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CUSTOM INVOCATION

C. Inhabitant of the Deep Sea

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

Codeforces Round 938 (Div. 3)

Finished

n ships set out to explore the depths of the ocean. The ships are numbered from 1 to n and follow each other in ascending order; the i -th ship has a durability of a_i .

The Kraken attacked the ships k times in a specific order. First, it attacks the first of the ships, then the last, then the first again, and so on.

Each attack by the Kraken reduces the durability of the ship by 1. When the durability of the ship drops to 0, it sinks and is no longer subjected to attacks (thus the ship ceases to be the first or last, and the Kraken only attacks the ships that have not yet sunk). If all the ships have sunk, the Kraken has nothing to attack and it swims away.

For example, if $n = 4$, $k = 5$, and $a = [1, 2, 4, 3]$, the following will happen:

1. The Kraken attacks the first ship, its durability becomes zero and now $a = [2, 4, 3]$;
2. The Kraken attacks the last ship, now $a = [2, 4, 2]$;
3. The Kraken attacks the first ship, now $a = [1, 4, 2]$;
4. The Kraken attacks the last ship, now $a = [1, 4, 1]$;
5. The Kraken attacks the first ship, its durability becomes zero and now $a = [4, 1]$.

How many ships were sunk after the Kraken's attack?

Input

The first line contains an integer t ($1 \leq t \leq 10^4$) — the number of test cases.

The first line of each test case contains two integers n and k ($1 \leq n \leq 2 \cdot 10^5$, $1 \leq k \leq 10^{15}$) — the number of ships and how many times the Kraken will attack the ships.

The second line of each test case contains n integers a_1, a_2, \dots, a_n ($1 \leq a_i \leq 10^9$) — the durability of the ships.

It is guaranteed that the sum of n for all test cases does not exceed $2 \cdot 10^5$.

Output

For each test case, output the number of ships sunk by the Kraken on a separate line.

Example

input	Copy
6	
4 5	
1 2 4 3	
4 6	
1 2 4 3	
5 20	
2 7 1 8 2	
2 2	
3 2	
2 15	
1 5	
2 7	
5 2	
output	Copy
2	
3	
5	
0	
2	
2	

Practice?

Want to solve the contest problems after the official contest ends? Just register for practice and you will be able to submit solutions.

Register for practice

Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

Problem tags

greedy implementation math

No tag edit access

Contest materials

Announcement

[Codeforces](#) (c) Copyright 2010-2024 Mike Mirzayanov
The only programming contests Web 2.0 platform
Server time: Apr/09/2024 08:06:17^{UTC+5.5} (h2).
Desktop version, switch to [mobile version](#).
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