Project 5 (due date 12/07/20 at 11:59 PM ET)

Write a C++ program that ***inputs*** a graph and execute the following function:

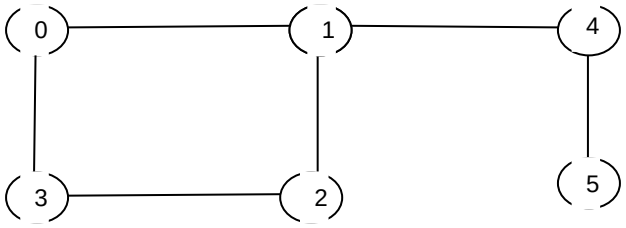
a) Use Depth First Search to find the **number of connected components** and at least a **cycle** (the graph must contain at least a cycle) of the graphs shown below. Display the edges of the cycles, for example in graph one below, the following edges should be displayed "**Cycle: (0,1), (1,2), (2,3), (3,0)"**.

In order to accomplish this task, you must declare a *class Graph* as defined in class and implement a function *Creates ( )* that creates the link-list of the graph (see lectures notes). Also the nodes must be labeled from 0 to n-1 (n is the number of nodes). In the class function Creates, a pair of nodes is input (example: 0, 1 - representing the edge (0,1)).

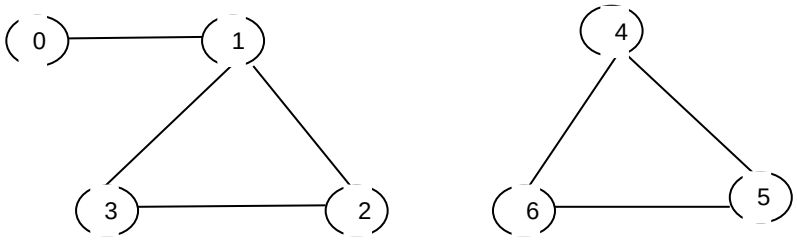
It is recommended to implement the function Creates first.

Must try the following graphs as inputs (other graphs won't be accepted)

1)



2)



3)