CS590: Project 3 - Graph modeling and graph algorithms

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1. What type of graph would you use to model the problem input (detailed in the Section 3.1),
and how would you construct this graph? (I.e., what do the vertices, edges, etc., correspond
to?) Be specific here; we discussed a number of different types of graphs in class.

- To solve this problem I would use a directed, unlabeled, unweighted graph
- The vertices would contain the value of the number at the location of the vertex and its location would be defined by its location in a two dimensional grid. The top left of the grid would correspond with (0, 0) and the destination would be (n-1, n-1)

2. What algorithm will you use to solve the problem? Be sure to describe not just the general
algorithm you will use, but how you will identify the sequence of moves Jim must take in order to reach the goal.

- To solve this problem I would use an adjacency matrix to represent the board where the [0, 0]th item would correspond to (0, 0) on the board and [n-1, n-1] would correspond to (n-1, n-1) on the board.
- In order to find a path I would use DFS traversal. When we find the location with the value we are looking for we would then begin to return. As we return we will update a variable for tracking the path. This variable can then be reversed to find the path from the origin to the destination.