

The Constitution

Problem Statement:-

In the late 40's, members of Constituent Assembly of India were busy in writing the constitution. Chairman of the assembly had a strategy of creating the laws . For any given N days, A_i is the number of ideas of laws Chairman thinks on i^{th} day. He can submit each idea to Constituent Assembly either on i^{th} day or $(i+1)^{\text{th}}$ day.

Chairman used to submit his ideas by writing them on notebooks , each Notebook had a capacity of upto K ideas. He can Submit any number of notebooks on single day. Being an Economical Assistant of Chairman, you are required to compute the minimum number of notebooks required to submit all of his ideas .

Input:-

First line of input contains an integer T denoting the number of testcases.

First line of each testcase contains two space separated integers N and K .

Second line of each testcase contains N space separated integers $A_1, A_2, A_3, \dots, A_n$.

Output:-

Print a single integer denoting the minimum number of notebooks.

Constraints:-

$1 \leq n \leq 100000$

$1 \leq k \leq 1000000000$

$1 \leq A_i \leq 1000000000$

Time limit:- 2 sec

Examples:-

Input:-

5 2

3 1 0 3 1

Output:-

4

Input :

7 16

44 3 9 12 3 1 24

Output:-

7

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