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**Date: 15/12/19**

CS 231 Assignment#2 Report:

Algorithm and Data Structure:

This code is written on C++. It uses **Depth first search** on **a Graph Data structure**. The graph is implemented using **adjacency list** approach. The program works by trying all four possible probabilities for every single state of 2D array. Then it checks that whether that State has already been visited. If the new state is not visited previously, than the algorithm inserts new state in Graph and establishes its previous link.

Testing The Code:

The text file “input\_start.txt” contains the Initial state and “input\_target.txt” contains the goal state of 2D array. After setting up these two files, run the program and it will show all the Vertices of graph formed with edges .

***Note:***

***Empty index is represented by -1 in text file and code as well. The code understands -1 as empty coordinate.***