

E. Mimo & Yuyu E. Mimo 与 Yuyu

time limit per test: 2 seconds

测试每题时间限制 2 秒

memory limit per test: 256 megabytes

每测试用例内存限制 256 兆字节

Mimo and Yuyu just finished their 1000-piece jigsaw puzzle of beautiful Bellas Artes! Now they are looking for other ways to entertain themselves.

Mimo 和 Yuyu 刚刚完成了他们美丽的贝拉斯阿特斯 1000 片拼图！现在他们正在寻找其他方式来娱乐自己。

There is an $n \times m$ grid of cells with columns labeled 1, 2, … m from left to right and rows labeled 1, 2, … n from top to bottom. Let (u, v) ($1 \leq u \leq n, 1 \leq v \leq m$) denote the cell in the u -th row and v -th column. Each cell can contain any number of tokens which are indistinguishable among themselves. Initially, there are k tokens, the i -th of which is located in (x_i, y_i) .

有一个 $n \times m$ 的网格，列从左到右标记为 1, 2, … m ，行从上到下标记为 1, 2, … n 。用 (u, v) ($1 \leq u \leq n, 1 \leq v \leq m$) 表示第 u -行和第 v -列的单元格。每个单元格可以包含任意数量的标记，这些标记彼此之间无法区分。最初，有 k 个标记，其中第 i 个位于 (x_i, y_i) 。

Mimo and Yuyu now play a game alternating turns. On his/her turn, a player chooses a token c currently in the grid as well as a sequence of **distinct** cells $(a_1, b_1), (a_2, b_2), \dots (a_p, b_p)$ ($p \geq 2$) such that the following conditions hold:

Mimo 和 Yuyu 现在轮流玩游戏。在玩家的回合，玩家选择网格中当前的一个 c 标记以及一系列不同的单元格 $(a_1, b_1), (a_2, b_2), \dots (a_p, b_p)$ ($p \geq 2$)，同时满足以下条件：

- c is located in (a_1, b_1)
 c 位于 (a_1, b_1)
- For all i ($1 \leq i < p$), $|a_{i+1} - a_i| + |b_{i+1} - b_i| = 1$. That is, adjacent cells in the sequence must be adjacent in the grid.

对于所有 i ($1 \leq i < p$), $|a_{i+1} - a_i| + |b_{i+1} - b_i| = 1$ 。也就是说，序列中的相邻单元格必须在网格中相邻。

- $b_1 \geq b_2 \geq \dots \geq b_p$. That is, the **columns** of the cells of the sequence must form a **non-increasing** sequence (never stepping away from column 1).

$b_1 \geq b_2 \geq \dots \geq b_p$ 。也就是说，序列中单元格的列必须形成一个非递增序列（永远不会离开列 1）。

- $b_p = 1$. That is, the last cell of the sequence must lie in column 1.

$b_p = 1$ 。也就是说，序列的最后一个单元格必须位于列 1。

- $b_1 > b_2$. In particular, $b_2 = b_1 - 1$. That is, (a_1, b_1) must be the only cell of the sequence lying in column b_1 .

$b_1 > b_2$ 。尤其是第②段第③段。也就是说，第④段第⑤段必须是唯一位于第⑥段第⑦段的序列单元格。

Then, he/she removes c from the grid and adds 1 token to $(a_2, b_2), (a_3, b_3), \dots (a_p, b_p)$ each. This concludes his/her turn.

然后，他将第 0 段第 1 段从网格中移除，并将 1 个令牌添加到第 2 段第 3 段。这样，他的回合就结束了。

The player who cannot make a turn loses. Mimo goes first. Determine who will win if both players play optimally.

[Codeforces Round 1056 \(Div. 2\)](#)

[Codeforces Round 1056 \(二分\)](#)

Contest is running

比赛正在进行

00:39:36

Contestant

参赛者



→ **Submit?**

→ 提交?

Language:

语言: GNU G++20 13.2 (64 bit, v ✓)

Choose

file: 选择文 未选择文件

件:

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.

