# Sheep Village

Input file: `standard input`
Output file: `standard output`
Time limit: 1 second
Memory limit: 512 megabytes

There is an old country but called Sheep Village which contains $n$ cities numbered from 1 to $n$ and $m$ bidirectional roads, each of which connects two different cities.

In Sheep Village, cities are connected through roads. That is, you can always find a path from a city to any other city through some roads. Besides, each road here belongs to at most one simple circuit, where a simple circuit is a set of roads that forms a cyclic path $u_1 \to u_2 \to \ldots \to u_m \to u_1$ $(m \geq 1)$ without passing a city more than once. Note that the cyclic paths $a \to b \to c \to a$, $b \to c \to a \to b$ and $a \to c \to b \to a$ correspond to the same circuit.

There are $k$ sheep living in Sheep Village and also $k$ lurking wolves. Once all sheep fall asleep, the lurking wolves, led by the wolf king, will launch a blitzkrieg for their static prey. Quietly running through a road does cost energy. For the sake of energy-saving, the wolf king hopes for the best assignments for each wolf to catch a distinct sheep such that the total energy consumed in catching sheep is as small as possible.

As a brilliant strategist as well as a wolf, it's time for you to make the decision to meet the king's requirement.

## Input

The first line contains three integers $n$, $m$ and $k$ $(2 \leq n \leq 10^5, n-1 \leq m \leq 2n-2, 1 \leq k \leq 10^5)$, indicating the number of cities in Sheep Village, the number of roads between cities, and the total number of sheep (or wolves) respectively.

The second line contains $k$ integers, of which the $i$-th number $a_i$ $(1 \leq a_i \leq n)$ indicates the $i$-th wolf is lurking in the city numbered $a_i$.

The third line contains $k$ integers, of which the $i$-th number $b_i$ $(1 \leq b_i \leq n)$ indicates the $i$-th sheep is sleeping in the city numbered $b_i$. Some sheep and wolves may live in a city together.

In the next $m$ lines, each line contains three integers $u$, $v$ and $w$ $(1 \leq u, v \leq n, u \neq v, 1 \leq w \leq 10^5)$ representing a bidirectional road connecting the cities numbered $u$ and $v$ that costs $w$ energy for an individual wolf running through it quietly. There may exist more than one road between any two cities.

## Output

Output an integer in a line representing the minimum total energy consumed.

## Example

| standard input | standard output |
|---|---|
| 5 8 4<br>2 2 3 3<br>4 4 5 5<br>1 2 1<br>2 1 1<br>1 3 1<br>3 1 1<br>1 4 1<br>4 1 1<br>1 5 1<br>5 1 1 | 8 |