



New Year Chaos

by Shafaet

Problem

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It's New Year's Day and everyone's in line for the Wonderland rollercoaster ride!

There are n people queued up, and each person wears a sticker indicating their *initial* position in the queue (i.e.: $1, 2, \dots, n-1, n$ with the first number denoting the frontmost position).

Any person in the queue can bribe the person *directly in front* of them to swap positions. If two people swap positions, they still wear the same sticker denoting their original place in line. One person can bribe *at most two others*.

That is to say, if $n = 8$ and **Person 5** bribes **Person 4**, the queue will look like this: **1, 2, 3, 5, 4, 6, 7, 8**.

Fascinated by this chaotic queue, you decide you must know the minimum number of bribes that took place to get the queue into its current state!

Note: Each **Person X** wears sticker X , meaning they were initially the X^{th} person in queue.

Input Format

The first line contains an integer, t , denoting the number of test cases.

Each test case is comprised of two lines; the first line has n (an integer indicating the number of people in the queue), and the second line has n space-separated integers describing the final state of the queue.

Constraints

- $1 \leq t \leq 10$
- $1 \leq n \leq 10^5$

Subtasks

For 60% score $1 \leq n \leq 10^3$

For 100% score $1 \leq n \leq 10^5$

Output Format

Print an integer denoting the minimum number of bribes needed to get the queue into its final state; print **Too chaotic** if the state is invalid (requires **Person X** to bribe more than 2 people).

Sample Input

```
2
5
2 1 5 3 4
5
2 5 1 3 4
```

Sample Output

```
3
Too chaotic
```

Explanation**Sample 1**

The initial state:



After person **5** moves one position ahead by bribing person **4**:



Now person **5** moves another position ahead by bribing person **3**:



And person **2** moves one position ahead by bribing person **1**:



So the final state is **2, 1, 5, 3, 4** after three bribing operations.

Sample 2

No person can afford to bribe more than two people, so its not possible to achieve the input state.

[f](#) [t](#) [in](#)Submissions: [15744](#)

Max Score: 40

Difficulty: Medium

Rate This Challenge:

☆☆☆☆☆

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Current Buffer (saved locally, editable)

Java 7



```
1 import java.io.*;
2 import java.util.*;
3 import java.text.*;
4 import java.math.*;
5 import java.util.regex.*;
6
7 public class Solution {
8
9     static void minimumBribes(int[] q) {
10         // Complete this function
11     }
12
13     public static void main(String[] args) {
14         Scanner in = new Scanner(System.in);
15         int t = in.nextInt();
16         for(int a0 = 0; a0 < t; a0++){
17             int n = in.nextInt();
18             int[] q = new int[n];
19             for(int q_i = 0; q_i < n; q_i++){
20                 q[q_i] = in.nextInt();
21             }
22             minimumBribes(q);
23         }
24     }
25 }
```

```
24     in.close();
25 }
26 }
27
```

Line: 1 Col: 1

 [Upload Code as File](#) ☐ Test against custom input

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