请注意：对于未通过预测试或重新提交的提交（除第一次测试失败、拒绝判断或类似裁决外），将扣除 50 分。“通过预测试”的提交结果并不保证解决方案绝对正确，并且它将通过系统测试。

→ **Score table** → 分数表

	Score 分数
Problem A 问题 A	342
Problem B 问题 B	684
Problem C 问题 C	1197
Problem D 问题 D	1368
Problem E 问题 E	1539
Problem F 问题 F	2052
Successful hack 成功黑客攻击	100
Unsuccessful hack 失败黑客攻击	-50
Unsuccessful submission 提交失败	-50
Resubmission 重新提交	-50

* If you solve problem on 01:19 from the first attempt

* 如果您第一次尝试在 01:19 解决了这个问题

无法进行回合的玩家将输掉比赛。Mimo 先手。如果两位玩家都进行最佳策略的博弈，确定谁会获胜。

For example, consider a game where $n = 6$, $m = 4$, and 3 tokens currently exist in $(2, 3)$, $(4, 2)$, and $(6, 4)$ (as shown in Figure 1). In this scenario, a valid turn, for instance, could consist of choosing c as the token in $(6, 4)$ and the sequence of cells with $p = 10$ defined by $a = [6, 6, 5, 4, 3, 2, 2, 3, 4, 4]$ and $b = [4, 3, 3, 3, 3, 2, 2, 2, 1]$. Note that (a_i, b_i) describes valid cells in the grid.

例如，考虑一个游戏中，第 0 段第 1 段、第 2 段第 3 段和 3 个令牌目前存在于第 4 段第 5 段、第 6 段第 7 段和第 8 段第 9 段（如图 1 所示）。在这种情况下，一个有效的回合，例如，可以选择第 10 段第 11 段的令牌在第 12 段第 13 段，以及由第 14 段第 15 段定义的由第 16 段第 17 段和第 18 段第 19 段定义的单元格序列。请注意，第 20 段第 21 段描述了网格中的有效单元格。

For the sake of clarity, a dashed line is shown in Figure 2 passing through this particular choice of $(a_1, b_1), (a_2, b_2), \dots, (a_p, b_p)$ in order. Figure 3 and 4 show the state of the game after the turn is performed, with and without the highlighted sequence respectively.

为了清晰起见，图 2 中用虚线显示了通过这个特定的选择顺序 $(a_1, b_1), (a_2, b_2), \dots, (a_p, b_p)$ 的路径。图 3 和图 4 展示了执行回合后游戏的状态，分别显示了有高亮序列和无高亮序列的情况。

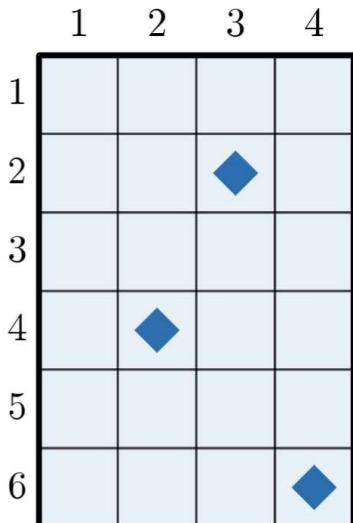


Figure 1 图 1

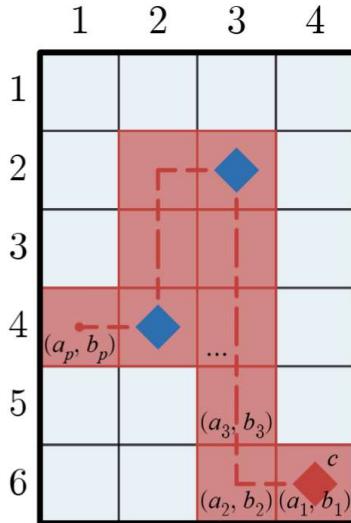


Figure 2 图 2

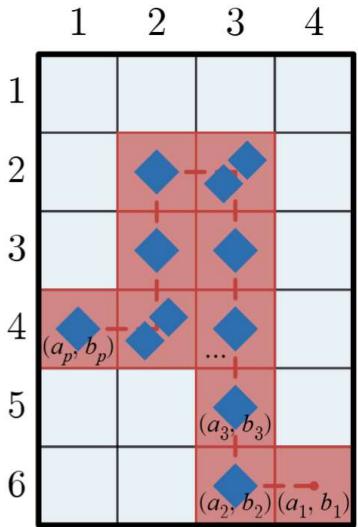


Figure 3 图 3

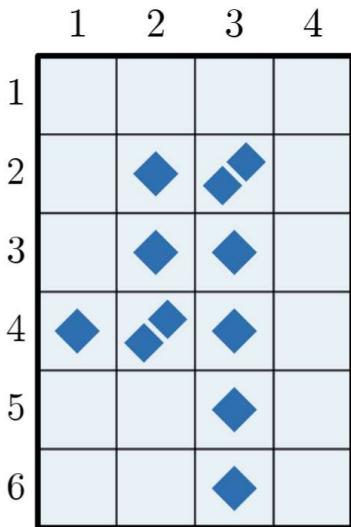


Figure 4 图 4

Note that the first and seventh test case in the example correspond to the games shown in Figure 1 and Figure 4 respectively.

