

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();
}

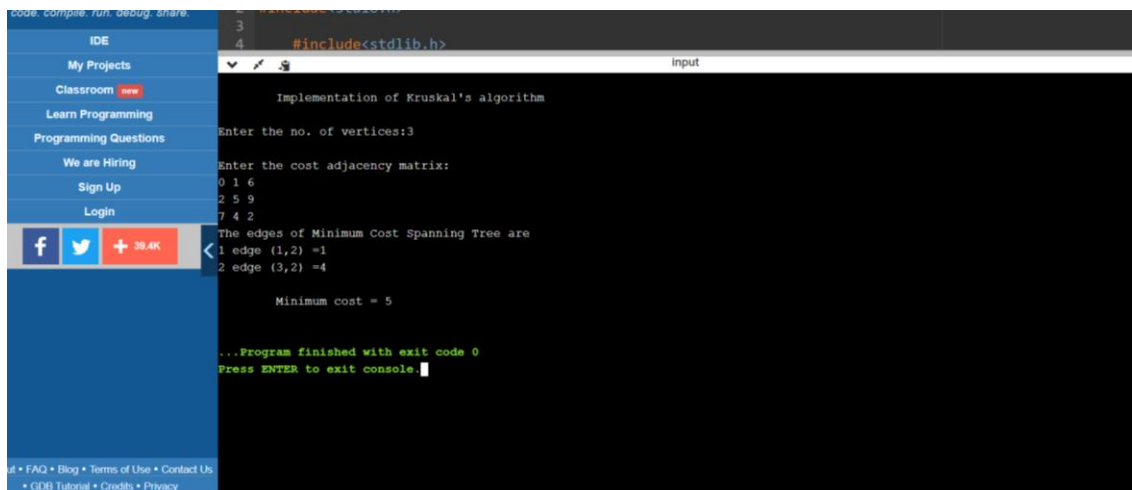
int find(int i)
{
    while(parent[i])
        i=parent[i];
    return i;
}

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

```

```
        return 1;
    }

    return 0;
}
```



```
code, compile, run, debug, share.
1 //Kruskal's algorithm
2
3
4 #include<stdlib.h>

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

Implementation of Kruskal's algorithm

Enter the no. of vertices:3

Enter the cost adjacency matrix:

```
0 1 6
2 5 9
7 4 2
```

The edges of Minimum Cost Spanning Tree are

```
1 edge (1,2) =1
2 edge (3,2) =4
```

Minimum cost = 5

...Program finished with exit code 0  
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