

# Búsqueda Binaria 2

Given an array of  $N$  integers in non-decreasing order, you're going to receive  $Q$  queries. Each of them contains a single integer. For each query use binary search to respond with the index of the last occurrence of the given integer in the array.

## Input

In the first line there is an integer  $N$  ( $1 \leq N \leq 10^5$ ) and an integer  $Q$  ( $1 \leq Q \leq 10^5$ ).

In the second line,  $N$  integers separated by a single space. Each integer takes a values between 1 and  $10^9$ .

Then  $Q$  lines follows, each one with an integer between 1 and  $10^9$ , representing a query.

## Output

For each query (in the same order they were given) print a line with a single integer, the index of the last occurrence of the corresponding element, or -1 if it is not in the given array.

## Example

### Input:

```
10 4
1 3 4 5 5 6 7 8 8 17
3
5
9
1
```

### Output:

```
1
4
-1
0
```