1_虹夏？多力多滋？(Nijika or Doritos?)

(5分)

時間限制: 1 second
記憶體限制: 256 MB

題目敘述

「要怎麼區分虹夏頭上的呆毛和多力多滋？」

為了解決這個世紀難題，波奇決定好好分析這兩者。經過縝密的觀察，她發現虹夏的呆毛可以用頂點在 $(nx_1, ny_1), (nx_2, ny_2), (nx_3, ny_3)$ 的三角形來表示，而多力多滋可以用頂點在 $(dx_1, dy_1), (dx_2, dy_2), (dx_3, dy_3)$ 的三角形來表示，另外她也發現這兩種三角形是不全等的。同時，為了更好分辨兩者的差異，她定義一個三角形為「虹夏類」若她與虹夏呆毛的三角形全等，為「多力多滋類」若她與多力多滋的三角形全等。

在聽說波奇解決了這個世紀難題後，有許多人依然分不清楚呆毛和多力多滋，他們將物品表示成了三角形，想要請波奇幫忙區分。然而這也讓波奇的社恐症又双叒叕發作了，所以她請你幫忙解決這些人的問題。對於每個人的提問，若該三角形為「虹夏類」則請輸出 `Nijika`，若為「多力多滋類」，請輸出 `Doritos`，若都不是則輸出 `None`，注意**需要按照題目敘述的大小寫輸出**。

兩個三角形**全等**若可以經由平移、旋轉與翻轉使兩個三角形的頂點座標相同。

備註：多力多滋沒有贊助 YTP 少年圖靈計劃

輸入格式

輸入第一行有六個整數 $nx_1, ny_1, nx_2, ny_2, nx_3, ny_3$，意義與題目敘述相同。

輸入第二行有六個整數 $dx_1, dy_1, dx_2, dy_2, dx_3, dy_3$，意義與題目敘述相同。

輸入第三行有一個正整數 q，代表向波奇詢問的人數。

接下來的 q 行，每一行有六個整數 $qx_{i,1}, qy_{i,1}, qx_{i,2}, qy_{i,2}, qx_{i,3}, qy_{i,3}$，代表第 i 個人詢問的三角形的三個頂點為 $(qx_{i,1}, qy_{i,1}), (qx_{i,2}, qy_{i,2}), (qx_{i,3}, qy_{i,3})$。

輸出格式

請輸出 q 行，其中第 i 行包含一個字串，代表第 i 個詢問的答案。

資料範圍

- $1 \le q \le 1000$
- 點座標範圍在 0 到 10^9 之間
- 三角形的三點不共線
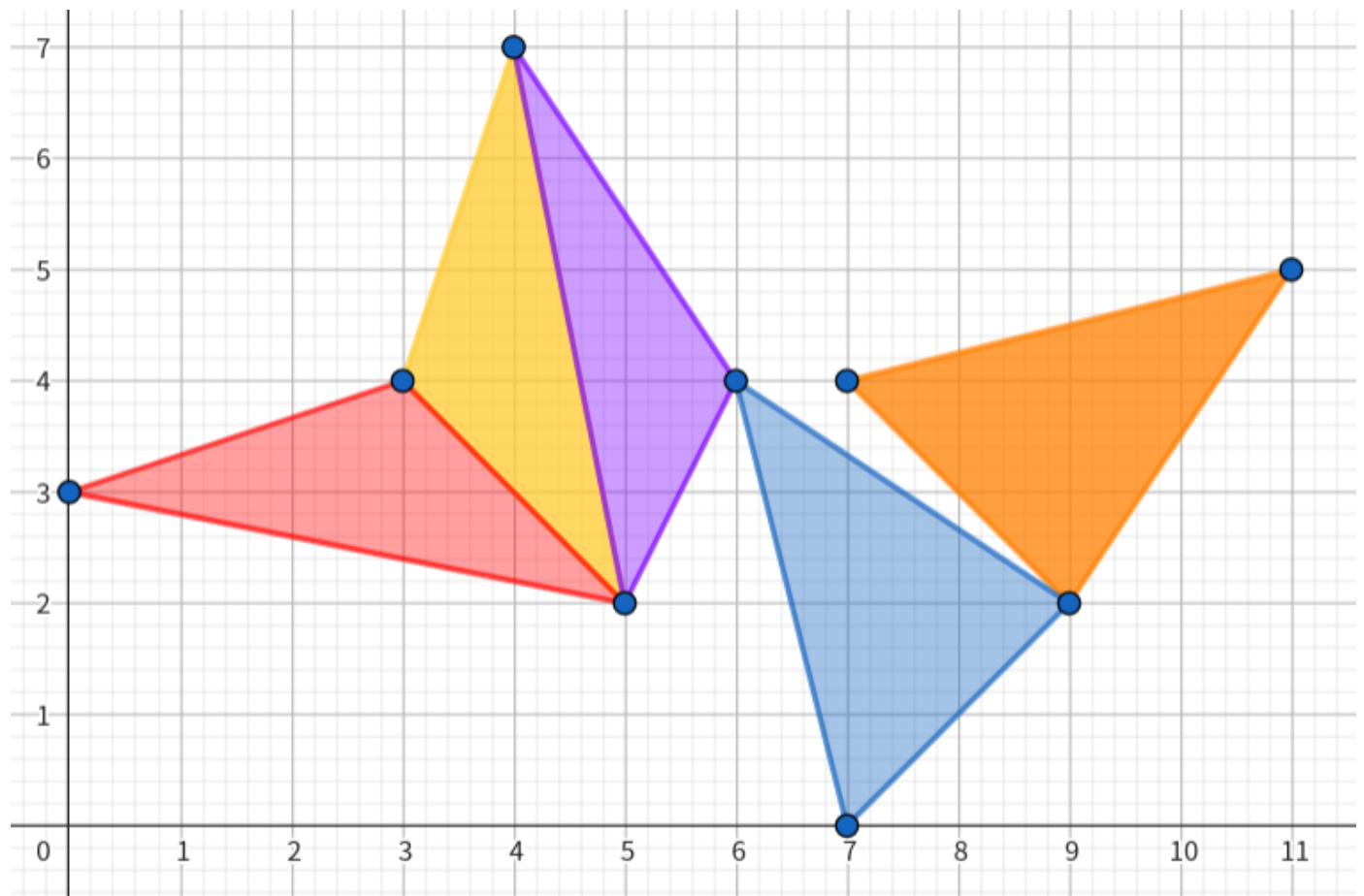- 虹夏呆毛三角形與多力多滋三角形不全等

