PRIM'S ALGORITHM:

PROGRAM:

```c
#include <stdio.h>
#include <conio.h>
#include <process.h>
void prims();
int c[10][10], n;
void main()
{
    int i, j;
    printf("\nenter the no. of vertices:\t");
    scanf("%d", &n);
    printf("\nenter 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("\nmincost=%d", mincost);
}
```

OUTPUT:

```
User@PRATHIKSHA /c/ada lab
$ cd "/c/ada lab/" && gcc prims.c -o prims && "/c/ada lab/"prims

enter the no. of vertices:      4

enter the cost matrix:
0 9999 6 1
4 0 20 10
9999 3 0 12
6 9999 9999 0

1----->4=1

1----->3=6

3----->2=3

mincost=10
```