

## Problem B. Bad Doctor

Input file: *standard input*  
Output file: *standard output*  
Time limit: 3 seconds  
Memory limit: 512 mebibytes

Alex got sick. He went to a clinic and visited  $n$  doctors. The  $i$ -th doctor said that starting with the day  $l_i$  and ending with the day  $r_i$  Alex must take  $k_i$  medicines:  $a_1, a_2, \dots, a_{k_i}$ , one pill a day of each. Medicines are numbered from 1 to  $m$ .

Of course, if several doctors tell Alex to take the same medicine at the same day, he will take only one pill of this medicine that day. At least, this is how people act in real life.

One pill of the medicine  $j$  costs  $c_j$  roubles. But Alex has a doubt: the rumors say that one of the doctors in the clinic is really bad. He doesn't know which doctor is bad, but he decided to ignore this doctor's prescription.

Your task is to find  $n$  numbers  $t_i$ : how much money Alex will spend on the pills if the  $i$ -th doctor is bad.

### Input

The first line contains two integers  $n$  and  $m$ : the number of doctors and the number of medicines ( $1 \leq n \leq 500\,000$ ,  $1 \leq m \leq 500\,000$ ).

The second line contains  $m$  integers  $c_j$ : the cost of one pill of the  $j$ -th medicine ( $1 \leq c_j \leq 1\,000\,000$ ).

Each of the next  $n$  lines describes doctors. The  $i$ -th of them starts with three integers  $l_i, r_i, k_i$ : the start and end days in the  $i$ -th doctor's prescription and the number of medicines he told Alex to take ( $1 \leq l_i \leq r_i \leq 1\,000\,000$ ,  $1 \leq k_i \leq m$ ). Then follow  $k_i$  distinct integers  $a_1, a_2, \dots, a_{k_i}$ , each from 1 to  $m$ : the medicines in the prescription.

The sum of all  $k_i$  in the input doesn't exceed 1 000 000.

### Output

Output  $n$  integers  $t_1, t_2, \dots, t_n$ : how much money Alex will spend on the pills if he ignores the  $i$ -th doctor's prescription.

### Example

standard input	standard output
5 4	8766 7564 8756 7765 6646
1000 100 10 1	
3 4 2 2 3	
4 8 3 1 2 4	
6 7 2 3 4	
8 9 2 1 4	
2 6 3 1 2 3	