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ROLL NO: 17

EXPERIMENT NO: 6

To implement Prim's MST Algorithm using Greedy Method.

Code:

#include<stdio.h>

#include<conio.h>

int a,b,u,v,n,i,j,ne=1;

int visited[10]={0},min,mincost=0,cost[10][10];

void main()

{

clrscr();

printf("Enter the number of nodes:");

scanf("%d",&n);

printf("Enter the adjacency matrix:\n");

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

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

{

scanf("\t%d",&cost[i][j]);

if(cost[i][j]==0)

cost[i][j]=999;

}

visited[1]=1;

while(ne < n)

{

for(i=1,min=999;i<=n;i++)

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

if(cost[i][j]< min)

if(visited[i]!=0)

{

min=cost[i][j];

a=u=i;

b=v=j;

}

if(visited[u]==0 || visited[v]==0)

{

printf("\nEdge %d:(%d %d) cost:%d",ne++,a,b,min);

mincost+=min;

visited[b]=1;

}

cost[a][b]=cost[b][a]=999;

}

printf("\n Minimun cost=%d",mincost);

getch();

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if(cost[i][j]< min)

if(visited[i]!=0)

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min=cost[i][j];

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printf("\nEdge %d:(%d %d) cost:%d",ne++,a,b,min);

mincost+=min;

visited[b]=1;

}

cost[a][b]=cost[b][a]=999;

}

printf("\n Minimun cost=%d",mincost);

getch();

}

Output:-



