

Problem B

Fountain Pens

Time limit: 1s
Memory Limit: 64MB

Malfple has so many fountain pens. Specifically, he has N fountain pens of varying nib* sizes. Pen i has nib size A_i ($1 \leq i \leq N$). Now he has Q job requests. In each request, he needs to use a pen of a specific nib size. He needs to know whether he can do the job.

PS: nib is the english word for “the pointed end part of a pen, which distributes the ink on the writing surface.”

Input

The first line consists of two integers N, Q ($1 \leq N, Q \leq 100000$) denoting the number of fountain pens and the number of job queries.

The second line consists of N integers A_i ($1 \leq A_i \leq 1000000000$) given in non-decreasing order.

The next Q lines consist of an integer S ($1 \leq S \leq 1000000000$), the nib size he needs for the job.

Output

For each job, output ‘YAY’ if he can do the job, or ‘NEHIK’ if he can’t, in a single line.

Sample Input
5 6 1 4 5 5 123 1 2 3 4 5 1000
Sample Output
YAY NEHIK NEHIK YAY YAY NEHIK

Notes:

Nib size 2, 3, and 1000 are not available. Thus the answer for the 3 queries are “NEHIK”.

PS: You can't use **LINEAR SEARCH** for this problem. What other kind of search do you know?!
And do you know why you **have to use** the other kind of search?

PS: You don't need to use **SORT**! See that in the input specification, it's said that the inputs are given in non-decreasing order.