A. Sum Game

Limits: 1 sec., 512 MiB

Ana and Bob play the following game.

First, Bob chooses a sequence of n positive integers $a_1, a_2, \ldots, a_n$. Then Ana is allowed to perform the following operations.

- She may erase any of the numbers from the sequence, but she is not allowed to erase all of them (at least one number must remain).
- For each remaining number, she may put either a `+` or a `-` sign in front of it.

After that, Ana computes the sum of the remaining numbers. She wins the game if she can obtain a sum that is divisible by m. Otherwise, Bob wins.

Given n and m, determine which player has a winning strategy.

Input

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

Each of the next t lines contains two integers n and m.

Output

For each test case, output a single line.

- `Ana` – if Ana has a winning strategy,
- `Bob` – if Bob has a winning strategy.

Constraints

$1 \leq t \leq 10^5$,
$1 \leq n, m \leq 10^{18}$.

Samples

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

Notes

In the first test case, Bob can choose $a_1 = 3$.

In the second test case, no matter how Bob chooses a_1, a_2, Ana has a winning strategy.