Telecommunications

A company wants to build offices in multiple cities, across different countries. Within each country, they need to buy infrastructure to set up their own networks, and can also use (a limited number of) satellite links to connect their sites.

Given their routing architecture, connections are transitive - if city 1 is connected to city 2, and city 2 is connected to city 3, then city 1 is considered to be connected to city 3 also.

If city `n` cannot be connected to city `m` by a standard network connection, they can be connected by using up a satellite link.

You need to help them connect all of their sites as cheaply as possible.

INPUT

The first line of input contains three space separated numbers, `C` `S` and `E`. `C` is the number of cities (which will be numbered from `0` to `C-1`); `S` is the number of satellite links available, and `E` is the number of links offered by phone companies.

The file then has `E` further lines of the form `C1` `C2` `P` where `C1` and `C2` are integers between `1` and `C` represeting cities, and `P` being the price charged to connect these two cities by some company.

OUTPUT

You should output `-1` if it is impossible to connect all of the cities. Otherwise, you should output the minimum cost to connect all cities.

EXAMPLE

INPUT

```
4 0 6
0 1 3
1 2 3
0 3 1
0 1 6
3 1 2
1 3 7
```

OUTPUT

```
6
```

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Additional Help

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