7, 8]	0	0.1
[7, 7]	RIGHT	[7, 6]	0	0.1
[7, 8]	UP	[7, 9]	0	0.8
[7, 8]	UP	[6, 8]	0	0.1
[7, 8]	UP	[8, 8]	0	0.1
[7, 8]	DOWN	[7, 7]	0	0.8
[7, 8]	DOWN	[6, 8]	0	0.1
[7, 8]	DOWN	[8, 8]	0	0.1
[7, 8]	LEFT	[6, 8]	0	0.8
[7, 8]	LEFT	[7, 9]	0	0.1
[7, 8]	LEFT	[7, 7]	0	0.1
[7, 8]	RIGHT	[8, 8]	0	0.8
[7, 8]	RIGHT	[7, 9]	0	0.1
[7, 8]	RIGHT	[7, 7]	0	0.1
[7, 9]	UP	[7, 10]	0	0.8
[7, 9]	UP	[6, 9]	0	0.1
[7, 9]	UP	[8, 9]	0	0.1
[7, 9]	DOWN	[7, 8]	0	0.8
[7, 9]	DOWN	[6, 9]	0	0.1
[7, 9]	DOWN	[8, 9]	0	0.1
[7, 9]	LEFT	[6, 9]	0	0.8
[7, 9]	LEFT	[7, 10]	0	0.1
[7, 9]	LEFT	[7, 8]	0	0.1
[7, 9]	RIGHT	[8, 9]	0	0.8
[7, 9]	RIGHT	[7, 10]	0	0.1
[7, 9]	RIGHT	[7, 8]	0	0.1
[7, 10]	UP	[7, 10]	0	0.8
[7, 10]	UP	[6, 10]	0	0.1
[7, 10]	UP	[8, 10]	0	0.1
[7, 10]	DOWN	[7, 9]	0	0.8
[7, 10]	DOWN	[6, 10]	0	0.1
[7, 10]	DOWN	[8, 10]	0	0.1
[7, 10]	LEFT	[6, 10]	0	0.9
[7, 10]	LEFT	[7, 9]	0	0.1
[7, 10]	RIGHT	[8, 10]	0	0.9
[7, 10]	RIGHT	[7, 9]	0	0.1
[8, 0]	UP	[8, 1]	0	0.8
[8, 0]	UP	[7, 0]	0	0.1
[8, 0]	UP	[9, 0]	0	0.1
[8, 0]	DOWN	[8, 0]	0	0.8
[8, 0]	DOWN	[7, 0]	0	0.1
[8, 0]	DOWN	[9, 0]	0	0.1
[8, 0]	LEFT	[7, 0]	0	0.9
[8, 0]	LEFT	[8, 1]	0	0.1
[8, 0]	RIGHT	[9, 0]	0	0.9
[8, 0]	RIGHT	[8, 1]	0	0.1
[8, 1]	UP	[8, 2]	0	0.8
[8, 1]	UP	[7, 1]	0	0.1
[8, 1]	UP	[9, 1]	0	0.1
[8, 1]	DOWN	[8, 0]	0	0.8
[8, 1]	DOWN	[7, 1]	0	0.1
[8, 1]	DOWN	[9, 1]	0	0.1
[8, 1]	LEFT	[7, 1]	0	0.8

[8, 1]	LEFT	[8, 2]	0	0.1
[8, 1]	LEFT	[8, 0]	0	0.1
[8, 1]	RIGHT	[9, 1]	0	0.8
[8, 1]	RIGHT	[8, 2]	0	0.1
[8, 1]	RIGHT	[8, 0]	0	0.1
[8, 2]	UP	[8, 3]	0	0.8
[8, 2]	UP	[7, 2]	0	0.1
[8, 2]	UP	[9, 2]	0	0.1
[8, 2]	DOWN	[8, 1]	0	0.8
[8, 2]	DOWN	[7, 2]	0	0.1
[8, 2]	DOWN	[9, 2]	0	0.1
[8, 2]	LEFT	[7, 2]	0	0.8
[8, 2]	LEFT	[8, 3]	0	0.1
[8, 2]	LEFT	[8, 1]	0	0.1
[8, 2]	RIGHT	[9, 2]	0	0.8
[8, 2]	RIGHT	[8, 3]	0	0.1
[8, 2]	RIGHT	[8, 1]	0	0.1
[8, 3]	UP	[8, 4]	0	0.8
[8, 3]	UP	[7, 3]	0	0.1
[8, 3]	UP	[9, 3]	0	0.1
[8, 3]	DOWN	[8, 2]	0	0.8
