Saving Money and Fuel

Anna plans on visiting one of her favorite cities on her summer holidays. She wants to save as much as she can on money for fuel.

Assuming that Anna's vehicle uses one unit of fuel for each mile and that she starts her trip with an empty tank, can you help her out?

Input Format

The input contains multiple test cases.

Each test case starts with a line containing integers *V* and *E*, denoting the number of cities and roads, respectively.

The next line contains C positive integers with the cost of one unit of fuel for each city, numbered from 0 to *V* - 1.

Then come *E* lines with the information of each road. Each road is described by three positive integers: the identifiers of the cities it connects and its length in miles.

Then follows a single line with the number of queries *Q*, and *Q* lines, one for each test case. A query contains the maximum capacity *F* of Anna's car (in units of fuel), followed by the identifiers of Anna's starting city and the one she plans on visiting.

The input ends with EOF (end-of-file).

Constraints

- 1 <= V <= 1000
- 1 <= C <= 100
- 1 <= Q <= 10
- 1 <= F <= 100

Output Format

For each test case, print a single line with *Q* values, denoting the total cost of each trip. If a query contains a trip where it is not possible to go from the initial city to the destination, output an 'X' rather than an integer.

Sample Input 0

```
2 1
1 1
0 1 2
1
1 0 1
4 4
1 2 3 4
0 1 1
1 2 1
2 3 1
0 3 4
2
```

```
2 3 1
2 0 3
```

Sample Output 0

```
X
7 4
```