Prim's Algorithm

Problem	Submissions	Leaderboard	Discussions

Given an undirected, connected and weighted graph G(V, E) with V number of vertices (which are numbered from 0 to V-1) and E number of edges. Find and print the Minimum Spanning Tree (MST) using Prim's algorithm. For printing MST follow the steps - 1.In one line, print an edge which is part of MST in the format - v1 v2 w where, v1 and v2 are the vertices of the edge which is included in MST and whose weight is w. And v1 <= v2 i.e. print the smaller vertex first while printing an edge. 2.Print V-1 edges in above format in different lines. Note : Order of different edges doesn't matter.

Input Format

Line 1: Two Integers V and E (separated by space) Next E lines : Three integers ei, ej and wi, denoting that there exists an edge between vertex ei and vertex ej with weight wi (separated by space)

Constraints

2 <= V, E <= 10^5 1 <= Wi <= 10^5 Time Limit: 1 sec

Output Format

Print the MST, as described in the task.

Sample Input 0

```
4 4
0 1 3
0 3 5
1 2 1
2 3 8
```

Sample Output 0

```
0 1 3
1 2 1
0 3 5
```

Contest ends in 16 days

Submissions: 1
Max Score: 10
Difficulty: Medium

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More

Java 15

```java
1  import java.io.*;
2  import java.util.*;
3
4  public class Solution {
5
6      public static void main(String[] args) {
7          /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should
   be named Solution. */
```

```java
        Scanner sc=new Scanner(System.in);
        int v=sc.nextInt();
        int e=sc.nextInt();
        int arr[][]=new int[v][v];
        boolean[] vis=new boolean[v];
        for(int i=0;i<e;i++){
            int st=sc.nextInt();
            int ed=sc.nextInt();
            arr[st][ed]=sc.nextInt();
            arr[ed][st]=arr[st][ed];
        }
        vis[0]=true;
        for(int i=0;i<v-1;i++){
            int x=0,y=0,min=Integer.MAX_VALUE;
            for(int st=0;st<v;st++){
                if(vis[st]){
                    for(int ed=0;ed<v;ed++){
                        if(arr[st][ed]!=0 && !vis[ed]){
                            if(arr[st][ed]<min){
                                min=arr[st][ed];
                                x=st;
                                y=ed;
                            }
                        }
                    }
                }
            }
            System.out.println(x+" "+y+" "+arr[x][y]);
            vis[y]=true;
        }
    }
}
```

Line: 1 Col: 1

Upload Code as File   ☐ Test against custom input   Run Code   Submit Code

Testcase 0 ✔

Congratulations, you passed the sample test case.
Click the **Submit Code** button to run your code against all the test cases.

Input (stdin)

```
4 4
0 1 3
0 3 5
1 2 1
2 3 8
```

Your Output (stdout)

```
0 1 3
1 2 1
0 3 5
```

Expected Output

```
0 1 3
1 2 1
0 3 5
```