15. Find Minimum Cost Spanning Tree of a given undirected graph using Kruskals algorithm.

Program:

```
#include<stdio.h>
#include<conio.h>
void kruskals();
int c[10][10],n;
void main()
{
 int i,j;

 printf("Enter the no. of vertices:");
 scanf("%d",&n);
 printf("Enter the cost matrix:\n");
 for(i=1;i<=n;i++)
 {
  for(j=1;j<=n;j++)
  {
   scanf("%d",&c[i][j]);
  }
 }
 kruskals();

}

void kruskals()
{
 int i,j,u,v,a,b,min;
 int ne=0,mincost=0;
 int parent[10];
 printf("The edges included in MST are:");
 for(i=1;i<=n;i++)
 {
  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=b=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("\nMincost=%d",mincost);
}
```

Output Screenshot: