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< Basic Programming Challenges

Cats and a Mouse

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Problem

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Two cats named **A** and **B** are standing at integral points on the x-axis. Cat **A** is standing at point **x** and cat **B** is standing at point **y**. Both cats run at the same speed, and they want to catch a mouse named **C** that's hiding at integral point **z** on the x-axis. Can you determine who will catch the mouse?

You are given **q** queries in the form of **x**, **y**, and **z**. For each query, print the appropriate answer on a new line:

- If cat **A** catches the mouse first, print Cat A.
- If cat **B** catches the mouse first, print Cat B.
- If both cats reach the mouse at the same time, print Mouse C as the two cats fight and mouse escapes.

Input Format

The first line contains a single integer, **q**, denoting the number of queries.

Each of the **q** subsequent lines contains three space-separated integers describing the respective values of **x** (cat **A**'s location), **y** (cat **B**'s location), and **z** (mouse **C**'s location).

Constraints

- $1 \leq q \leq 100$
- $1 \leq x, y, z \leq 100$

Output Format

On a new line for each query, print Cat A if cat **A** catches the mouse first, Cat B if cat **B** catches the mouse first, or Mouse C if the mouse escapes.

Sample Input 0

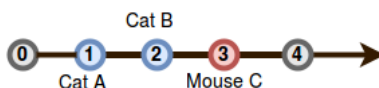
```
3
1 2 3
1 3 2
2 1 3
```

Sample Output 0

```
Cat B
Mouse C
Cat A
```

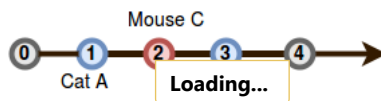
Explanation 0

Query 0: The positions of the cats and mouse are shown below:



Cat **B** will catch the mouse first, so we print Cat B on a new line.

Query 1: In this query, cats **A** and **B** reach mouse **C** at the exact same time:



Because the mouse escapes, we print Mouse C on a new line.

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Submissions: 5319

Max Score: 15

Difficulty: Easy

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C#

```
1 using System;
2 using System.Collections.Generic;
3 using System.IO;
4 using System.Linq;
5 class Solution {
6
7     static void Main(String[] args) {
8         int q = Convert.ToInt32(Console.ReadLine());
9         for (int a0 = 0; a0 < q; a0++)
10         {
11             string[] tokens_x = Console.ReadLine().Split(' ');
12             int x = Convert.ToInt32(tokens_x[0]);
13             int y = Convert.ToInt32(tokens_x[1]);
14             int z = Convert.ToInt32(tokens_x[2]);
15             int cat_a = Math.Abs(x - z);
16             int cat_b = Math.Abs(y - z);
17             if (cat_a < cat_b)
18             {
19                 Console.WriteLine("Cat A");
20             }
21             else if (cat_b < cat_a)
22             {
23                 Console.WriteLine("Cat B");
24             }
25             else if (cat_a == cat_b)
26             {
27                 Console.WriteLine("Mouse C");
28             }
29         }
30     }
31 }
32
```

Line: 29 Col: 14

Upload Code as File

☐ Test against custom input

Run Code

Submit Code

Congrats, you solved this challenge!

✓ Test Case #0

✓ Test Case #1

Next Challenge

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