

```

#include <stdio.h>

#include <limits.h>

#define MAX 10

#define INF 9999

int minDist(int dist[], int visited[], int n) {

    int min = INF, index = -1;

    for (int i = 0; i < n; i++) {

        if (!visited[i] && dist[i] < min) {

            min = dist[i];

            index = i;

        }

    }

    return index;

}

void dijkstra(int graph[MAX][MAX], int n, int src) {

    int dist[MAX], visited[MAX];

    for (int i = 0; i < n; i++) {

        dist[i] = INF;

        visited[i] = 0;

    }

    dist[src] = 0;

    for (int count = 0; count < n - 1; count++) {

        int u = minDist(dist, visited, n);

        if (u == -1) break;

        visited[u] = 1;

        for (int v = 0; v < n; v++) {

            if (!visited[v] && graph[u][v] && dist[u] + graph[u][v]
< dist[v]) {

                dist[v] = dist[u] + graph[u][v];

            }

        }

    }

    printf("\nVertex\tDistance from Source %d\n", src);

    for (int i = 0; i < n; i++) {

        if (dist[i] == INF)

            printf("%d\tINF\n", i);

        else

            printf("%d\t%d\n", i, dist[i]);

    }

```

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}

int main() {

    int n, graph[MAX][MAX], src;

    printf("Enter number of vertices: ");

    scanf("%d", &n);

    printf("Enter adjacency matrix (0 for no edge):\n");

    for (int i = 0; i < n; i++)

        for (int j = 0; j < n; j++)

            scanf("%d", &graph[i][j]);

    printf("Enter source vertex: ");

    scanf("%d", &src);

    dijkstra(graph, n, src);

    return 0;

}

```

#### Output

```

Enter number of vertices: 5
Enter adjacency matrix (0 for no edge):
0
10
0
0
5
0
0
1
0
2
0
0
0
4
0
7
0
6
0
0
0
0
3
9
2
0
Enter source vertex: 0

Vertex Distance from Source 0
0 0
1 8
2 9
3 7
4 5

=== Code Execution Successful ===

```