Problem SKYSCRAPER: Building Sky Scrapers

The *International Construction Project Company* (ICPC) builds really high sky scrapers, almost the highest in the world. As these sky scrapers are very vulnerable to severe storms or earth quakes, they hired a lot of stress analysts who design safe construction plans. Each construction plan gives the instruction when to use an ordinary brick and when to use some special material. However, the average construction worker cannot read or interpret the construction given by the stress analysts.

For each type of special material, they specify three characteristic numbers L, U, and I. A specific material is first used at height L, then at height $L + I$, then at height $L + 2 \cdot I$, ... But it is not used over height U.

Given the construction plan, your job is to transform it to a simpler version as follows: the workers ask you at which special material *type* is used at which height; they ask for the X-th occurrence of a special material, when counting all special materials (not types!) from bottom to top (the lowest occurrence is asked with 1). If more than one type of special material is used at one height, their "occurrence" will be counted in the same order as in the input. Due to the financial crisis, ICPC suffers from funding difficulties and will not use more than $100\,000$ special materials per sky scraper (even if the building is not safe then).

Input

The first line denotes the number of test cases $1 \leq T \leq 20$. Each test case starts with one line containing two integers S and Q ($0 < S \leq 10\,000$; $0 < Q \leq 1\,000$), where S gives the number of types of special materials used for this sky scraper. The next S lines specify the special material description by three integers L, U, and I ($0 \leq L \leq U \leq 10^{15}$; $0 < I < 10^{15}$) as specified above, each in one line. Then follows one line containing Q integers, each specifying a question by a construction worker as an integer Q_i ($0 < Q_i \leq 100\,000$).

Output

For each test case, answer the construction worker's questions, each in a separate line. If asked for special material X, first print the height where a special material (regardless of its type) is used for the X-th time. Then print its its type (indexed in the order as given in the input, starting from 1). You may safely assume, that we use at least X special materials (not types!) in the original construction plan.

Sample Input 1

```
3
3 5
0 20 5
8 15 3
12 16 2
2 3 7 8 11
1 3
0 999999999999997 99999999999999
1 7 2
2 3
0 999999999999999 123456789
5 999999999999999 987654321
50000 99999 75008
```

Sample Output 1

```
5 1
8 2
14 2
14 3
20 1
0 1
599999999999994 1
99999999999999 1
5486790073527 1
10973703603843 1
8231111111219 2
```