```
#include<stdio.h>
int a,b,u,v,n,i,j,ne=1;
int visited [10]={0}, min,mincost=0,cost[10][10];
void main ( )
{
printf("\n Enter the number of nodes:");
scanf("%d",&n);
printf("\n Enter the adjacency matrix:\n");
for(i=1;i<=n;i++)
for(j=1;j<=n;j++)
{
scanf("%d",&cost[i][j]);
if(cost[i][j]==0)
cost[i][j]=999;
}
visited[1]=1;
printf("\n");
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("\n Edge %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);
}
```

Output

```
Enter the number of nodes:4

Enter the adjacency matrix:
999   1    5    2
1    999  999  999
5    999  999  3
2    999  3    999


Edge 1:(1 2) cost:1
Edge 2:(1 4) cost:2
Edge 3:(4 3) cost:3
Minimun cost=6
```

Outcomes: On completion of this Program, the students are able to :

- Solve Prim's algorithm to find shortest paths.
- Solve Minimum Cost Spanning Tree of a given undirected graph using Prim's algorithm

Viva questions

- What is the difference between Prims and Kruskals algorithm?
- Can we use kruskals to find maximum cost spanning tree?
- What is minimum cost spanning tree.