may duplicate.)

You are given an array Q with m integers, each integer denotes a query.

For each query, find if the integer exists in A . If yes, output "Y". Otherwise, output "N".

Input

The first line contains two integers n and m — the number of integers in array A and the number of integers in array Q.

The second line contains n integers $a_1, a_2, \cdots, a_n$ — the elements of the array A.

The third line contains m integers $q_1, q_2, \cdots, q_m$ — the elements of the array Q.

Restrictions

- $1 \leq n \leq 10^5, 1 \leq m \leq 10^5$
- $-10^{16} \leq a_i \leq 10^{16}$ for $i = 1, 2, \cdots, n$
- $-10^{16} \leq q_i \leq 10^{16}$ for $i = 1, 2, \cdots, m$

Output

For each query, output "Y" or "N" — the integer of the query is in the array A or not.

Sample Input 1

```
7 5
16 16 10 10 8 6 4
4 8 7 6 3
```

Sample Output 1

```
Y Y N Y N
```

Submissions

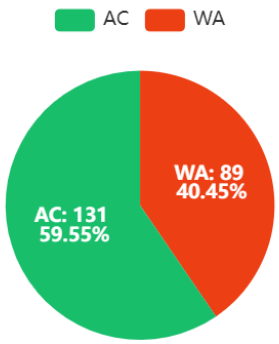
Rankings

View Contest

Information

ID	1
Time Limit	1000MS
Memory Limit	256MB
IO Mode	Standard IO
Created By	ta_david
Level	Low
Score	100
Tags	Show

Statistic Details



Language: C

Theme: Solarized Light

```
1
```

You have solved the problem

Submit for Sample Test Submit

Contest has ended

Sample Test Input

```
7 5
16 16 10 10 8 6 4
4 8 7 6 3
```

Sample Test Output