2. Given the algorithm, main function, and maze shown at the end of problem 1, what are the first 12 (r,c) coordinates popped off the stack by the algorithm?

Ans: the 12 (r, c) coordinates popped off are:

**(row, colm): (6,4)**

**(row, colm): (6,3)**

**(row, colm): (6,5)**

**(row, colm): (7,5)**

**(row, colm): (8,5)**

**(row, colm): (8,6)**

**(row, colm): (8,7)**

**(row, colm): (8,8)**

**(row, colm): (7,8)**

**(row, colm): (6,6)**

**(row, colm): (5,4)**

**(row, colm): (4,4)**

4. Given the same main function and maze as are shown at the end of problem 1, what are the first 12 (r,c) coordinates popped from the queue in your queue-based algorithm?

How do the two algorithms differ from each other? (Hint: how and why do they visit cells in the maze in a different order?)

Ans:

**(row, colm): (6,4)**

**(row, colm): (5,4)**

**(row, colm): (6,5)**

**(row, colm): (6,3)**

**(row, colm): (4,4)**

**(row, colm): (6,6)**

**(row, colm): (7,5)**

**(row, colm): (3,4)**

**(row, colm): (4,5)**

**(row, colm): (8,5)**

**(row, colm): (2,4)**

**(row, colm): (4,6)**

For the stack the last item in the stack pop off first.

But in Queue, order of pop off items are different. First in first out. So, the items comes first will pop off first.