**Problem**

A and B  are playing a game. In this game, both of them are initially provided with a ****list of****n****numbers****. (Both have the same list but their own copy).

Now, they both have a different strategy to play the game. A picks the element from ****start of his list****.B picks from the ****end of his list****.

You need to generate the result in form of an output list.

Method to be followed at each step to build the output list is:

1. If the number picked by A****is bigger than****Bthen this step's ****output is****1. B ****removes**** the number that was picked from their list.
2. If the number picked by A****is smaller than****Bthen this step's ****output is****2. A****removes**** the number that was picked from their list.
3. If both have the ****same number**** then this step's****output is****0. ****Both****A****and****B****remove**** the number that was picked from their list.

This game ****ends**** when at least one of them has no more elements to be picked i.e. when the****list gets empty****.

Output the built output list.

****Input format:****

First line consists of a number n, size of the list provided.  
Next line consists of nnumbers separated by space.

****Output format:****

Output the required output list.

****Constraints:****

1≤N≤106  
1≤numbersinthelist≤109

**Solution :**

import java.util.\*;

public class FunGame {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

int n = sc.nextInt();

int[] arr = new int[n];

for (int i = 0; i < n; i++) {

arr[i] = sc.nextInt();

}

int left = 0;

int right = n - 1;

List<Integer> output = new ArrayList<>();

while (left <= right) {

if (arr[left] > arr[right]) {

output.add(1);

left++;

} else if (arr[left] < arr[right]) {

output.add(2);

right--;

} else {

output.add(0);

left++;

right--;

}

}

for (int result : output) {

System.out.print(result + " ");

}

}

}