

# Management

ABC software company consists of  $N$  programmers numbered from 1 to  $N$  who are doing a big project for foreign companies, each programmer must participate in a certain task. To manage employees effectively, You are assigned to write a program that inputs the employee ID and outputs the task id that person is in charge of.

## Input

The first line contains two integers  $M$  and  $N$  - respectively the number of employees and the number of query ( $1 \leq M, N \leq 10^5$ ).

In the next  $M$  lines, each line contains two integers  $a_i$  and  $b_i$  - the id of employee  $i$ -th and the id of the task which is assigned to employee  $i$ -th ( $1 \leq a_i, b_i \leq 10^9$ ).

The next  $N$  lines, each line containing a single integer  $id$  - employee id ( $1 \leq id \leq 10^9$ ).

Ensuring that no two employees have the same code and the employee id that managers are looking always existed.

## Output

For each query, output the corresponding task in one line.

## Example

**Input:**

```
5 2
1 2
2 2
3 1
4 3
5 1
1
3
```

**Output:**

```
2
1
```