

Program for Kruskal algorithm in c

```
#include<stdio.h>
```

```
#include<stdlib.h>
```

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

```
int min,mincost=0,cost[9][9],parent[9];
```

```
int find(int);
```

```
int uni(int,int);
```

```
int main()
```

```
{
```

```
    printf("\n\tImplementation of Kruskal's algorithm\n");
```

```
    printf("\nEnter the no. of vertices:");
```

```
    scanf("%d",&n);
```

```
    printf("\nEnter the cost 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;
```

```
        }
```

```
    }
```

```
    printf("The edges of Minimum Cost Spanning Tree are\n");
```

```
    while(ne < n)
```

```
    {
```

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

```
        {
```

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

```
            {
```

```

        if(cost[i][j] < min)
        {
            min=cost[i][j];
            a=u=i;
            b=v=j;
        }
    }

    u=find(u);
    v=find(v);
    if(uni(u,v))
    {
        printf("%d edge (%d,%d) =%d\n",ne++,a,b,min);
        mincost +=min;
    }
    cost[a][b]=cost[b][a]=999;
}

printf("\n\tMinimum cost = %d\n",mincost);
getch();
}

int find(int i)
{
    while(parent[i])
        i=parent[i];
    return i;
}

int uni(int i,int j)
{
    if(i!=j)
    {
        parent[j]=i;
    }
}

```

```

        return 1;
    }

    return 0;
}

```

The screenshot shows the OnlineGDB website interface. The top navigation bar includes links for 'Online Data Entry Job', 'Online C++ Compiler', 'Kruskal's algorithm', and 'Online C Compiler'. The main content area is divided into a left sidebar and a right main panel. The sidebar contains the 'OnlineGDB beta' logo and a list of links: 'code. compile. run. debug. share.', 'IDE', 'My Projects', 'Classroom new', 'Learn Programming', 'Programming Questions', 'We are Hiring', 'Sign Up', and 'Login'. The main panel displays a C++ code editor with the following code:

```

main.cpp
45     }
46     cost[a][b]=cost[b][a]=999;
47     }
48 }

```

Below the code editor is an 'Input' section with the text 'Implementation of Kruskal's algorithm'. The output window shows the following text:

```

Enter the no. of vertices:6
Enter the cost adjacency matrix:
1 0 0 3 5 4
1 2 6 5 7 9
2 0 5 6 6 5
5 5 8 7 5 7
5 0 5 7 2 7
1
0 8 5 5 6 1
The edges of Minimum Cost Spanning Tree are
1 edge (2,1) =1
2 edge (6,1) =1
3 edge (3,1) =2
4 edge (1,4) =3
5 edge (1,5) =5

Minimum cost = 12

...Program finished with exit code 0
Press ENTER to exit console.

```

The bottom of the screenshot shows a Windows taskbar with various application icons and a system clock indicating 11:58 on 26-03-2021.