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# 3 - Photogenic Farmers

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## Photogenic Farmers

Time Limit: 1.0s

Memory Limit: 256MB

Input: stdin

Output: stdout

When submitting, please check that the problem listed (on the Submission page where you upload your solution) matches the problem you intend to submit.

Bessie has arranged her  $N$  farmers ( $1 \leq N \leq 3 \cdot 10^5$ ) in a line. Farmer  $i$  has a height  $h_i$  ( $1 \leq h_i \leq N$ ) and all heights are distinct. Bessie believes that this arrangement is photogenic if there exist four farmers, located at positions  $a < b < c < d$  in this lineup, such that  $h_a < h_c < h_b < h_d$ . That is, the relative heights  $(h_a, h_b, h_c, h_d)$  of these farmers match the pattern  $(1, 3, 2, 4)$ .

Help Bessie determine whether her farmers are photogenic.

### INPUT FORMAT (pipe stdin):

The first line contains a single integer  $N$ . The second line contains  $N$  space-separated integers, the heights  $h_1, \dots, h_N$ .

### OUTPUT FORMAT (pipe stdout):

A single string: "YES" if the farmers are photogenic, and "NO" if not.

Input

Output

```
5
1 4 2 3 5
```

```
YES
```

In this case, there are four farmers matching the pattern at positions  $(1, 2, 4, 5)$  with heights  $(1, 4, 3, 5)$ .

Input

Output

```
6
3 4 2 5 1 6
```

```
NO
```

### SCORING:

- For 10% of points,  $N \leq 50$ .
- For 10% of points,  $N \leq 500$ .
- For 20% of points,  $N \leq 5000$ .
- For 60% of points, no additional constraints.

May 2, 2021, 4:29 pm EDT