LAB Assignments related to Graph

By Dr. GC Jana

[Note: After completion in GFG and LeetCode, students need to code through the link mentioned in my website**]**

1. Implement Graph Using Adjacency List: Write a class to implement a basic graph using an adjacency list with methods to add vertices and edges. [Read the Idea: link-edges, link-vertices] [Do programming-GFG] [Do programming-LeetCode-Course Schedule II]

2. Breadth-First Search (BFS): Write a function to perform BFS on a graph from a given start vertex. [Read the Idea] [Do programming-GFG] [Do programming-LeetCode-clone graph]

3. Depth-First Search (DFS): Write a function to perform DFS on a graph from a given start vertex. [Read the Idea] [Do programming-GFG] [Do programming-LeetCode- deepest leaves sum]

4. Detect Cycle in an Undirected Graph: Write a function to detect if there is a cycle in an undirected graph. [Read the Idea] [Do programming-GFG] [Do programming-LeetCode- RedundantConnection]

5. Connected Components in an Undirected Graph: Write a function to find the number of connected components in an undirected graph.

[Read the Idea] [Do programming-GFG] [Do programming-LeetCode]

6. Find Shortest Paths in a graph: Write a function to find Shortest Paths from Source to all Vertices using Dijkstra's Algorithm. [Read the Idea] [Do programming-GFG] [Do programming-LeetCode]

7. Find Shortest Paths in a graph: Write a function to find Shortest Paths from Source to all Vertices using Floyd Warshall Algorithm. [Read the Idea] [Do programming-GFG] [Do programming-LeetCode]