

Project 4: Graph: Topological Sort

Problem Description

In this project, you need to create a graph as shown in Figure 1, and do a topological sort on the Graph. You can read a graph G from an input file¹. The first line in that file will be a single integer which denotes the number of vertices in G . The next lines will be the labels for the vertices in alphabetical order. There will be one label to a line. The labels are unique. The next line after the labels for vertices will be a single number which denotes the number of edges in G . There will be one edge per line. Each edge will be of the form - fromVertex and toVertex.

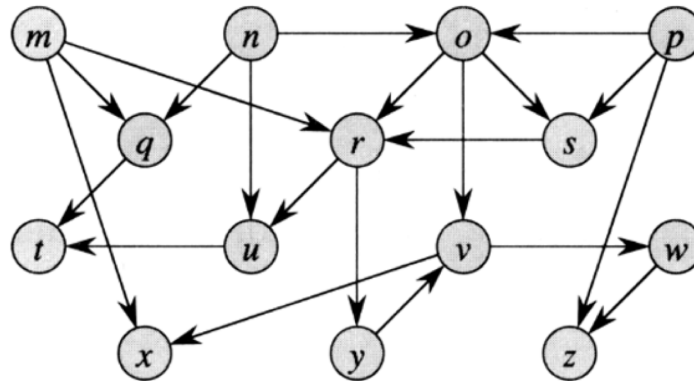


Figure 1: Example graph.

For this assignment you may work with a partner. All the following functions are required in your program:

- (1) A function to test whether the given Graph contains a cycle.
- (2) A function to do a topological sort on that Graph and output the ordered vertices.

¹<http://seu.wangmengsd.com/ds/graph.txt>