L. Neo-Nim

Limits: 1 sec., 512 MiB

There are n piles of stones. The i-th pile initially contains a_i stones. Additionally, an integer k is given.

Ana and Bob play a game with these stones, alternating turns with Ana going first. The moves are defined as follows.

- **Ana** chooses an integer x such that $2 \leq x \leq k$ and a pile containing at least x stones, then removes exactly x stones from it.
- **Bob** chooses a pile containing at least one stone and removes exactly one stone from it.

The player who cannot make a move loses. Determine the winner assuming both players play optimally.

Input

The first line contains an integer t – the number of test cases.

The first line of each test case contains two integers n and k – the number of piles and the maximum limit for Ana's move.

The second line of each test case contains n integers a_i – the number of stones in each pile.

Output

For each test case, output `Ana` if Ana wins, and `Bob` if Bob wins.

Constraints

$1 \leq n \leq 10^5$,
$2 \leq k \leq 10^5$,
$1 \leq a_i \leq 10^5$,
the sum of n over all test cases does not exceed $3 \cdot 10^5$.

Samples

Input (*stdin*)	Output (*stdout*)
3 3 2 2 5 8 4 3 2 2 4 5 1 5 2	Bob Bob Ana

Notes

In the first sample, $n = 3, k = 2, a = (2, 5, 8)$.

One of the possible game scenarios could be as follows.

- Ana removes two stones from the third pile. After this move a becomes $(2, 5, 6)$.

- Bob removes one stone from the first pile. After this move a becomes $(1, 5, 6)$.
- Ana removes two stones from the second pile. After this move a becomes $(1, 3, 6)$.
- Bob removes one stone from the third pile. After this move a becomes $(1, 3, 5)$.
- Ana removes two stones from the third pile. After this move a becomes $(1, 3, 3)$.
- Bob removes one stone from the third pile. After this move a becomes $(1, 3, 2)$.
- Ana removes two stones from the second pile. After this move a becomes $(1, 1, 2)$.
- Bob removes one stone from the third pile. After this move a becomes $(1, 1, 1)$.
- It is Ana's turn now, but she cannot make a move. Ana loses and Bob wins.

In the first sample, Bob wins.
In the second sample, Bob wins.
In the third sample, Ana wins.