Problem : Implementing Kruskal Algorithm for MST

Problem Description

Given a weighted graph, you are to find a minimum spanning tree (MST) using Kruskal algorithm.

Input

The name of input file is 'kruskal.inp.' The input file has the information of a graph $G = (V, E)$. In the first line of the input, two integers n and m are given, where $n = |V|$ and $m = |E|$. Note the indices of vertices start with 0, which means $V = \{v_0, ..., v_{n-1}\}$.

In the following m lines, each of which contains the information of a weighted edge. Each weighted edge consists three integers, u, v, and w. (u, v) denotes that there is an edge between vertices u and v. And w denotes the weight of the edge (u, v).

Note that $1 \leq n \leq 10,000$, $1 \leq m \leq 1,000,000$ and $1 \leq w \leq 10,000$.

Output

The name of output file is 'kruskal.out.' In the first line of the output, show the sum of edge weights in the spanning tree you have determined. In the following $n - 1$ lines, show the edge numbers, each in a line, according to the order you selected for the minimum spanning tree. If there are two or more edges with the same weight to be selected at k^{th} step while you are applying Kruskal algorithm, select the edge with the smallest edge number. Assume the edge number of the first input edge is 0, the next 1, and so on.

The following shows sample input and output.

Sample Input	Output for the Sample Input
7 15	93
1 0 99	3
3 1 51	9
1 2 72	10
6 1 8	14
3 2 47	11
5 3 88	7
5 6 37	
0 5 28	
4 3 57	
5 2 10	
0 3 10	
1 4 27	
5 4 67	
6 0 99	
5 1 10	

Constraints: The file name should be 'kruskal.{c, cpp, java}.'