

# 1. Introduction

## Module 9: Advanced Graph

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### Learning Objectives

After completing this module, students are expected to be able to:

1. Explain the basic concepts of **Graph** (including adjacency list and adjacency matrix representation).
  2. Implement graph traversal using **DFS (Depth First Search)** and **BFS (Breadth First Search)**.
  3. Understand and implement the **Shortest Path algorithm (Dijkstra)**.
  4. Implement **Minimum Spanning Tree (MST)** algorithms: **Prim** and **Kruskal**.
  5. Compare the efficiency of manual graph algorithms with STL libraries such as **priority\_queue** and **disjoint set union (DSU)**.
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