

Minimum Spanning Tree

Find the minimum spanning tree of the graph.

Input

On the first line there will be two integers N - the number of nodes and M - the number of edges. ($1 \leq N \leq 10000$), ($1 \leq M \leq 100000$)

M lines follow with three integers i j k on each line representing an edge between node i and j with weight k . The IDs of the nodes are between 1 and n inclusive. The weight of each edge will be ≤ 1000000 .

Output

Single number representing the total weight of the minimum spanning tree on this graph. There will be only one possible MST.

Example

Input:

```
4 5
1 2 10
2 3 15
1 3 5
4 2 2
4 3 40
```

Output:

```
17
```