[8, 3]	DOWN	[7, 3]	0	0.1
[8, 3]	DOWN	[9, 3]	0	0.1
[8, 3]	LEFT	[7, 3]	0	0.8
[8, 3]	LEFT	[8, 4]	0	0.1
[8, 3]	LEFT	[8, 2]	0	0.1
[8, 3]	RIGHT	[9, 3]	0	0.8
[8, 3]	RIGHT	[8, 4]	0	0.1
[8, 3]	RIGHT	[8, 2]	0	0.1
[8, 4]	UP	[8, 5]	0	0.9
[8, 4]	UP	[8, 4]	0	0.1
[8, 4]	DOWN	[8, 3]	0	0.9
[8, 4]	DOWN	[8, 4]	0	0.1
[8, 4]	LEFT	[8, 4]	0	0.8
[8, 4]	LEFT	[8, 5]	0	0.1
[8, 4]	LEFT	[8, 3]	0	0.1
[8, 4]	RIGHT	[8, 4]	0	0.8
[8, 4]	RIGHT	[8, 5]	0	0.1
[8, 4]	RIGHT	[8, 3]	0	0.1
[8, 5]	UP	[8, 6]	0	0.8
[8, 5]	UP	[7, 5]	0	0.1
[8, 5]	UP	[9, 5]	0	0.1
[8, 5]	DOWN	[8, 4]	0	0.8
[8, 5]	DOWN	[7, 5]	0	0.1
[8, 5]	DOWN	[9, 5]	0	0.1
[8, 5]	LEFT	[7, 5]	0	0.8
[8, 5]	LEFT	[8, 6]	0	0.1
[8, 5]	LEFT	[8, 4]	0	0.1
[8, 5]	RIGHT	[9, 5]	0	0.8
[8, 5]	RIGHT	[8, 6]	0	0.1
[8, 5]	RIGHT	[8, 4]	0	0.1
[8, 6]	UP	[8, 7]	0	0.8
[8, 6]	UP	[7, 6]	0	0.1
[8, 6]	UP	[9, 6]	0	0.1
[8, 6]	DOWN	[8, 5]	0	0.8
[8, 6]	DOWN	[7, 6]	0	0.1

[8, 6]	DOWN	[9, 6]	0	0.1
[8, 6]	LEFT	[7, 6]	0	0.8
[8, 6]	LEFT	[8, 7]	0	0.1
[8, 6]	LEFT	[8, 5]	0	0.1
[8, 6]	RIGHT	[9, 6]	0	0.8
[8, 6]	RIGHT	[8, 7]	0	0.1
[8, 6]	RIGHT	[8, 5]	0	0.1
[8, 7]	UP	[8, 8]	0	0.8
[8, 7]	UP	[7, 7]	0	0.1
[8, 7]	UP	[9, 7]	0	0.1
[8, 7]	DOWN	[8, 6]	0	0.8
[8, 7]	DOWN	[7, 7]	0	0.1
[8, 7]	DOWN	[9, 7]	0	0.1
[8, 7]	LEFT	[7, 7]	0	0.8
[8, 7]	LEFT	[8, 8]	0	0.1
[8, 7]	LEFT	[8, 6]	0	0.1
[8, 7]	RIGHT	[9, 7]	0	0.8
[8, 7]	RIGHT	[8, 8]	0	0.1
[8, 7]	RIGHT	[8, 6]	0	0.1
[8, 8]	UP	[8, 9]	0	0.8
[8, 8]	UP	[7, 8]	0	0.1
[8, 8]	UP	[9, 8]	0	0.1
[8, 8]	DOWN	[8, 7]	0	0.8
[8, 8]	DOWN	[7, 8]	0	0.1
[8, 8]	DOWN	[9, 8]	0	0.1
[8, 8]	LEFT	[7, 8]	0	0.8
[8, 8]	LEFT	[8, 9]	0	0.1
[8, 8]	LEFT	[8, 7]	0	0.1
[8, 8]	RIGHT	[9, 8]	0	0.8
[8, 8]	RIGHT	[8, 9]	0	0.1
[8, 8]	RIGHT	[8, 7]	0	0.1
[8, 9]	UP	[8, 10]	0	0.8
[8, 9]	UP	[7, 9]	0	0.1
[8, 9]	UP	[9, 9]	0	0.1
[8, 9]	DOWN	[8, 8]	0	0.8
[8, 9]	DOWN	[7, 9]	0	0.1
[8, 9]	DOWN	[9, 9]	0	0.1
[8, 9]	LEFT	[7, 9]	0	0.8
[8, 9]	LEFT	[8, 10]	0	0.1