測試範例

輸入範例 1

```
5 2 3 4 4 7
7 4 9 2 11 5
3
0 3 5 2 3 4
5 2 6 4 4 7
9 2 7 0 6 4
```

輸出範例 1

```
Nijika
None
Doritos
```

範例說明

以下為範例測資的圖片：

其中黃色為虹夏呆毛三角形，橘色為多力多滋三角形，紅色為第一筆詢問，紫色為第二筆詢問，藍色為第三筆詢問。

1_Nijika or Doritos?

(5 points)

Time Limit: 1 second
Memory Limit: 256MB

Statement

"How to distinguish Nijika's ahoge and Doritos?"

To solve this century-long puzzle, Bocchi decided to analyze them thoroughly. After meticulous observation, she found that Nijika's ahoge can be represented by a triangle with vertices at $(nx_1, ny_1), (nx_2, ny_2), (nx_3, ny_3)$, while Doritos can be represented by a triangle with vertices at $(dx_1, dy_1), (dx_2, dy_2), (dx_3, dy_3)$. Furthermore, she discovered that these two triangles are not congruent. Additionally, to better distinguish between the two, she defined a triangle as "Nijika-type" if it is congruent to Nijika's ahoge triangle, and "Doritos-type" if it is congruent to the Doritos triangle.

Upon hearing that Bocchi had solved this century-long puzzle, many people still struggled to distinguish between the ahoge and Doritos. They represented the items as triangles and sought Bocchi's help in distinguishing them. However, this triggered Bocchi's social anxiety once again. Therefore, she asked for your assistance in solving these people's problems. For each person's query, if the triangle is "Nijika-type", please output `Nijika`, if it is "Doritos-type", please output `Doritos`, and if neither, please output `None`. Note that the output should match the case **specified in the problem description**.

Two triangles are considered **congruent** if they can be transformed into one another by translation, rotation, and reflection.

Note: Doritos is not sponsoring Youth Turing Program.

Input Format

The first line contains six integers $nx_1, ny_1, nx_2, ny_2, nx_3, ny_3$, representing the vertices of Nijika's ahoge triangle.

The second line contains six integers $dx_1, dy_1, dx_2, dy_2, dx_3, dy_3$, representing the vertices of Doritos triangle.

The third line contains a positive integer q, indicating the number of people querying Bocchi.

The next q lines each contain six integers $qx_{i,1}, qy_{i,1}, qx_{i,2}, qy_{i,2}, qx_{i,3}, qy_{i,3}$, representing the vertices of the triangle queried by the i-th person, which are $(qx_{i,1}, qy_{i,1}), (qx_{i,2}, qy_{i,2}), (qx_{i,3}, qy_{i,3})$.

Output Format

The output should consist of q lines. Each line should contain a string representing the answer to the i-th query.

