IV SEMESTER B. Tech. (CSE) ALGORITHMS LAB (CSE 2261) - 2020
End Semester Lab Examination
DURATION: 2 hours(1hr.30 min. writing + 30 min. uploading) MARKS: 20
Date: 03-06-2020, Timing: 3PM-5PM

Instructions to candidates

- **Write your Name, Branch, Sec , Roll No:, Reg.No: , Signatute on the paper**
- **Write the program in C on a plain paper and upload it.**

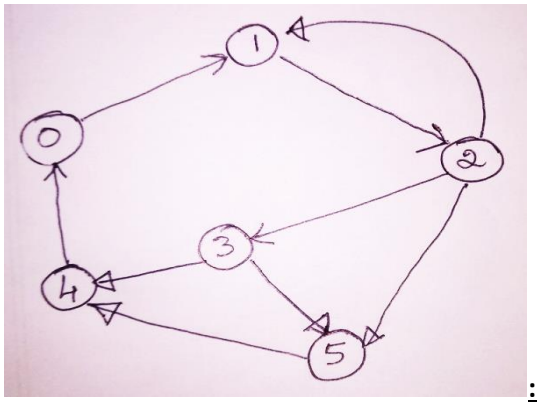
Write a program to traverse any given directed graph in BFS method, starting from one vertex resolving ties by vertex increasing order.

1). Display the visiting order of the vertices.
2). Count the number of cycles in the given graph.
3). Display the type of each cycle in the given graph as **increasing**, **decreasing** or **combined cycle** along with vertices involved in it, based on vertex labelling.

Note:

- A cycle is "**increasing cycle**" if vertices are in ascending order excluding the starting & ending vertex and considering either the lowest numbered or highest numbered vertex as the starting vertex.
- A cycle is "**decreasing cycle**" if vertices are in descending order excluding the starting & ending vertex and considering either the lowest numbered or highest numbered vertex as the starting vertex..
- A cycle is "**combined cycle**" if it is otherthan "**increasing cycle**" or "**decreasing cycle**".

Sample I/O



Output:
Visiting order : 0->1->2->3->5->4
Cycles (Starting with lowest vertex):
0->1->2->3->4->0 **Ascending**
0->1->2->5->4->0 **Mixed**
0->1->2->3->5->4->0 **Mixed**
1->2->1 **Mixed**
Number of cycles : 4

Evaluation Scheme

Write-up

1 (05M)	2 (05M)	3 (10M)	Total (20M)