Claw Machine Picking

Time Limit: 1s
Memory Limit: 128MB

To finish off his journey in Japan, Alan decides to go to the arcades and try and win a souvenir from the claw machines. In the arcade, there are N claw machines each with a difficulty level L and prize size of S. Since Alan is not very good and doesn't want to lose all of his money, he decides to put a cap on the difficulty level of the claw machines he will play. Given Q queries, each with a maximum difficulty level D_i, find the maximum prize size that Alan can win such that the difficulty level of the claw machine is less than or equal to D_i.

Constraints

$1 \leq N \leq 100\ 000$
$1 \leq Q \leq 100\ 000$
$1 \leq L \leq 1\ 000\ 000$
$1 \leq S \leq 1\ 000\ 000$
$1 \leq D_i \leq 1\ 000\ 000$

Input Specification

The first line of input will contain N and Q, the number of claw machines and the number of queries respectively. The next N lines will contain two integers L and S, the difficulty level and prize size of the ith claw machine. The next Q lines will contain a single integer D_i, the maximum difficulty level of the ith query. It is guaranteed that there will be at least one claw machine with a difficulty level less than or equal to D_i for each query.

Output Specification

Output Q lines, the maximum prize size that Alan can win for each query.

Sample Input

```
5 3
1 10
8 20
2 15
5 50
3 12
2
3
5
```

Sample Output

```
15
15
50
```