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 Dijikstra algorithm.

SAMPLE OUTPUT:

```
Enter number of nodes: 5
Enter adjacency matrix (0 for no edge, positive weight otherwise):
0 10 0 5 0
10 0 1 2 0
0 1 0 0 4
5 2 0 0 2
0 0 4 2 0
Enter starting node: 1

Shortest distances from node 1:
Node 1: 0
Node 2: 7
Node 3: 8
Node 4: 5
Node 5: 7


Shortest Path Tree (Parent -> Child):
4 -> 2
2 -> 3
1 -> 4
4 -> 5
```