Homework #4

Problem statement

Write a program that generates a '' random walk'' across I*J array. The array will contain characters (all ' . ' initially). The program must randomly ''walk'' from element to element, always going up, down, left , or right by one element. The elements visited by the program will be labeled with letters A through Z, in order visited. Here's an example of the desired output.

For example, I = 10 and j = 10
```
A B · F G · · · · ·
· C D E H · · · · ·
Q P · J I · · · · ·
R O N K · · · · · ·
S · M L · · · · · ·
T · · · · · · · · ·
U V · · · · · · · ·
· W · · · · · · · ·
· X · · · · · · · ·
· Y Z · · · · · · ·
```

(a) The "start" is at the upper left corner
(b) Won't go outside the array
(c) It doesn't take us to an element that already has a letter assigned . It will try to move toward another direction. If all four directions are blocked , the program must terminate.

Hint: Use srand() to generate random numbers.

Requirements

1. Write a C program that is capable of handling input.
2. Properly comment your program.
3. Plagiarism is not allowed! In case of plagiarism, you'll get 0 for the score and be put into the watch list for all further assignments!
4. See the sample run below for the required output format.

Submission

Be sure to upload your source code to E3 by the due date and name your file as "**xxxxxxx_hw4.c**", where **xxxxxxx** is your student ID.

Sample run

Enter the size of the maze: 10 10

```
A B · F G · · · · ·
· C D E H · · · · ·
· P Q J I · · · · ·
· O N K · · · · · ·
· · M L · · · · · ·
· · · · · · · · · ·
· · · · · · · · · ·
· · · · · · · · · ·
· · · · · · · · · ·
· · · · · · · · · ·
```

Enter the size of the maze: ^Z