Lab – 12
15/04/2025

Graph ADT – Adjacency List and Matrix

Note:

1. Use only Visual Studio code type your program and run your code.
2. Always follow industry coding best practices.

A. Write a separate C++ menu-driven program to implement Graph ADT with an adjacency matrix. Maintain proper boundary conditions and follow good coding practices. The Graph ADT has the following operations,

1. Insert
2. Delete
3. Search
4. Display
5. Exit

What is the time complexity of each of the operations? **(K4)**

B. Write a separate C++ menu-driven program to implement Graph ADT with an adjacency list. Maintain proper boundary conditions and follow good coding practices. The Graph ADT has the following operations,

1. Insert
2. Delete
3. Search
4. Display
5. Exit

What is the time complexity of each of the operations? **(K4)**

C. Write a separate C++ menu-driven program to implement Graph ADT with the implementation for Prim's algorithm, Kruskal's algorithm, and Dijkstra's algorithm. Maintain proper boundary conditions and follow good coding practices. **(K3)**