Problems on Graph

1. Write a C program to represent a graph using an adjacency matrix.

2. Write a C program that implements a function to add a new vertex to an existing graph.

3. Write a C function to add a directed edge between two vertices in a graph.

4. Write a C program that implements DFS (Depth-First Search) traversal for a graph in C. Print the order of visited vertices.

5. Write a C program to perform BFS (Breadth-First Search) traversal on a graph. Print the order of visited vertices.

6. Write a C program that implements a function in C to check whether a given graph contains a cycle or not.

7. Write a C program to perform topological sorting on a directed acyclic graph (DAG).

8. Write a C program that implements Prim's algorithm to find the minimum spanning tree of a connected, undirected graph in C.

9. Write a C program that creates a function to find the shortest path from a source vertex to all other vertices using Dijkstra's algorithm.

10. Write a C program to find the traversal order (pre-order, in-order, post-order) of a binary tree that represents a graph.