1535. Find the Winner of an Array Game

Description

Given an integer array arr of distinct integers and an integer k.

A game will be played between the first two elements of the array (i.e. <code>arr[0]</code> and <code>arr[1]</code>). In each round of the game, we compare <code>arr[0]</code> with <code>arr[1]</code>, the larger integer wins and remains at position <code>0</code>, and the smaller integer moves to the end of the array. The game ends when an integer wins <code>k</code> consecutive rounds.

Return the integer which will win the game.

It is guaranteed that there will be a winner of the game.

Example 1:

```
Input: arr = [2,1,3,5,4,6,7], k = 2
Output: 5
Explanation: Let's see the rounds of the game:
Round | arr | winner | win_count
    1 | [2,1,3,5,4,6,7] | 2 | 1
    2 | [2,3,5,4,6,7,1] | 3 | 1
    3 | [3,5,4,6,7,1,2] | 5 | 1
    4 | [5,4,6,7,1,2,3] | 5 | 2
So we can see that 4 rounds will be played and 5 is the winner because it wins 2 consecutive games.
```

Example 2:

```
Input: arr = [3,2,1], k = 10
Output: 3
Explanation: 3 will win the first 10 rounds consecutively.
```

Constraints:

- 2 <= arr.length <= 10 ⁵
- 1 <= arr[i] <= 10 ⁶
- arr contains distinct integers.
- 1 <= k <= 10 ⁹