Help the Librarian of ISM 200 Points

The Librarian of ISM Dhanbad needs your help. He will tell you the value of "N", the number of books that he has in the library and the codes of all the books. There can be more than one book with the same code. The Code of a book is an integer between 1 and 1000 (both 1 and 1000 inclusive). Now on a particular day, "S" number of students will come to the library to borrow books. Each of them will ask for a particular book code "Ai" (1 <= i <= S), if the book exists in the library, you should issue that book to him. Otherwise you should tell him that the book is not available.

Input

First line of the input will contain "N", the number of books present in the library. The next line will contain "N" integers denoting the codes of all the books. The next line will contain "S", the number of students that will come to the library on that particular day. Each of the next S lines will contain an integer "Ai", denoting the code of the book that he wants.

Output

For each student, output in a separate line "YES", if the book is issued to him, otherwise print "NO".

Constraints

1 <= N, S, Ai <= 1000

Example

Input:
5
1 2 3 1 5
6
3
4
1
1
5
1

Output:
YES
NO
YES
YES
YES
NO