Please take your time

--- どうぞ ごゆっくり

Recently your teacher gave you a very challenging assignment and you'd like to seek help from your mentor. Despite being a mad scientist, your mentor is very helpful and he always treats you with tea and snacks whenever you visit him. However, there's one major problem – your mentor lives in the forest with *traps* installed!

The trap is not harmful, but rather it releases some special gas (called *yukkuri*^{TM} *gas*) which temporarily turns the invader *(you!)* into a dwarf of about the size of a basketball *(see the image above)*. The effect of the gas will disappear automatically after you take a walk of *d* meters (the exact length varies from trap to trap). However, before you recover, your movement will be slowed down. *(That's how the gas gets its name, yukkuri (ゆっくり) means slow…)* If you step on another trap when you're in the dwarf state, the walking distance *(before recovery)* accumulates.

Since you don't want to be late to the meeting with your mentor, you'd like to estimate the minimum amount of time needed to pass thru the forest.

INPUT

Input is consisted of multiple test cases, each case contains the forest map as well as the positions of the *yukkuri* traps. The program should continue until the end of file.

The first line of test case contains 3 integers, representing the total number of junctions *(n<2000)*, total number of roads and the total number of traps respectively. You may assume you always start at junction *#1* and your mentor is at junction *#n*.

Following the first line is the list of bi-directional roads. Each line contains the junction numbers on both ends, followed by the non-negative integer length in meter.

Finally comes the list of traps. Each line contains the junction number in which the trap is installed and the corresponding walking distance (*d*) needed before recovery.

Your program needs to output the number of seconds required for you to visit the mentor's home. For simplicity, you may assume you take exactly 1 second to travel 1 meter and your speed is halved when you're in dwarf mode.

OUTPUT

Print, on a line by itself, the minimum amount of time (in seconds) needed to visit your mentor. If there is no solution, print "**Impossible!**" (without quotes).

SAMPLE INPUT

```
3 2 1
1 2 100
2 3 100
2 200
```

SAMPLE OUTPUT

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300
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Explanation:

It takes 100 seconds to travel from junction #1 to #2. At junction #2, you step on the yukkuri trap and your speed is halved for the coming 200 meters as a result. Time needed to travel from junction #2 to #3 is therefore 200 seconds, making the overall time 300 seconds.