Homework 2

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2. First 12 (r,c) Coordinates:

(4,3) (3,3) (5,3) (5,2) (5,1) (6,1) (7,1) (8,1) (8,2) (6,3) (4,4) (4,5)

4. First 12 (r,c) Coordinates:

(4,3) (4,4) (5,3) (3,3) (4,5) (6,3) (5,2) (4,6) (5,5) (5,1) (4,7) (6,5)

The two algorithms differ from each other because they visit cells in different ways. The stack uses a “First In Last Out” algorithm, so that it always takes the most recently added cell and search for possible next movements. Thus, every time when there are multiple possible movements for a cell, it will first push all the next possible movements for this cell, and then search along this path, figuring out whether it can lead to the ending point, and then move on to the next path. On the other hand, the queue follows a “First In First Out” algorithm, so it will always take the oldest cell in the queue and search for its corresponding possible next movement. Thus, this algorithm will search for all paths at the same time.