



Countdown (5pts, 7pts)

Attempts	Penalties	Penalty Time	Points	Points
9	0	00:00:00	—	—

Practice Submissions

You have not attempted this problem.

Competitive Submissions

Attempt 9	Sample Failed: RE	02:58:01	
Attempt 8	Sample Failed: RE	02:51:38	
Attempt 7	Sample Failed: RE	02:49:44	
Attempt 6	Sample Failed: RE	02:49:18	
Attempt 5	Sample Failed: RE	02:42:34	

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Problem

Avery has an array of N positive integers. The i -th integer of the array is A_i .

A contiguous subarray is an m -countdown if it is of length m and contains the integers $m, m-1, m-2, \dots, 2, 1$ in that order. For example, $[3, 2, 1]$ is a 3-countdown.

Can you help Avery count the number of K -countdowns in her array?

Input

The first line of the input gives the number of test cases, T . T test cases follow. Each test case begins with a line containing the integers N and K . The second line contains N integers. The i -th integer is A_i .

Output

For each test case, output one line containing **Case #x:** y , where x is the test case number (starting from 1) and y is the number of K -countdowns in her array.

Limits

Time limit: 20 seconds per test set.

Memory limit: 1GB.

$1 \leq T \leq 100$.

$2 \leq K \leq N$.

$1 \leq A_i \leq 2 \times 10^5$, for all i .

Test set 1

$2 \leq N \leq 1000$.

Test set 2

$2 \leq N \leq 2 \times 10^5$ for at most 10 test cases.

For the remaining cases, $2 \leq N \leq 1000$.

Sample

Input	Output
3	
12 3	
1 2 3 7 9 3 2 1 8 3 2 1	Case #1: 2
4 2	Case #2: 0
101 100 99 98	Case #3: 1
9 6	
100 7 6 5 4 3 2 1 100	

In sample case #1, there are two 3-countdowns as highlighted below.

- 1 2 3 7 9 **3 2 1** 8 3 2 1
- 1 2 3 7 9 3 2 1 8 **3 2 1**

In sample case #2, there are no 2-countdowns.

In sample case #3, there is one 6-countdown as highlighted below.

- 100 7 **6 5 4 3 2 1** 100