

The background features a central composition of watercolor brushstrokes. A large, irregular blue shape is centered, with two horizontal red brushstrokes crossing it. The text 'UVA10038' is printed in a dark red, serif font across the middle of the red strokes. In the top-left and bottom-right corners, there are small, stylized blue leaves. Additionally, there are small yellow circular accents: three near the top-left of the blue shape and three near the bottom-right.

UVA10038

題目

A sequence of $n > 0$ integers is called a jolly jumper if the absolute values of the difference between successive elements take on all the values 1 through $n - 1$. For instance,

1 4 2 3

is a jolly jumper, because the absolute differences are 3, 2, and 1 respectively. The definition implies that any sequence of a single integer is a jolly jumper. You are to write a program to determine whether or not each of a number of sequences is a jolly jumper.

有 n 個整數的序列我們稱為jolly jumper，如果相鄰的2個數其差的絕對值恰好為1到 $n-1$ 。

例如：

1 4 2 3

就是jolly jumper ($n=4$)。因為相鄰2數的差的絕對值為3,2,1，就是1到 $n-1$ 。但是

1 4 2 -1 6

不是jolly jumper ($n=5$)。因為相鄰2數的差的絕對值為3,2,3,7，並非1到 $n-1$ 。

你的任務是寫一個程式來判斷一個整數序列是否為jolly jumper。

輸入與輸出

Input : Each line of input contains an integer $n \leq 3000$ followed by n integers representing the sequence.

輸入：每組測試資料一行，第一個正整數為 n ($n < 3000$)，代表此整數序列的長度。接下來有 n 個整數，代表此整數序列。

Output : For each line of input, generate a line of output saying 'Jolly' or 'Not jolly'.

輸出：對每一組測試資料，輸出此整數序列是否為 jolly jumper。

範例測資

Input :

4 1 4 2 3

5 1 4 2 -1 6

Output :

Jolly

Not jolly

程式碼說明

Step 1：輸入測資

7
8
9
10
11
12
13
14

```
int n;  
while (cin >> n) {  
    vector<int> v;  
    for (int i = 0; i < n; i++) {  
        int temp;  
        cin >> temp;  
        v.push_back(temp);  
    }  
}
```

已宣告變數

註解

n

序列長度

v

n個整數

程式碼說明

Step 2：計算相鄰兩數的差

16
17
18
19

```
set<int> s;  
for(int i=0;i<n-1;i++){  
    s.insert(abs(v[i]-v[i+1]))  
}
```

已宣告變數

註解

n

序列長度

v

n個整數

s

相鄰兩數差

程式碼說明

Step 3：判斷並輸出

```
21     if (s.size() == v.size() - 1 && *s.begin() == 1 && *s.rbegin() == n - 1)
22         cout << "Jolly" << endl;
23     else if (v.size() == 1)
24         cout << "Jolly" << endl;
25     else
26         cout << "Not jolly" << endl;
```

已宣告變數

註解

n

序列長度

v

n個整數

s

相鄰兩數差

完整程式碼

```
1  #include<iostream>
2  #include<set>
3  #include<vector>
4  #include<cmath>
5  using namespace std;
6  int main(){
7      int n;
8      while(cin>>n){
9          vector<int> v;
10         for(int i=0;i<n;i++){
11             int temp;
12             cin>>temp;
13             v.push_back(temp);
14         }
15
16         set<int> s;
17         for(int i=0;i<n-1;i++){
18             s.insert(abs(v[i]-v[i+1]));
19         }
20
21         if(s.size()==v.size()-1&&*s.begin()==1&&*s.rbegin()==n-1)
22             cout<<"Jolly"<<endl;
23         else if(v.size()==1)
24             cout<<"Jolly"<<endl;
25         else
26             cout<<"Not jolly"<<endl;
27     }
28 }
```




資料來源

英文題目：

<https://vjudge.net/problem/UVA-10038>

中文翻譯：

<https://zerojudge.tw/ShowProblem?problemid=d097>



Thanks!

