# Problem I. Irish Whiskey

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|---|---|
| Input file: | *standard input* |
| Output file: | *standard output* |
| Time limit: | 1 second |
| Memory limit: | 256 mebibytes |

You are given an array $A$ of $n$ integers (1-indexed). Your task is to perform queries of two types:

1. Swap $A[l]$ and $A[r]$.
2. Find if subarray $A[l, \ldots, r]$ is sorted in non-decreasing order.

## Input

The first line contains two integers $n$ and $q$ ($1 \le n \le 300\,000$, $1 \le q \le 200\,000$), the length of the array and the number of queries.

The second line contains $n$ integers: the elements of the array ($1 \le A[i] \le 10^9$) separated by spaces.

The following $q$ lines contain descriptions of the queries. Each line begins with integer *type* which equals 1 or 2 and specifies the type of query. It is followed by integers $l$ and $r$ separated by a space ($1 \le l \le r \le n$).

## Output

For each query of the second type, output a single line with "`Ja`" or "`Nein`" (without quotes).

## Example

| standard input | standard output |
|---|---|
| 3 3<br>1 2 3<br>2 1 3<br>1 2 3<br>2 1 3 | Ja<br>Nein |