Problem B. Dire Straights

Small input
4 points

Solve B-small

Large input
12 points

Solve B-large

Problem

You are playing a card game, where each card has an integer number written on it.

To play the game, you are given some cards — your *hand*. Then you arrange the cards in your hand into *straights*. A straight is a set of cards with consecutive values; e.g. the three cards {3, 4, 5}, or the single card {7}. You then receive a number of dollars equal to the length of the shortest straight. If you have no cards, you can form no straights, so you get zero dollars.

You will be given a series of test cases, each of which describes the cards you will have in your hand. Find the maximum number of dollars you can receive for each test case.

Input

The first line of the input contains the number of test cases, **T**. Each test case consists of one line. Each line contains **N**, the number of cards in your hand, followed by **N** integers giving the numbers on those cards. These numbers are all space-separated.

Output

For each test case, output one line containing "Case #x: y", where x is the case number (starting from 1) and y is the maximum number of dollars you can receive.

Limits

$1 \le \mathbf{T} \le 100$
The numbers on the cards are between 1 and 10000.

Small dataset

$0 \le \mathbf{N} \le 10$

Large dataset

$0 \le \mathbf{N} \le 1000$

Sample

Input	Output
4 10 1 2 3 4 5 10 9 8 7 6 8 101 102 103 104 105 106 103 104 0 5 1 2 3 4 9	Case #1: 10 Case #2: 4 Case #3: 0 Case #4: 1

In case 1, you have ten cards numbered 1 to 10, so you make one straight of length 10, and get 10 dollars.

In case 2, you could make two straights {101,102,103,104,105,106} and {103,104} and get 2 dollars. But it would be better to make {101,102,103,104} and {103,104,105,106} and get 4 dollars.

In case 4, the card with the number 9 must be in a straight containing only that card. So you get 1 dollar.

In case 3, you have zero cards, so you get zero dollars. You don't get money for nothing.

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