

Problem B

Bathroom Breaks

Problem ID: bathrooms
Time limit: 2 seconds

Celine loves to travel, but she *hates* flying. That is because she is *terrified* of using the toilets! She is planning her next holiday, and has asked you to help plan her itinerary. Celine will absolutely *not* use the toilet on a plane, but she is willing to take bathroom breaks at the airports between flights.

Celine estimates she can hold her bladder for M minutes. She does not need to take a break at every airport between flights, but there can be no longer than M minutes of flying before her first break, after her last break, or between successive breaks. When planning her breaks, you can assume it is possible to catch connecting flights immediately, and ignore the time spent at airports between flights.



There are N airports numbered 1 to N . Celine starts at airport 1 and wants to fly to airport N . She has done her research, and has given each airport a *bathroom rating* on a scale from 1 to 100, where 100 is a truly spectacular bathroom.

Celine wants you to plan her flights *and* her bathroom breaks for her. Celine defines the *bathroom score* of a plan as the minimum bathroom rating of any airport where she takes a break. If a valid plan does not include any breaks, the bathroom score is defined as 100. Celine wants the plan with the maximum bathroom score. Can you help her?

Input

The first line of input contains three space-separated integers: N ($2 \leq N \leq 250$), F ($1 \leq F \leq 100\,000$) and M ($1 \leq M \leq 10\,000$). The number of airports, the number of flights, and the number of minutes that Celine can hold her bladder, respectively.

The second line contains N space-separated integers. The i^{th} of which, r_i ($1 \leq r_i \leq 100$) is Celine's bathroom rating for airport i .

The next F lines describe the flights. The i^{th} line contains three space-separated integers: d_i ($1 \leq d_i \leq N$), a_i ($1 \leq a_i \leq N$), and m_i ($1 \leq m_i \leq 10\,000$), the airport of departure, the airport of arrival, and the flight duration in minutes, respectively.

Output

Display the bathroom score of the optimal valid plan. If no valid plan exists, output -1 .

Sample Input 1

```
2 1 60
10 20
1 2 60
```

Sample Output 1

```
100
```

Sample Input 2

```
2 1 60
10 20
1 2 90
```

Sample Output 2

```
-1
```

Sample Input 3

```
4 4 60
10 20 30 40
1 2 30
1 3 30
2 4 40
3 4 40
```

Sample Output 3

```
30
```