Problem L: Lights Off

One evening, Bash and Chikapu arrived at an abandoned apartment with n floors. To their surprise, some of the lights on each floor still work! They ran up and down the apartment, turned on and off the lights and found that on the i-th floor, a_i lights are still working. On each floor, they number the lights from 1 to a_i, from left to right.

Currently, they are standing at the roof, after turning off all the lights on each floor except for the **right most** one (which they needed to go up the stairs).

Being competitive, they quickly came up with the following game. Two players take turns alternatively with Bash goes first. On each turn:

1. The player chooses a number i and go to the i-th floor.
2. The player then chooses a currently-turned-on light c on the i-th floor.
3. The player turns off the light c, and toggle the state of zero, one or two arbitrary lights, which are on the same floor and on the left of c

Bash always goes first, followed by Chikapu, and they both play optimally. The game ends when all lights are off, and who takes the latest turn is the winner. Your task is to determine which player will win if both play optimally. In case Bash (the first player) wins, count how many different first move Bash can take to guarantee his win, modulo $998\,244\,353$.

Two moves are considered different if:

- The chosen floor i is different, or
- The chosen light c is different, or
- The set of lights whose states are toggled is different

Input

The input consists of several test cases. The first line contains an integer t ($1 \le t \le 10^5$) – the number of test cases. The description of the test cases follows:

- The first line contains a single integer n ($1 \le n \le 10^5$), representing the number of floors.
- The second line contains n integers $a_1, a_2, \ldots, a_n$ ($1 \le a_i \le 10^{18}$), where a_i is the number of lights on the i-th floor.

The sum of n over all the inputs do not exceed 10^5.

Output

For each test case, print the result in one line:

- Print either `Bash` or `Chikapu` - the winning player.
- If Bash wins, print an integer x - the number of first moves, after which Bash is guaranteed to win, modulo $998\,244\,353$.

Sample Input 1	Sample Output 1
2 3 1 2 1 4 1 2 3 4	Bash 1 Chikapu