

Lab-10 - Dijkstra



Date: _____

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```
#include <stdio.h>
#include <conio.h>
#define INFINITY 9999
#define MAX 10
```

```
void dijkstra(int G[MAX][MAX], int n, int startnode);
```

```
int main()
```

```
{
```

```
    int G[MAX][MAX], i, j, n, v;
```

```
    printf("Enter no of vertices");
```

```
    scanf("%d", &n);
```

```
    printf("\nEnter the adjacency matrix: \n");
```

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

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

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

```
    printf("Enter the starting node");
```

```
    scanf("%d", &n);
```

```
    dijkstra(G, n, u);
```

```
    return 0;
```

```
}
```

```
void dijkstra(int G[MAX][MAX], int n, int startnode)
```

```
{
```

```
    int cost[MAX][MAX], distance[MAX], pred[MAX];
```

```
    int visited[MAX], count, mindistance, nextnode;
```

```
    int i, j;
```

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

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

```
            if (G[i][j] == 0)
```



```
cost[i][j] = INFINITY;  
else  
cost[i][j] = G[i][j]  
}
```

Output

Enter the graph

0 9 2 5

9 0 6 8

2 6 0 0

5 8 0 0

Vertex	Distance from Source
0	0
1	8
2	2
3	5