Kyle Kodani

HW2

2) (1,1) (2,1) (3,1) (1,2) (1,3) (1,4) (2,4) (3,4) (3,3)

4) (1,1) (1,2) (2,1) (1,3) (3,1) (1,4) (2,4) (3,4) (3,5)

With the stack-based algorithm, the most recent coordinate that was valid to travel to gets its surrounding coordinates checked first. The stack is filled with all the valid adjacent coordinates. The coordinate that was most recently added is on the top of the stack, therefore it gets popped and its adjacent coordinates get checked and possibly added to the top of the stack.

With the queue-based algorithm, the oldest valid coordinate gets its adjacent coordinates checked first. The queue is filled with all the valid adjacent coordinates. The coordinate that was most recently added is at the end of the queue, while the oldest coordinate is at the front of the queue. This is the primary difference between a stack and a queue. The oldest coordinate (at the front of the queue) gets popped, and its adjacent coordinates get checked and possibly added to the end of the queue.