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Online C++ Compiler.

Code, Compile, Run and Debug C++ program online.

Write your code in this editor and press "Run" button to compile and execute it.

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#include <iostream>

using namespace std;

class PRIMS
{
int G[10][10],visited[10];
int n,e;
public:
void Init()
{
for(int i=0;i<10;i++)
{
visited[i]=0;
for(int j=0;j<10;j++)
{
G[i][j]=0;
}
}
}

void Accept_graph();
void Display_graph();

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void Prims_MST(int);

};

void PRIMS::Accept_graph()

{

int vi,vj;

cout<<"\n Enter the no of cities =>";

cin>>n;

cout<<"\n Enter the no of connecting lines=>";

cin>>e;

for(int i=0;i<e;i++)

{

cout<<"\n Enter the connected pair of cities=>";

cin>>vi>>vj;

cout<<"\n Enter the cost to connect ("<<vi<<","<<vj<<") = ";

cin>>G[vi][vj];

G[vj][vi]=G[vi][vj];

}

}

void PRIMS::Display_graph()

{

for(int i=1;i<=n;i++)

{

for(int j=i+1;j<=n;j++)

{

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

cout<<"\n Cost to connect ("<<i<<","<<j<<") ="<<G[i][j];

}

}

cout<<"\n Matrix Representation=> \n";

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for(int i=1;i<=n;i++)
{
for(int j=1;j<=n;j++)
{
cout<<" "<<G[i][j];
}
cout<<"\n";
}
}

void PRIMS::Prims_MST(int v)
{
int min=999,st=0,k,l,cost=0;
for(int i=1;i<=n;i++)
{
visited[i]=0;
}
visited[v]=1;
while(st<n-1)
{
min=999;
for(int i=1;i<=n;i++)
{
if(visited[i])
{
for(int j=1;j<=n;j++)
{
if((G[i][j]!=0) && (!visited[j]) )
{
if(G[i][j]<min)

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{
min=G[i][j];
k=j;l=i;
}
}
}
}
}

cout<<(" <<l<<","<<k<<") = "<<G[l][k]<<"\n ";
cost=cost+G[l][k];
visited[k]=1;
st++;
}

cout<<"\n Minimum cost required to connect different offices with phone lines="<<cost;
}

int main()
{
PRIMS p;
int ch,z;
do
{
cout<<"\n ----- MENU -----";
cout<<"\n 1. Accept Graph ";
cout<<"\n 2. Display Graph ";
cout<<"\n 3. Minimum Spanning Tree ";
cout<<"\n 4. Exit ";
cout<<"\n -----";
cout<<"\n Enter your choice=>";
cin>>ch;

```

```
switch(ch)
{
case 1:
p.Init();
p.Accept_graph();
break;
case 2:
p.Display_graph();
break;
case 3:
cout<<"\n Enter the starting vertex=";
cin>>z;
p.Prims_MST(z);
break;
case 4: cout<<"\n Exiting.....";
break;
default:
cout<<"\n Enter the correct choice.....!";
}
}while(ch!=4);
return 0;
}
```