Exercise: MazeGame

The game initializes with a maze size of 5x5.
The loop continues indefinitely until the player either reaches the exit or hits an obstacle.

During each iteration of the loop:

- The current game state is displayed, showing the player's position, the exit position, and the maze layout.
- The player is prompted to enter a move direction (up, down, left, or right).
- The player's position is updated according to the input direction.
- The game status is checked to determine whether the player wins, hits an obstacle, or continues exploring.
- Depending on the game status, an appropriate message is printed, and the loop either continues or breaks to end the game.

1

```
P . . # .
# . # . .
. . . . .
# # # # .
# # . . E
```

```
Enter your move (up, down, left, right):
right
```

2

```
Continue exploring...
. P . # .
# . # . .
. . . . .
# # # # .
# # . . E
```

```
Enter your move (up, down, left, right):
down
```

3

```
Continue exploring...
. . . # .
# P # . .
. . . . .
# # # # .
# # . . E
```

```
Enter your move (up, down, left, right):
down
Continue exploring...
```

4

```
. . . # .
# . # . .
. P . . .
# # # # .
# # . . E
```

```
Enter your move (up, down, left, right):
right
```

5

```
Continue exploring...
. . . # .
# . # . .
. . P . .
# # # # .
# # . . E
```

```
Enter your move (up, down, left, right):
right
```

6

```
Continue exploring...
. . . # .
# . # . .
. . . P .
# # # # .
# # . . E
```

```
Enter your move (up, down, left, right):
right
```

7

```
Continue exploring...
. . . # .
# . # . .
. . . . P
# # # # .
# # . . E
```

```
Enter your move (up, down, left, right):
down
```

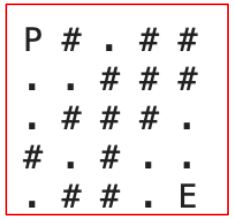
8

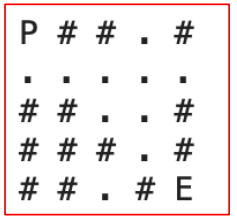
```
Continue exploring...
. . . # .
# . # . .
. . . . .
# # # # P
# # . . E
```

```
Enter your move (up, down, left, right):
down
Congratulations! You win!
```

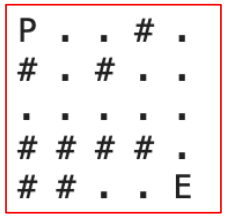
Modify the mazeGame.py to

1. Generate a maze with at least one path to exit
   The pathways of the maze must be randomized.





2. Automatically solve the maze



Submission requirements:

1. source codes (Part1.py; Part2.py)
2. PDF documents
   Explaining your strategy and demonstrate the results using a 10x10 maze.
3. Additional features! (shortest path, multiple paths,... and more)
4. Upload to e-learning before 3/15 14:10
5. Schedule a demo with the course TA (賴佳嬪)