注意，示例中的第一个和第七个测试用例分别对应图 1 和图 4 中显示的游戏。

Input 输入

Each test contains multiple test cases. The first line contains the number of test cases t ($1 \leq t \leq 10^4$). The description of the test cases follows.

每个测试包含多个测试用例。第一行包含测试用例的数量 t ($1 \leq t \leq 10^4$)。测试用例的描述随后。

The first line of each test case contains three integers n , m , and k ($1 \leq n, m, k \leq 2 \cdot 10^5$).

每个测试用例的第一行包含三个整数 n , m , 和 k ($1 \leq n, m, k \leq 2 \cdot 10^5$).

The i -th of the next k lines contains two integers x_i and y_i ($1 \leq x_i \leq n, 1 \leq y_i \leq m$).

接下来的 k 行的第 i 行包含两个整数 x_i 和 y_i ($1 \leq x_i \leq n, 1 \leq y_i \leq m$).

It is guaranteed that the sum of k over all test cases does not exceed $2 \cdot 10^5$.

保证所有测试用例中 k 的总和不超过 $2 \cdot 10^5$ 。

Note that there is no explicit upper bound on the sum of n and m .

注意, n 和 m 的和没有明确的上限。

Output 输出

For each test case, output Mimo if Mimo wins, or Yuyu if Yuyu wins.

对于每个测试用例, 如果 Mimo 获胜, 则输出 Mimo; 如果 Yuyu 获胜, 则输出 Yuyu。

You can output the answer in any case (upper or lower). For example, the strings mIMo, mimo, Mimo, and MIMO will be recognized as responses indicating that the first player wins.

你可以以任何大小写输出答案 (大写或小写)。例如, 字符串 mIMo、mimo、Mimo 和 MIMO 都将被识别为表示第一玩家获胜的响应。

Example 示例

input 输入

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```
7
6 4 3
2 3
4 2
6 4
1 1 1
1 1
3 2 4
1 1
1 2
2 2
3 2
20 4 3
10 4
20 2
1 3
1 5 1
1 3
2 3 5
2 1
1 2
1 2
2 3
1 3
6 4 11
6 3
5 3
4 3
3 3
2 3
2 3
2 2
3 2
4 2
4 2
4 1
```

output 输出

[Copy 复制](#)

```
Mimo
Yuyu
Mimo
Mimo
Yuyu
Yuyu
Yuyu
```

Note 注意

In the second test case, Mimo cannot make any moves, so Yuyu wins.

在第二个测试用例中，Mimo 无法进行任何移动，所以 Yuyu 获胜。

In the third test case, the token in $(1, 1)$ cannot be used as c for any turn because there is no sequence of cells that begins with $(1, 1)$ and satisfies $b_1 > b_2$, so the game might unfold as follows:

在第三个测试用例中， $(1, 1)$ 中的标记不能在任何回合用作 c ，因为没有以 $(1, 1)$ 开头且满足 $b_1 > b_2$ 的单元格序列，所以游戏可能的发展如下：

- Mimo removes the token in $(1, 2)$ and adds a token to $(1, 1)$.

Mimo 移除 $(1, 2)$ 中的标记，并在 $(1, 1)$ 添加一个标记。

- Yuyu removes the token in $(2, 2)$ and adds a token to $(2, 1)$.

Yuyu 移除 $(2, 2)$ 中的标记，并在 $(2, 1)$ 添加一个标记。

- Mimo removes the token in $(3, 2)$ and adds a token to $(3, 1)$.

Mimo 移除了 $(3, 2)$ 中的令牌，并向 $(3, 1)$ 中添加了一个令牌。

It can be shown that Yuyu could not have played more optimally, so Mimo wins.

可以证明 Yuyu 无法再进行更优的玩法，因此 Mimo 获胜。

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