

# Devu and an Array

Problem Code: **DEVARRAY**

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Devu has an array **A** consisting of **N** positive integers. He would like to perform following operation on array.

- Pick some two elements **a**, **b** in the array (**a** could be same as **b**, but their corresponding indices in the array should not be same). Remove both the elements **a** and **b** and instead add a number **x** such that **x** lies between **min(a, b)** and **max(a, b)**, both inclusive, (i.e. **min(a, b) ≤ x ≤ max(a, b)**).

Now, as you know after applying the above operation **N - 1** times, Devu will end up with a single number in the array. He is wondering whether it is possible to do the operations in such a way that he ends up a number **t**.

He asks your help in answering **Q** such queries, each of them will contain an integer **t** and you have to tell whether it is possible to end up **t**.

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## Input

There is only one test case per test file.

First line of the input contains two space separated integers **N**, **Q** denoting number of elements in **A** and number of queries for which Devu asks your help, respectively

Second line contains **N** space separated integers denoting the content of array **A**.

Each of the next **Q** lines, will contain a single integer **t** corresponding to the query.

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## Output

Output **Q** lines, each containing "Yes" or "No" (both without quotes) corresponding to the answer of corresponding query.

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## Constraints

- $1 \leq N, Q \leq 10^5$
  - $0 \leq t \leq 10^9$
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## Subtasks

Subtask #1 : 30 points

- $1 \leq A_i \leq 2$

Subtask #2 : 70 points

- $1 \leq A_i \leq 10^9$
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## Example

Input 1:

1 2

1

1

2

**Output:**

Yes

No

**Input 2:**

2 4

1 3

1

2

3

4

**Output:**

Yes

Yes

Yes

No

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### **Explanation**

**In the first example**, Devu can't apply any operation. So the final element in the array will be 1 itself.

**In the second example**, Devu can replace 1 and 3 with any of the numbers among 1, 2, 3. Hence final element of the array could be 1, 2 or 3.