

# DATA STRUCTURE AND PROGRAM DESIGN LAB-08

8. Write a program which accepts undirected graph and a starting node, determine the lengths of the shortest paths from the starting node to all other nodes in the graph. If a node is unreachable, its distance is -1. Nodes will be numbered consecutively from 1 to n, and edges will have varying distances or lengths. Find the sub tree using Dijkstra algorithm.

SAMPLE OUTPUT:

```
80     scanf("%d", &E);
81
82     printf("Enter edges (u v w):\n");
83     for (int i = 0; i < E; i++) {
84         scanf("%d%d%d", &edges[i].u, &edges[i].v, &edges[i].w);
85     }
86
87     KruskalMST(edges, V, E);

```

PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS

```
PS C:\Users\Ankush\OneDrive\Desktop\DSPD-LAB>
PS C:\Users\Ankush\OneDrive\Desktop\DSPD-LAB> ./a.exe
Enter number of vertices: 4
Enter number of edges: 5
Enter edges (u v w):
0 1 10
0 2 6
0 3 5
1 3 15
2 3 4

Edges in the Minimum Spanning Tree:
2 -- 3 == 4
0 -- 3 == 5
0 -- 1 == 10

Total weight of MST = 19
PS C:\Users\Ankush\OneDrive\Desktop\DSPD-LAB>
```

Practical-