

Lab 14: Topological Sort Algorithm

Marks: 10

Objective:

Implement the Topological Sort algorithm using both BFS (Kahn's Algorithm) and DFS techniques to order the vertices of a Directed Acyclic Graph (DAG).

Tasks:

1. Implement the Topological Sort using BFS. **(Marks:5)**
2. Implement the Topological Sort using DFS. **(Marks:5)**

Sample Input 1:

Number of vertices: 6

Edges:

- (0, 1)
- (0, 2)
- (1, 3)
- (1, 4)
- (2, 4)
- (3, 5)
- (4, 5)
- (2, 3)

Expected Output 1:

- One possible Topological Sort :0, 2, 1, 4, 3, 5

Sample Input 2:

Number of vertices: 6

Edges:

- (5, 2)
- (5, 0)
- (4, 0)

- (4, 1)
- (3, 1)
- (2, 3)
- (2, 1)
- (3, 0)

Expected Output 2:

- One possible Topological Sort : 5, 4, 2, 3, 1, 0