Lab - 9 Prims Algorithm Date: 01/07/2021

```
#include <stdio.h>
#include <stdlib.h>
Void prims()
 int c[10][10], n;
  void main()
 {
 int i,j;
 printf("\n enter the no. of vertices:");
 scanf("%d", &n);
printf("\n enter the cost matrix\n");
 for(i=1 ; i<=n; i++)
  {
 for(j=1 ; j<=n ; j++)
  {
  scanf("%d", &c[i][j]);
  }
}
 prims();
 }
 Void prims()
  {
 int i,j,u,v, min ;
 int ne=0, mincost=0;
 int elec[10];
  for (i=1 ; i<=n ; i++)
   {elec[i]=0;
  }
```

```
elec[1]=1;
while(ne!=n-1)
{
min=9999
for(i=1 ; i<=n ; i++)
for(j=1 ; j<=n ; j++)
{
if(elec[i]==1)
{
if(c[i][j]<min)
{
min=c[i][j];
u=i;
v=j
}
}
}
}
if(elec[v]!=1)
{
printf("\n%d--->%d=%d\n",u,v,min);
elec[v]=1;
ne=ne+1;
mincost=mincost+min;
}
c[u][v]=c[v][u]=9999;
}
printf("\n mincost=%d",mincost);
}
```

Lab-9 . Kruskal -Algorithm 01/07/2021

```
#include <stdio.h>
#include <conio.h>
Void kruskal ();
int c[10][10], n,
Void main ()
{
int i,j;
printf ("\n enter the no. of vertices\t");
scanf ("%d", &n);
printf ("\n enter the cost matrix\n");
for (i=1 ; i<n ; i++)
{
for (j=1 ; j<n ; j++)
{
scanf ("%d", &c[i][j]);
}
}
kruskal();
}
Void kruskal()
{
int i,j,u,v,a,b,min ;
int ne=0 , mincost = 0;
int parent [10];
for [i=1 ; i<n ; ++).
{
parent [i]=0 ;
}
```

```
while (ne!=n-1)
{
min = 9999;
for (i=1 ; i<=n ; i++)
{
for (j=1; j<=n ; j++)
{
if (c[i][j] < min)
  {
  min = c[i][j];
    u= a=i;
    v= a=j;
  }
}
}
while (parent[u]!=0)
{
 u= parent[u];
}
while (parent[v]!=0)
{
 v=parent[v];
}
if (u!=v)
{
printf ("\n%d ---> %d =%d\n", a, b, min);
parent[v]=u;
  ne=ne+1;
minCost = minCost + min;
}
c[a][b] = c[b][a]= 9999;
}
printf ("\n minCost = %d", minCost); }
```