

A-Mi-Ba

Description

There some Amoebas on the line with integer length and face to origin. A-Mi-Ba and B-Mi-Ba are playing with Amoebas in turns. A-Mi-Ba goes first.

The game is as following :

1. Skip this step or choose an Amoeba and cut it into two pieces. Each of piece will be a new Amoeba. The length of new Amoeba should be an integer. Both of them will face to origin.
2. Put a Yakeli-Food in front of one Amoeba in empty cell. The Amoeba will eat the Yakeli-Food and move one unit.
3. World Piece! The adjacent Amoebas will combine into one Amoeba.

The game ended when nobody can move. It means that there only one Amoeba and it's head is in front of origin. The loser is the player who can't move. He will be eaten by the Amoeba! Can you tell them who will be the winner?

Begin Status:

```
+++++
origin| 0 0 0| | 0 0 0 0 0 0| | | | 0|
+++++
```

End Status:

```
+++++
origin|0 0 0 0 0 0 0 0 0 0| | | | | | |
+++++
```

Input

The first line contains a integer T indicating the total number of test cases. Each test case contains two lines. The first line contains a integer n , denoting the number of Amoebas. The second line contains $2n$ integers $a_1, b_1, a_2, b_2, \dots, a_n, b_n$. Sequence A denotes the length of each empty segment. Sequence B denotes the length of each Amoeba. We described the Amoebas starting from origin.

- $1 \leq T \leq 500$
- $1 \leq n \leq 514$
- $1 \leq a_i, b_i \leq 10000$

Output

For each test case, print the winner of the game.

Sample Input

```
4
1 2 2 2 2 2 2 3
6
1
1 1
1
2 2
3
1 3 2 6 5 1
```

Sample Output

A-Mi-Ba
B-Mi-Ba

A-Mi-Ba
A-Mi-Ba
B-Mi-Ba
A-Mi-Ba

Hint

The picture is about the third test case in sample input.