

Chef and Division 3

I Problem Code: DIVTHREE

Submit



Read problem statements in [Hindi](#), [Bengali](#), [Mandarin Chinese](#), [Russian](#), and [Vietnamese](#) as well.

Chef wants to host some Division-3 contests. Chef has N setters who are busy creating new problems for him. The i^{th} setter has made A_i problems where $1 \leq i \leq N$.

A Division-3 contest should have exactly K problems. Chef wants to plan for the next D days using the problems that they have currently. But Chef cannot host more than one Division-3 contest in a day.

Given these constraints, can you help Chef find the maximum number of Division-3 contests that can be hosted in these D days?

Input:

- The first line of input contains a single integer T denoting the number of test cases. The description of T test cases follows.
- The first line of each test case contains three space-separated integers - N , K and D respectively.
- The second line of each test case contains N space-separated integers A_1, A_2, \dots, A_N respectively.

Output:

For each test case, print a single line containing one integer — the maximum number of Division-3 contests Chef can host in these D days.

Constraints

- $1 \leq T \leq 10^3$
- $1 \leq N \leq 10^2$
- $1 \leq K \leq 10^9$
- $1 \leq D \leq 10^9$
- $1 \leq A_i \leq 10^7$ for each valid i

Subtasks

Subtask #1 (40 points):

- $N = 1$
- $1 \leq A_1 \leq 10^5$

Subtask #2 (60 points): Original constraints

Sample Input:

```
5
1 5 31
4
1 10 3
23
2 5 7
20 36
2 5 10
19 2
3 3 300
1 1 1
```

Sample Output:

```
0
2
7
4
1
```

Explanation:

- Example case 1:** Chef only has $A_1 = 4$ problems and he needs $K = 5$ problems for a Division-3 contest. So Chef won't be able to host any Division-3 contest in these 31 days. Hence the first output is 0.
- Example case 2:** Chef has $A_1 = 23$ problems and he needs $K = 10$ problems for a Division-3 contest. Chef can choose any $10 + 10 = 20$ problems and host 2 Division-3 contests in these 3 days. Hence the second output is 2.
- Example case 3:** Chef has $A_1 = 20$ problems from setter-1 and $A_2 = 36$ problems from setter-2, and so has a total of 56 problems. Chef needs $K = 5$ problems for each Division-3 contest. Hence Chef can prepare 11 Division-3 contests. But since we are planning only for the next $D = 7$ days and Chef cannot host more than 1 contest in a day, Chef cannot host more than 7 contests. Hence the third output is 7.

Author: [smit_adm](#)

Date Added: 30-12-2020

Time Limit: 1 secs

Source Limit: 50000 Bytes

Languages: CPP14, C, JAVA, PYTH 3.6, PYTH, CS2, ADA, PYPY, PYP3, TEXT, CPP17, PAS fpc, RUBY, PHP, NODEJS, GO, TCL, HASK, PERL, SCALA, kotlin, BASH, JS, PAS gpc, BF, LISP sbcl, CLOJ, LUA, D, R, CAML, rust, ASM, FORT, FS, LISP clisp, SQL, swift, SCM guile, PERL6, CLPS, WSPC, ERL, ICK, NICE, PRLG, ICON, PIKE, COB, SCM chicken, SCM qobi, ST, NEM, SQLQ

Submit

Comments ►

Submission Ends In

3

17

51

24

Days

Hrs

Min

Sec

My Submissions

All Submissions

Successful Submissions



CodeChef is a competitive programming community.

[About CodeChef](#) | [Contact Us](#)

The time now is: 09:08:35 PM
Your IP: 160.238.75.179

CodeChef uses SPOJ © by [Sphere Research Labs](#)

In order to report copyright violations of any kind, send in an email to copyright@codechef.com

CodeChef - A Platform for Aspiring Programmers

CodeChef was created as a platform to help programmers make it big in the world of **algorithms**, **computer programming**, and **programming contests**. At CodeChef we work hard to revive the geek in you by hosting a **programming contest** at the start of the month and two smaller programming challenges at the middle and end of the month. We also aim to have training sessions and discussions related to **algorithms**, **binary search**, technicalities like **array size** and the likes. Apart from providing a platform for **programming competitions**, CodeChef also has various algorithm tutorials and forum discussions to help those who are new to the world of **computer programming**.

Practice Section - A Place to hone your 'Computer Programming Skills'

Try your hand at one of our many practice problems and submit your solution in the language of your choice. Our **programming contest** judge accepts solutions in over 55+ programming languages. Preparing for coding contests were never this much fun! Receive points, and move up through the CodeChef ranks. Use our practice section to better prepare yourself for the multiple **programming challenges** that take place through-out the month on CodeChef.

Compete - Monthly Programming Contests, Cook-off and Lunchtime

Here is where you can show off your **computer programming skills**. Take part in our 10 days long monthly coding contest and the shorter format Cook-off and Lunchtime **coding contests**. Put yourself up for recognition and win great prizes. Our **programming contests** have prizes worth up to INR 20,000 (for Indian Community), \$700 (for Global Community) and lots more CodeChef goodies up for grabs.

Programming Tools

[Online IDE](#)

[Upcoming Coding Contests](#)

[Contest Hosting](#)

[Problem Setting](#)

[CodeChef Tutorials](#)

[CodeChef Wiki](#)

Practice Problems

[Easy](#)

[Medium](#)

[Hard](#)

[Challenge](#)

[Peer](#)

[School](#)

[FAQ's](#)

Initiatives

[Go for Gold](#)

[CodeChef for Schools](#)

[College Chapters](#)

[CodeChef for Business](#)

Policy

[Terms of Service](#)

[Privacy Policy](#)

[Refund Policy](#)

[Code of Conduct](#)

[Bug Bounty Program](#)