



Hello, 2024101067.

# Neighbour Issues

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## Tanishq and the Circular Challenge

Tanishq loved challenging his students with tricky problems. One evening, while sipping his favorite cup of chai, he noticed a group of students discussing an interesting problem. Smiling to himself, he walked over and said,

*"I have a special problem for you all today! Imagine a group of numbers standing in a circle like warriors in an ancient battle. But there's a rule—each warrior must be either the strongest among their two neighbors or the weakest. Can you arrange them in such a way?"*

*"Given  $n$  integers  $a_1, a_2, \dots, a_n$ , is it possible to rearrange them in a circular manner such that each number is strictly greater than both of its neighbors or strictly smaller than both of its neighbors?"*

*"Formally, you need to check if there exists a permutation  $b_1, b_2, \dots, b_n$  of the integers  $a_1, a_2, \dots, a_n$  such that for each  $i$  (where  $1 \leq i \leq n$ ) one of the following conditions holds:"*

- $b_{i-1} < b_i > b_{i+1}$
- $b_{i-1} > b_i < b_{i+1}$

*"To make sense of this for the first and last elements, assume the circle is connected:  $b_0 = b_n$  and  $b_{n+1} = b_1$ ."*

The students eagerly started discussing potential solutions, wondering whether sorting, greedy algorithms, or some clever observations would help them crack the problem.

**Can you help the students solve it?**

## Input

The first line of the input contains a single integer  $t$  ( $1 \leq t \leq 3 \cdot 10^4$ ) — the number of test cases. The description of the test cases follows.



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The sum of  $n$  over all test cases doesn't exceed  $2 \cdot 10^5$ .

## Output

For each test case, if it is not possible to arrange the numbers on the circle satisfying the conditions from the statement, output **NO**. You can output each letter in any case.

Otherwise, output **YES**.

## Examples

### Sample Input 1:

```
2
3
1 1 2
4
1 9 8 4
```

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### Sample Output 1:

```
NO
YES
```

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### Sample Input 2:

```
2
4
2 0 2 2
6
1 1 1 11 111 1111
```

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### Sample Output 2:

```
NO
YES
```

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## ? Clarifications

[Request clarification](#)



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