[8, 9]	LEFT	[8, 8]	0	0.1
[8, 9]	RIGHT	[9, 9]	0	0.8
[8, 9]	RIGHT	[8, 10]	0	0.1
[8, 9]	RIGHT	[8, 8]	0	0.1
[8, 10]	UP	[8, 10]	0	0.8
[8, 10]	UP	[7, 10]	0	0.1
[8, 10]	UP	[9, 10]	0	0.1
[8, 10]	DOWN	[8, 9]	0	0.8
[8, 10]	DOWN	[7, 10]	0	0.1
[8, 10]	DOWN	[9, 10]	0	0.1
[8, 10]	LEFT	[7, 10]	0	0.9
[8, 10]	LEFT	[8, 9]	0	0.1
[8, 10]	RIGHT	[9, 10]	0	0.9
[8, 10]	RIGHT	[8, 9]	0	0.1
[9, 0]	UP	[9, 1]	0	0.8
[9, 0]	UP	[8, 0]	0	0.1
[9, 0]	UP	[10, 0]	0	0.1

[9, 0]	DOWN	[9, 0]	0	0.8
[9, 0]	DOWN	[8, 0]	0	0.1
[9, 0]	DOWN	[10, 0]	0	0.1
[9, 0]	LEFT	[8, 0]	0	0.9
[9, 0]	LEFT	[9, 1]	0	0.1
[9, 0]	RIGHT	[10, 0]	0	0.9
[9, 0]	RIGHT	[9, 1]	0	0.1
[9, 1]	UP	[9, 2]	0	0.8
[9, 1]	UP	[8, 1]	0	0.1
[9, 1]	UP	[10, 1]	0	0.1
[9, 1]	DOWN	[9, 0]	0	0.8
[9, 1]	DOWN	[8, 1]	0	0.1
[9, 1]	DOWN	[10, 1]	0	0.1
[9, 1]	LEFT	[8, 1]	0	0.8
[9, 1]	LEFT	[9, 2]	0	0.1
[9, 1]	LEFT	[9, 0]	0	0.1
[9, 1]	RIGHT	[10, 1]	0	0.8
[9, 1]	RIGHT	[9, 2]	0	0.1
[9, 1]	RIGHT	[9, 0]	0	0.1
[9, 2]	UP	[9, 3]	0	0.8
[9, 2]	UP	[8, 2]	0	0.1
[9, 2]	UP	[10, 2]	0	0.1
[9, 2]	DOWN	[9, 1]	0	0.8
[9, 2]	DOWN	[8, 2]	0	0.1
[9, 2]	DOWN	[10, 2]	0	0.1
[9, 2]	LEFT	[8, 2]	0	0.8
[9, 2]	LEFT	[9, 3]	0	0.1
[9, 2]	LEFT	[9, 1]	0	0.1
[9, 2]	RIGHT	[10, 2]	0	0.8
[9, 2]	RIGHT	[9, 3]	0	0.1
[9, 2]	RIGHT	[9, 1]	0	0.1
[9, 3]	UP	[9, 3]	0	0.8
[9, 3]	UP	[8, 3]	0	0.1
[9, 3]	UP	[10, 3]	0	0.1
[9, 3]	DOWN	[9, 2]	0	0.8
[9, 3]	DOWN	[8, 3]	0	0.1
[9, 3]	DOWN	[10, 3]	0	0.1
[9, 3]	LEFT	[8, 3]	0	0.9
[9, 3]	LEFT	[9, 2]	0	0.1
[9, 3]	RIGHT	[10, 3]	0	0.9
[9, 3]	RIGHT	[9, 2]	0	0.1
[9, 5]	UP	[9, 6]	0	0.8
[9, 5]	UP	[8, 5]	0	0.1
[9, 5]	UP	[10, 5]	0	0.1
[9, 5]	DOWN	[9, 5]	0	0.8
[9, 5]	DOWN	[8, 5]	0	0.1
[9, 5]	DOWN	[10, 5]	0	0.1
[9, 5]	LEFT	[8, 5]	0	0.9
[9, 5]	LEFT	[9, 6]	0	0.1
[9, 5]	RIGHT	[10, 5]	0	0.9
[9, 5]	RIGHT	[9, 6]	0	0.1
[9, 6]	UP	[9, 7]	0	0.8
[9, 6]	UP	[8, 6]	0	0.1
[9, 6]	UP	[10, 6]	0	0.1
[9, 6]	DOWN	[9, 5]	0	0.8
[9, 6]	DOWN	[8, 6]	0	0.1

