Problem G. Parity Game

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	1024 megabytes

This is an interactive problem.

Alice and Bob are playing the following game. The game is specified by a parameter $t \in \{0, 1\}$ and is described as follows:

> There are n integers $a_1, a_2, \ldots, a_n \in \{0, 1\}$, arranged in a line. The two players **take turns** to perform the following operation when at least two integers are remaining, starting from Alice:
>
> - Choose two integers x and y that are **adjacent**, replace them with either $x + y$ or $x \times y$ (arithmetic addition or arithmetic multiplication).
>
> The game ends when there is only one integer remaining, and the result of the game is judged by the parity of the remaining integer and the parameter t as follows:
>
> - $t = 0$: Alice wins if the remaining integer is **even** and Bob wins otherwise.
> - $t = 1$: Alice wins if the remaining integer is **odd** and Bob wins otherwise.

You are given the initial n integers $a_1, a_2, \ldots, a_n$ and the parameter t. You must choose to play as Alice or Bob, then play this game against the interactor who takes the opponent's role. Your goal is to win the game.

Input

The first line of input contains two integers n and t ($2 \le n \le 500, t \in \{0, 1\}$), denoting the size of the array and the parameter of the game.

The second line of input contains n integers $a_1, a_2, \ldots, a_n$ ($0 \le a_i \le 1$), denoting the array.

Interaction Protocol

The interaction begins after reading the two integers n, t and the array $\{a_i\}_{1 \le i \le n}$.

You should start interaction by printing a single line containing either "Alice" or "Bob", representing the player you choose to play as. If you choose to play Alice, you are the first to operate. Otherwise, you are the second to operate.

The game proceeds as follows:

- If it's your turn to operate. Suppose the current array is $b_1, b_2, \ldots, b_m$ with length m ($2 \le m \le n$), you should output an integer p ($1 \le p \le m-1$) and a character c ($c \in \{\text{'+'}, \text{'*'}\}$) in a line, separated by a space, denoting you choose to merge the two integers b_p and b_{p+1} with the operation denoted by c. After your operation, the array becomes $b_1, b_2, \ldots, b_{p-1}, (b_p\ c\ b_{p+1}), b_{p+2}, \ldots, b_m$ with length $m - 1$.
- If it's the opponent's turn to operate. Suppose the current array is $b_1, b_2, \ldots, b_m$ with length m ($2 \le m \le n$), you should read an integer p ($0 \le p \le m-1$) and a character c ($c \in \{\text{'+'}, \text{'*'}\}$) in a line, denoting the opponent chooses to merge the two integers b_p and b_{p+1} with the operation denoted by c. After the opponent's operation, the array becomes $b_1, b_2, \ldots, b_{p-1}, (b_p\ c\ b_{p+1}), b_{p+2}, \ldots, b_m$ with length $m - 1$. Here, if the integer p is 0, then it means the last operation you perform is incorrect. In that case, your program should terminate immediately to receive a "Wrong Answer" verdict, or you could get any possible verdict.

When there is only one integer in the array, the game finishes and is judged according to the rule in the statement. If you win the game, your program will be considered correct for this test case. If you lose the game, or it is you to perform the last operation and your last operation is invalid, you will receive a "Wrong Answer" verdict. You should terminate the program immediately when the game finishes.

After printing the player you choose to play as and the operation you perform, do not forget to output the end of the line and flush the output. Otherwise, you may not get the correct verdict. To flush the output, use:

- `fflush(stdout)` or `cout.flush()` in C++;
- `System.out.flush()` in Java;
- `stdout.flush()` in Python;

Example

standard input	standard output
4 1 0 1 0 1 2 *	 Alice 1 + 1 +

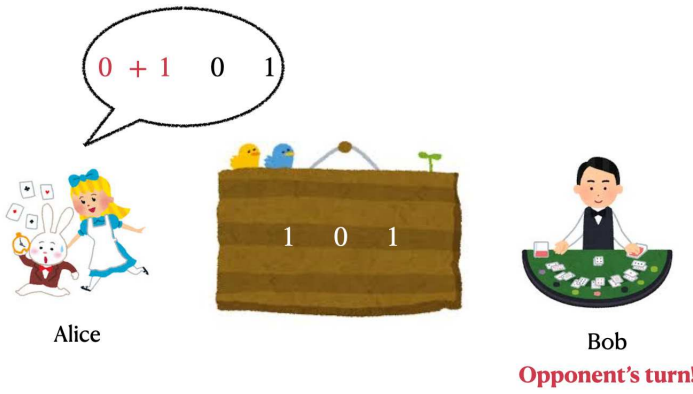
Note

Note that additional empty lines in the sample test are for better understanding, and you should not output any additional empty lines in your program.

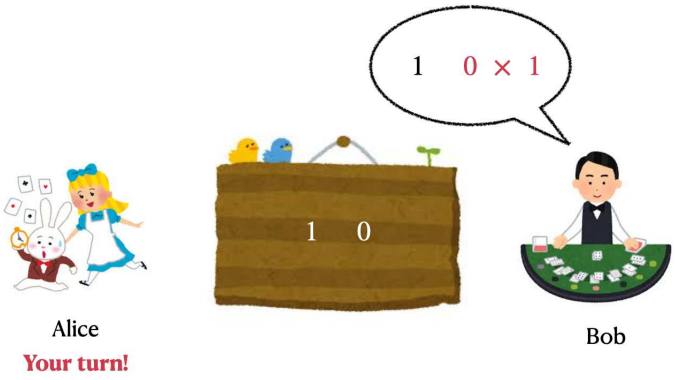
Here, we provide graphical illustrations of the interaction in the sample test. For the given $\{a_i\}_{1\le i\le n}$ and t, it is optimal for the player to choose to play Alice and go first.



In the sample interaction, the player chooses to merge the first two numbers with the addition operator,



and the opponent chooses to merge the last two numbers with the multiplication operator.



Then, the player chooses to merge the remaining two numbers with the addition operator and wins the game.