Constraints

- $1 \le q \le 1000$

- The coordinates of the points are between 0 and 10^9
- The three points of a triangle are not collinear
- The triangle representing Nijika's ahoge is not congruent to the triangle representing Doritos

Test Cases

Input 1

```
5 2 3 4 4 7
7 4 9 2 11 5
3
0 3 5 2 3 4
5 2 6 4 4 7
9 2 7 0 6 4
```
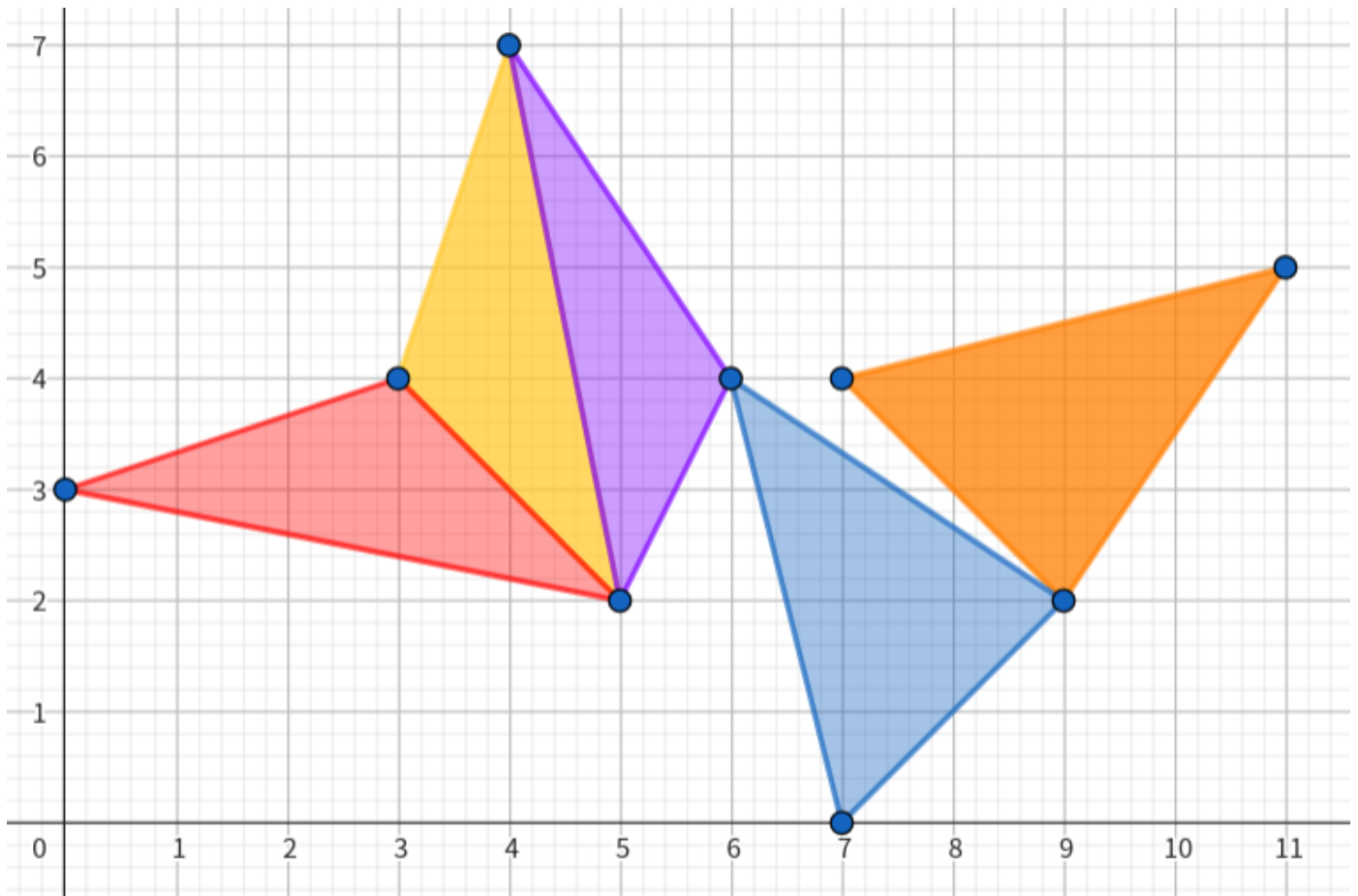
Output 1

```
Nijika
None
Doritos
```

Illustrations

The following is an image of the sample test case:

In the image, yellow represents the Nijika ahoge triangle, orange represents the Doritos triangle, red represents the triangle of first query, purple represents the triangle of second query, and blue represents the triangle of third query.