Problem Name:

Problem Code:

Problem

A country consists of N states. The entire country is connected through a network of M bidirectional highways. The president wants to provide electricity to each city. To achieve this, he can -

1. Build a power plant in at most two cities.
2. Each city should have a unique power line which is connected to the power plant and is not shared by any other city.
3. Power lines can only be built only along the highways.

The cost of building a power plant in city i is C_i. The cost of building power line per unit distance is K.

Input Format

N M K

$C_1\ C_2\ ...\ C_N$

$u_1\ v_1\ d_1$

$u_2\ v_2\ d_2$

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.

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u_M v_M d_m

d_i is the length of the highway connecting cities u_i and v_i

Output Format

Find the minimum cost to provide electricity to all the cities.

If its not possible to provide electricity to all the cities, print -1.

Constraints

- $1 \leq N \leq 500$
- $1 \leq M \leq 1000$

Sample 1:

Input	Output
5 4 2 8 10 4 9 1 4 1 3 1 5 5 5 3 9 3 2 4	36