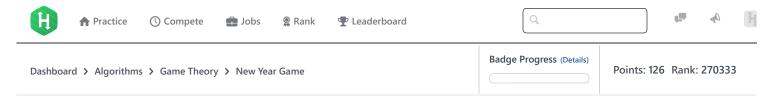
16/11/2017 HackerRank



New Year Game



Problem	Submissions	Leaderboard	Discussions	Editorial 🔒		
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It's New Year's Day, and Balsa and Koca are stuck inside watching the rain. They decide to invent a game, the rules for which are described below.

Given array a containing n integers, they take turns making a single move. Balsa always moves first, and both players are moving optimally (playing to win and making no mistakes).

During each move, the current player chooses one element from a, adds it to their own score, and deletes the element from a; because the size of a decreases by a after each move, a's size will be a0 after a1 moves and the game ends (as all elements were deleted from a2). We refer to Balsa's score as a3 and Koca's score as a4. Koca wins the game if a5 is divisible by a5; otherwise Balsa wins.

Given a, determine the winner.

Note:
$$S_b + S_k = a_0 + a_1 + \ldots + a_{n-2} + a_{n-1}$$
.

Input Format

The first line contains an integer, T, denoting the number of test cases.

Each test case is comprised of two lines; the first line has an integer n, and the second line has n space-separated integers $a_0, a_1, \ldots, a_{n-2}, a_{n-1}$ describing array a.

Constraints

$$1 \le T \le 100$$

 $1 \le a_i \le 2000$
 $1 \le n \le 2000$

Subtasks

For
$$50\%$$
 score: $1 \leq n \leq 200$
For 100% score: $1 \leq n \leq 2000$

Output Format

For each test case, print the winner's name on a single line; if Balsa wins print Balsa, otherwise print Koca.

Sample Input

Sample Output

Balsa Koca

Explanation

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Test Case 1

Array $a = \{7, 6, 18\}$. The possible play scenarios are:

1.
$$S_b = 13$$
, $S_k = 18$, $|S_b - S_k| = 5$, and $5\%3 \neq 0$.

2.
$$S_b = 24$$
, $S_k = 7$, $|S_b - S_k| = 17$, and $17\%3 \neq 0$.

3.
$$S_b = 25$$
, $S_k = 6$, $|S_b - S_k| = 19$, and $19\%3 \neq 0$.

In this case, it doesn't matter what Balsa chooses because the difference between their scores isn't divisible by 3. Thus, Balsa wins.

Test Case 2

Array $a = \{3\}$. Balsa must choose that element, the first move ends the game.

$$S_b=3$$
, $S_k=0$, $|S_b-S_k|=3$, and $3\%3=0$. Thus, Koca wins.

f in
Submissions:491
Max Score:60
Difficulty: Medium
Rate This Challenge:
☆☆☆☆☆

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Current Buffer (saved locally, editable) & 40
                                                                                             Java 7
                                                                                                                               Ö
 1 ▼ import java.io.*;
 2 import java.util.*;
   import java.text.*;
    import java.math.*;
    import java.util.regex.*;
 6
 7 ▼ public class Solution {
 8
         public static void main(String[] args) {
 9 ▼
10
             Scanner in = new Scanner(System.in);
             int T = in.nextInt();
11
12 ▼
             for(int a0 = 0; a0 < T; a0++){
13
                 int n = in.nextInt();
14 ▼
                 int a[] = new int[n];
                 for(int a_i=0; a_i < n; a_i++){
15 ▼
16 ▼
                     a[a_i] = in.nextInt();
17
18
                 // your code goes here
19
20
         }
21
    }
22
                                                                                                                      Line: 1 Col: 1
                      ☐ Test against custom input
                                                                                                          Run Code
                                                                                                                       Submit Code
1 Upload Code as File
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