[9, 6]	DOWN	[10, 6]	0	0.1
[9, 6]	LEFT	[8, 6]	0	0.8
[9, 6]	LEFT	[9, 7]	0	0.1
[9, 6]	LEFT	[9, 5]	0	0.1
[9, 6]	RIGHT	[10, 6]	0	0.8
[9, 6]	RIGHT	[9, 7]	0	0.1
[9, 6]	RIGHT	[9, 5]	0	0.1
[9, 7]	UP	[9, 8]	0	0.8
[9, 7]	UP	[8, 7]	0	0.1
[9, 7]	UP	[10, 7]	0	0.1
[9, 7]	DOWN	[9, 6]	0	0.8
[9, 7]	DOWN	[8, 7]	0	0.1
[9, 7]	DOWN	[10, 7]	0	0.1
[9, 7]	LEFT	[8, 7]	0	0.8
[9, 7]	LEFT	[9, 8]	0	0.1
[9, 7]	LEFT	[9, 6]	0	0.1
[9, 7]	RIGHT	[10, 7]	0	0.8
[9, 7]	RIGHT	[9, 8]	0	0.1
[9, 7]	RIGHT	[9, 6]	0	0.1
[9, 8]	UP	[9, 9]	0	0.8
[9, 8]	UP	[8, 8]	0	0.1
[9, 8]	UP	[10, 8]	0	0.1
[9, 8]	DOWN	[9, 7]	0	0.8
[9, 8]	DOWN	[8, 8]	0	0.1
[9, 8]	DOWN	[10, 8]	0	0.1
[9, 8]	LEFT	[8, 8]	0	0.8
[9, 8]	LEFT	[9, 9]	0	0.1
[9, 8]	LEFT	[9, 7]	0	0.1
[9, 8]	RIGHT	[10, 8]	0	0.8
[9, 8]	RIGHT	[9, 9]	0	0.1
[9, 8]	RIGHT	[9, 7]	0	0.1
[9, 9]	UP	[9, 10]	0	0.8
[9, 9]	UP	[8, 9]	0	0.1
[9, 9]	UP	[10, 9]	0	0.1
[9, 9]	DOWN	[9, 8]	0	0.8
[9, 9]	DOWN	[8, 9]	0	0.1
[9, 9]	DOWN	[10, 9]	0	0.1
[9, 9]	LEFT	[8, 9]	0	0.8
[9, 9]	LEFT	[9, 10]	0	0.1
[9, 9]	LEFT	[9, 8]	0	0.1
[9, 9]	RIGHT	[10, 9]	0	0.8
[9, 9]	RIGHT	[9, 10]	0	0.1
[9, 9]	RIGHT	[9, 8]	0	0.1
[9, 10]	UP	[9, 10]	0	0.8
[9, 10]	UP	[8, 10]	0	0.1
[9, 10]	UP	[10, 10]	1	0.1
[9, 10]	DOWN	[9, 9]	0	0.8
[9, 10]	DOWN	[8, 10]	0	0.1
[9, 10]	DOWN	[10, 10]	1	0.1
[9, 10]	LEFT	[8, 10]	0	0.9
[9, 10]	LEFT	[9, 9]	0	0.1
[9, 10]	RIGHT	[10, 10]	1	0.9
[9, 10]	RIGHT	[9, 9]	0	0.1
[10, 0]	UP	[10, 1]	0	0.9
[10, 0]	UP	[9, 0]	0	0.1
[10, 0]	DOWN	[10, 0]	0	0.9

[10, 0]	DOWN	[9, 0]	0	0.1
[10, 0]	LEFT	[9, 0]	0	0.9
[10, 0]	LEFT	[10, 1]	0	0.1
[10, 0]	RIGHT	[10, 0]	0	0.9
[10, 0]	RIGHT	[10, 1]	0	0.1
[10, 1]	UP	[10, 2]	0	0.9
[10, 1]	UP	[9, 1]	0	0.1
[10, 1]	DOWN	[10, 0]	0	0.9
[10, 1]	DOWN	[9, 1]	0	0.1
[10, 1]	LEFT	[9, 1]	0	0.8
[10, 1]	LEFT	[10, 2]	0	0.1
[10, 1]	LEFT	[10, 0]	0	0.1
[10, 1]	RIGHT	[10, 1]	0	0.8
[10, 1]	RIGHT	[10, 2]	0	0.1
[10, 1]	RIGHT	[10, 0]	0	0.1
[10, 2]	UP	[10, 3]	0	0.9
