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1BM17CS063.

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Cycle-2-Lab-3

```
#include<limit.h>
#include<stdio.h>
#define V9.
 int minDistance (int dist[], bool sptset[])
{
  int main = INT_MAX, min_index;
  for (int v=0; v<V; v++)
   if (spt set[v] == false && dist[v]<=min)
     min = dist[v], min_index = v;
  return min_index;
}
void printSolution (int dist[]).
{
   printf("Vertex \t\t Distance from Source\n");
  for (int i=0; i<V; i++)
  printf("%d \t\t %d\n", i, dist[i]);
}
void dijkstra(int graph [V][V], int src)
{
 int dist[V];
 bool sptset[V];
for (int i=0; i<V; i++).
    dist[i] = INT_MAX, sptSet[i] = false;
    dist[src] = 0;
for (int count = 0; count<V-1; cout++){
 int u = min Distance (dist, sptset);
  sptSet[u] = true;
```

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```
    for (int v = 0; v < V; v++)
if(!Spt[v] && graph[v][v] && dist[v] != INT_MAX
    && dist[v] + graph[v][v] < dist[v])
dist[v] = dist[v] + graph[v][v];
}
printSolution(dist);
}
int main()
{
int graph[V][V] = {{0,4,0,0,0,0,0,8,0},
                   {4,0,8,0,0,0,0,11,0},
                   {0,8,0,7,0,4,0,0,2},
                   {0,0,7,0,9,14,0,0,0},
                   {0,0,0,9,0,10,0,0,0},
                   {0,0,4,14,10,0,2,0,0},
                   {0,0,0,0,0,2,0,1,6},
                   {8,11,0,0,0,0,1,0,7},
                   {0,0,2,0,0,0,6,7,0}};
dijkstra(graph,0);
return 0;
}
```

Diana