Problem D. Update the array !

Time limit	1000 ms
Mem limit	1572864 kB
Code length Limit	50000 B
OS	Linux

You have an array containing n elements initially all 0. You need to do a number of update operations on it. In each update you specify l, r and val which are the starting index, ending index and value to be added. After each update, you add the 'val' to all elements from index l to r. After 'u' updates are over, there will be q queries each containing an index for which you have to print the element at that index.

Input

First line consists of t, the number of test cases. (1 <= t <= 10)

Each test case consists of "n u",number of elements in the array and the number of update operations, in the first line (1 <= n <= 10000 and 1 <= u <= 100000)

Then follow u lines each of the format "l r val" (0 <= l,r < n, 0 <= val <=10000)

Next line contains q, the number of queries. (1 <= q <= 10000)

Next q lines contain an index (0 <= index < n)

Output

For each test case, output the answers to the corresponding queries in separate lines.

Example

Input:

```
1
5 3
0 1 7
2 4 6
1 3 2
3
0
3
4
```

Output:

```
7
8
6
```