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## Chef and Division 3

Problem Code: DIVTHREE

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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

### Submission Ends In

6	21	54	7
Days	Hrs	Min	Sec

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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

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