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## Funny String

by Shafaet

Problem

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Suppose you have a String,  $S$ , of length  $N$  that is indexed from  $0$  to  $N - 1$ . You also have some String,  $R$ , that is the reverse of String  $S$ .  $S$  is funny if the condition  $|S[i] - S[i - 1]| = |R[i] - R[i - 1]|$  is true for every character  $i$  from  $1$  to  $N - 1$ .

**Note:** For some String  $S$ ,  $S[i]$  denotes the ASCII value of the  $i^{\text{th}}$  0-indexed character in  $S$ . The absolute value of an integer,  $x$ , is written as  $|x|$ .

**Input Format**

The first line contains an integer,  $T$  (the number of test cases).  
Each line  $i$  of the  $T$  subsequent lines contain a string,  $S$ .

**Constraints**

- $1 \leq T \leq 10$
- $0 \leq i \leq T - 1$
- $2 \leq \text{length of } S \leq 10000$

**Output Format**

For each String  $S_j$  (where  $0 \leq j \leq T - 1$ ), print whether it is **Funny** or **Not Funny** on a new line.

**Sample Input**

```
2
acxz
bcxz
```

**Sample Output**



```
Funny
Not Funny
```


**Explanation**



Test Case 0:  $S = "acxz"$   
 $|c - a| = 2 = |x - z|$   
 $|x - c| = 21 = |c - a|$   
 $|z - x| = 2 = |a - c|$   
As each comparison is equal, we print **Funny**.

Test Case 1:  $S = "bcxz"$   
 $|c - b| = 1$ , but  $|x - z| = 2$   
At this point, we stop evaluating  $S$  (as  $|c - b| \neq |x - z|$ ) and print **Not Funny**.

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Max Score: 25  
Difficulty: Easy  
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Current Buffer (saved locally, editable)  

C++ 

```
1 #include <cmath>
2 #include <cstdio>
3 #include <vector>
4 #include <iostream>
5 #include <algorithm>
6 using namespace std;
7
8 bool funny(string x) {
9     string rev(x);
10    reverse(rev.begin(), rev.end());
11
12    for (int i = 1; i < x.size() - 1; i++) {
13        if ((abs(x[i] - x[i-1])) != abs(rev[i] - rev[i-1])) {
14            return false;
15        }
16    }
17    return true;
18 }
19
20 int main() {
21     int n;
22     cin >> n;
23     string tmp;
24
25     while (n) {
26         cin >> tmp;
27         cout << (funny(tmp) ? "Funny" : "Not Funny") << "\n";
28         n--;
29     }
30     /* Enter your code here. Read input from STDIN. Print output to STDOUT */
31     return 0;
32 }
33
```

Line: 1 Col: 1

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