

```

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9 #include<stdio.h>
10 #include<conio.h>
11 #define infinity 999
12 void dij(int n,int v,int cost[10][10],int dist[100]){
13     int i,u,count,w,flag[10],min;
14     for(i=1;i<=n;i++)
15         flag[i]=0,dist[i]=cost[v][i];
16     count=2;
17     while(count<=n){
18         min=99;
19         for(w=1;w<=n;w++)
20             if(dist[w]<min && !flag[w])
21                 min=dist[w],u=w;
22         flag[u]=1;
23         count++;
24         for(w=1;w<=n;w++)
25             if((dist[u]+cost[u][w]<dist[w]) && !flag[w])
26                 dist[w]=dist[u]+cost[u][w];
27     }
28 }
29 void main(){
30     int n,v,i,j,cost[10][10],dist[10];
31     printf("\n Enter the number of nodes:");
32     scanf("%d",&n);
33     printf("\n Enter the cost matrix:\n");
34     for(i=1;i<=n;i++)
35         for(j=1;j<=n;j++){
36             scanf("%d",&cost[i][j]);

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main.c
20     if(dist[w]<min && !flag[w])
21         min=dist[w],u=w;
22     flag[u]=1;
23     count++;
24     for(w=1;w<=n;w++)
25         if((dist[u]+cost[u][w]<dist[w]) && !flag[w])
26             dist[w]=dist[u]+cost[u][w];
27     }
28 }
29 void main(){
30     int n,v,i,j,cost[10][10],dist[10];
31     printf("\n Enter the number of nodes:");
32     scanf("%d",&n);
33     printf("\n Enter the cost matrix:\n");
34     for(i=1;i<=n;i++)
35         for(j=1;j<=n;j++){
36             scanf("%d",&cost[i][j]);
37             if(cost[i][j]==0)
38                 cost[i][j]=infinity;
39         }
40     printf("\n Enter the source matrix:");
41     scanf("%d",&v);
42     dij(n,v,cost,dist);
43     printf("\n Shortest path:\n");
44     for(i=1;i<=n;i++)
45         if(i!=v)
46             printf("%d->%d,cost=%d\n",v,i,dist[i]);
47     getch();
48 }
49
```

⚡

main.c

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if(dist[w]<min && !flag[w])

min=dist[w],u=w;

flag[u]=1;

count++;

for(w=1;w<=n;w++)

input

Enter the number of nodes:5

Enter the cost matrix:

999 30 999 999 50

0 999 999 999 999

999 80 20 999 999

999 999 999 40 999

55 999 999 999 70

Enter the source matrix:1

Shortest path:

1->2,cost=30

1->3,cost=999

1->4,cost=999

1->5,cost=50

...Program finished with exit code 0

Press ENTER to exit console.