16/11/2017 HackerRank



Gaming Array



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Andy loves playing games. He wants to play a game with his little brother, Bob, using an array, A, of n distinct integers. The rules are as follows:

- Bob always plays first and the two players move in alternating turns.
- In a single move, a player chooses the maximum element currently present in the array and removes it as well as all the other elements to its right.
 For example, if A = [2, 3, 5, 4, 1], then it becomes A = [2, 3] after the first move because we remove the maximum element (i.e., 5) and all elements to its right (i.e., 4 and 1).
- The modifications made to the array during each turn are permanent, so the next player continues the game with the remaining array. The first player who is unable to make a move loses the game.

Andy and Bob play g games. Given the initial array for each game, can you find and print the name of the winner on a new line? If Andy wins, print ANDY; if Bob wins, print BOB.

Input Format

The first line contains a single integer denoting g (the number of games). The $2 \cdot g$ subsequent lines describe each game array over two lines:

- 1. The first line contains a single integer, n, denoting the number of elements in A.
- 2. The second line contains n distinct space-separated integers describing the respective values of $a_0, a_1, \ldots, a_{n-1}$ for array A.

Constraints

Array A contains n distinct integers.

For **35%** of the maximum score:

- $1 \le g \le 10$
- $1 \le n \le 1000$
- $1 \le a_i \le 10^5$
- The sum of *n* over all games does not exceed **1000**.

For 100% of the maximum score:

- $1 \le g \le 100$
- $1 \le n \le 10^5$
- $1 \le a_i \le 10^9$
- ullet The sum of n over all games does not exceed 10^5 .

Output Format

For each game, print the name of the winner on a new line (i.e., either BOB or ANDY).

Sample Input 0

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

Sample Output 0

ANDY BOB

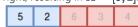
Explanation 0

Andy and Bob play the following two games:

1. Initially, the array looks like this:



In the first move, Bob removes $m{6}$ and all the elements to its right, resulting in $m{A} = [5,2]$



In the second move, Andy removes ${f 5}$ and all the elements to its right, resulting in ${f A}=[]$:

At this point, the array is empty and Bob cannot make any more moves. This means Andy wins, so we print ANDY on a new line.

2. In the first move, Bob removes $\bf 3$ and all the elements to its right, resulting in $\bf A = []$. As there are no elements left in the array for Andy to make a move, Bob wins and we print BOB on a new line.

Submissions:<u>2389</u>
Max Score:35
Difficulty: Medium
Rate This Challenge:
☆ ☆ ☆ ☆ ☆

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Current Buffer (saved locally, editable) & 🗘
                                                                                            Java 7
                                                                                                                             Ö
1 ▼ import java.io.*;
    import java.util.*;
3
   import java.text.*;
4
    import java.math.*;
5
    import java.util.regex.*;
6
 7 ▼ public class Solution {
8
9 ▼
        public static void main(String[] args) {
10
            Scanner in = new Scanner(System.in);
            int g = in.nextInt();
11
12
            for(int a0 = 0; a0 < g; a0++){
13
                 int n = in.nextInt();
14
15
        }
16
    }
17
                                                                                                                     Line: 1 Col: 1
```

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