[10, 2]	UP	[9, 2]	0	0.1
[10, 2]	DOWN	[10, 1]	0	0.9
[10, 2]	DOWN	[9, 2]	0	0.1
[10, 2]	LEFT	[9, 2]	0	0.8
[10, 2]	LEFT	[10, 3]	0	0.1
[10, 2]	LEFT	[10, 1]	0	0.1
[10, 2]	RIGHT	[10, 2]	0	0.8
[10, 2]	RIGHT	[10, 3]	0	0.1
[10, 2]	RIGHT	[10, 1]	0	0.1
[10, 3]	UP	[10, 3]	0	0.9
[10, 3]	UP	[9, 3]	0	0.1
[10, 3]	DOWN	[10, 2]	0	0.9
[10, 3]	DOWN	[9, 3]	0	0.1
[10, 3]	LEFT	[9, 3]	0	0.9
[10, 3]	LEFT	[10, 2]	0	0.1
[10, 3]	RIGHT	[10, 3]	0	0.9
[10, 3]	RIGHT	[10, 2]	0	0.1
[10, 5]	UP	[10, 6]	0	0.9
[10, 5]	UP	[9, 5]	0	0.1
[10, 5]	DOWN	[10, 5]	0	0.9
[10, 5]	DOWN	[9, 5]	0	0.1
[10, 5]	LEFT	[9, 5]	0	0.9
[10, 5]	LEFT	[10, 6]	0	0.1
[10, 5]	RIGHT	[10, 5]	0	0.9
[10, 5]	RIGHT	[10, 6]	0	0.1
[10, 6]	UP	[10, 7]	0	0.9
[10, 6]	UP	[9, 6]	0	0.1
[10, 6]	DOWN	[10, 5]	0	0.9
[10, 6]	DOWN	[9, 6]	0	0.1
[10, 6]	LEFT	[9, 6]	0	0.8
[10, 6]	LEFT	[10, 7]	0	0.1
[10, 6]	LEFT	[10, 5]	0	0.1
[10, 6]	RIGHT	[10, 6]	0	0.8
[10, 6]	RIGHT	[10, 7]	0	0.1
[10, 6]	RIGHT	[10, 5]	0	0.1
[10, 7]	UP	[10, 8]	0	0.9
[10, 7]	UP	[9, 7]	0	0.1
[10, 7]	DOWN	[10, 6]	0	0.9
[10, 7]	DOWN	[9, 7]	0	0.1
[10, 7]	LEFT	[9, 7]	0	0.8

[10, 7]	LEFT	[10, 8]	0	0.1
[10, 7]	LEFT	[10, 6]	0	0.1
[10, 7]	RIGHT	[10, 7]	0	0.8
[10, 7]	RIGHT	[10, 8]	0	0.1
[10, 7]	RIGHT	[10, 6]	0	0.1
[10, 8]	UP	[10, 9]	0	0.9
[10, 8]	UP	[9, 8]	0	0.1
[10, 8]	DOWN	[10, 7]	0	0.9
[10, 8]	DOWN	[9, 8]	0	0.1
[10, 8]	LEFT	[9, 8]	0	0.8
[10, 8]	LEFT	[10, 9]	0	0.1
[10, 8]	LEFT	[10, 7]	0	0.1
[10, 8]	RIGHT	[10, 8]	0	0.8
[10, 8]	RIGHT	[10, 9]	0	0.1
[10, 8]	RIGHT	[10, 7]	0	0.1
[10, 9]	UP	[10, 10]	1	0.9
[10, 9]	UP	[9, 9]	0	0.1
[10, 9]	DOWN	[10, 8]	0	0.9
[10, 9]	DOWN	[9, 9]	0	0.1
[10, 9]	LEFT	[9, 9]	0	0.8
[10, 9]	LEFT	[10, 10]	1	0.1
[10, 9]	LEFT	[10, 8]	0	0.1
[10, 9]	RIGHT	[10, 9]	0	0.8
[10, 9]	RIGHT	[10, 10]	1	0.1
[10, 9]	RIGHT	[10, 8]	0	0.1
[10, 10]	UP	[0, 0]	0	1
[10, 10]	DOWN	[0, 0]	0	1
[10, 10]	LEFT	[0, 0]	0	1
[10, 10]	RIGHT	[0, 0]	0	1