24.Implementation of Minimum Spanning Tree using Prim’s Algorithm

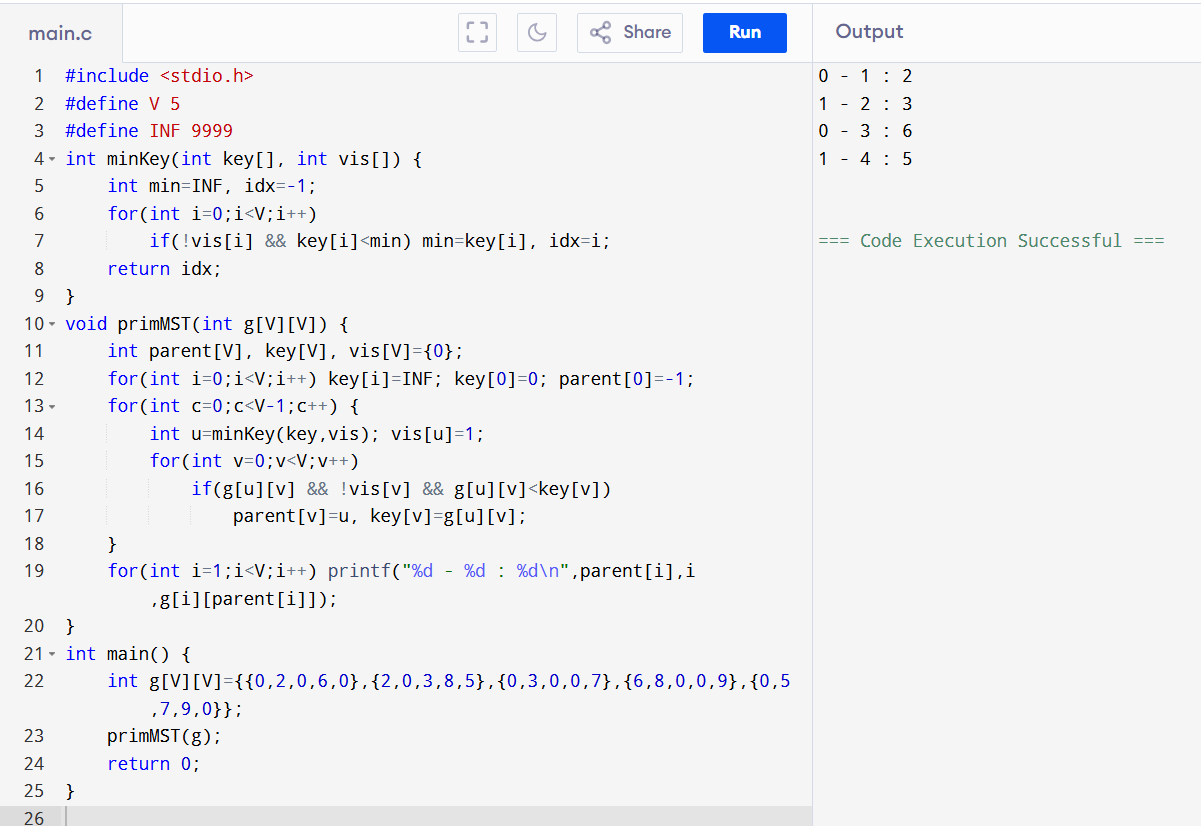
**Aim**

To write a C program to implement the **Minimum Spanning Tree (MST)** using **Prim’s Algorithm**

**Algorithm: Prim’s Algorithm**

1. **Start**
2. Input the weighted graph as an adjacency matrix.
3. Initialize:
   * A key[] array with ∞ for all vertices except the first vertex (set to 0).
   * A parent[] array to store the constructed MST.
   * A visited[] array to mark selected vertices.
4. Repeat for V-1 edges (where V = number of vertices):
   * Select the vertex u with the minimum key[u] that is not yet visited.
   * Mark u as visited.
   * For every adjacent vertex v of u:
     + If v is not visited and weight(u,v) < key[v], then update key[v] and set parent[v] = u.
5. After all vertices are processed, the edges (parent[v], v) form the Minimum Spanning Tree.
6. Print the MST edges and their weights.
7. **Stop**

**Program**

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