January 2023 CSE 208
Online Assignment on Minimum Spanning Tree

Time: 30 minutes

Subsections B2

In a far-away galaxy, the Galactic Senate wants to connect all the planets. However, not all pairs of planets want to be connected by a single flight. The Senate knows the cost to set up bidirectional flights between any two planets that want to be connected directly.

The Senate has recently learned of a new technology named TeleportX. TeleportX can be used to connect any two planets that are willing to be connected via a single spaceship flight. The setup cost (q) of TeleportX between any two such planets is equal.

Two planets are connected, if one is reachable from the other by any combination of spaceship or TeleportX flights.

Input

Take input from a file. The first line will contain two integers n, m and a real number q, denoting the number of planets, the number of willing pair of planets, and the setup cost of TeleportX between a pair of planets respectively. In each of the following m lines, there will be two integers and a real number u, v, d such that planets u and v are willing to be connected directly with a spaceship flight of setup cost d. Here $0 \leq u, v < n$.

Output

Print the minimum cost the Senate can use to connect the planets.

Sample I/O

Input File

```
5 10 6.5
0 1 4
0 2 13
0 3 7
0 4 7
1 2 9
1 3 3
1 4 7
2 3 10
2 4 14
3 4 4
```

Output

```
17.50
```

Please note that any usage of the internet is strictly prohibited during the assignment. Usage of any unfair means will be duly punished.