

## A. Binary Search

time limit per test: 2 seconds

memory limit per test: 512 megabytes

Implement a binary search algorithm.

### Input

The first line of the input contains integers  $n$  and  $k$  ( $1 \leq n, k \leq 10^5$ ), the length of the array and the number of queries. The second line contains  $n$  elements of the array, sorted in non-decreasing order. The third line contains  $k$  queries. All array elements and queries are integers, each of which does not exceed  $10^9$  in absolute value.

### Output

For each of the  $k$  queries print **YES** in a separate line if this number occurs in the array, and **NO** otherwise.


### Example

**input**[Copy](#)

```
10 10
1 61 126 217 2876 6127 39162 98126 712687 1000000000
100 6127 1 61 200 -10000 1 217 10000 1000000000
```

**output**[Copy](#)

```
NO
YES
YES
YES
NO
NO
YES
YES
NO
YES
```

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