Lab Assignment 5

Problem 1: DFS

a) Write a program that reads in a directed graph and a source vertex and performs a DFS on the graph. Print the timestamps for each vertex. Also print the tree edges, the back, forward and cross edges in the resulting DFS tree.

b) Write a program to read in a DAG and print a topological ordering of the DAG.

Problem 2:

A graph is said to be **two-edge connected** if by removing any edge of the graph, the graph still remains connected.

Design and implement a O(V+E) algorithm to check if an input undirected graph is two-edge connected or not. (*Hint: Try and suitably modifiy DFS)*