Problem 1535: Find the Winner of an Array Game

Problem Information

Difficulty: Medium
Acceptance Rate: 56.82%
Paid Only: No
Tags: Array, Simulation

Problem 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. `arr[0]` and `arr[1]`). In each round of the game, we compare `arr[0]` with `arr[1]`, the larger integer wins and remains at position `0`, and the smaller integer moves to the end of the array. The game ends when an integer wins `k` 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 <= 105` * `1 <= arr[i] <= 106` * `arr` contains **distinct** integers. * `1 <= k <= 109`

Code Snippets

C++:

```
class Solution {
public:
int getWinner(vector<int>& arr, int k) {

}
};
```

Java:

```
class Solution {
public int getWinner(int[] arr, int k) {

}
}
```

Python3:

```
class Solution:
def getWinner(self, arr: List[int], k: int) -> int:
```