2376 - I2P(I) 2021_Chen_final

Scoreboard (/contest/scoreboard/2376/)

Time		
2021/06/22 18:40:00	02:55:40	2021/06/22 21

Clarification

#	Problem	Asker	Description	Reply	Replier	Reply Time	For all te

Overview Problem

13242 - Poorgrammer - ver2

Status (/status/?pid=13242) | Limits Submit (/users/submit/13

Description

> A program a day keep girls away.
>
> ~by anonymous programmer

You are a programmer, you need to write code day and night.

In order to keep you in a sharp mind, you drink a lot of coffee.

Given **n** cups of coffee, the **ith** cup of coffee has the effect that make

you write **ai** lines of code.

Each cup of coffee can only be drunk for once.

You can drink coffee in arbitary order!!!!

You need to write more than **m** lines of code.

In a day when you drink a cup of coffee,

the second cup of coffee will loss it's effect by **1**

and the third cup of coffee will loss it's effect by **2**

..... and so on

You need to find out what's the **minimum number of days**

that you can write more than **m** lines of code.

Example:

Given **n = 5** cups of coffee, you need to finish **m=16** lines of code.

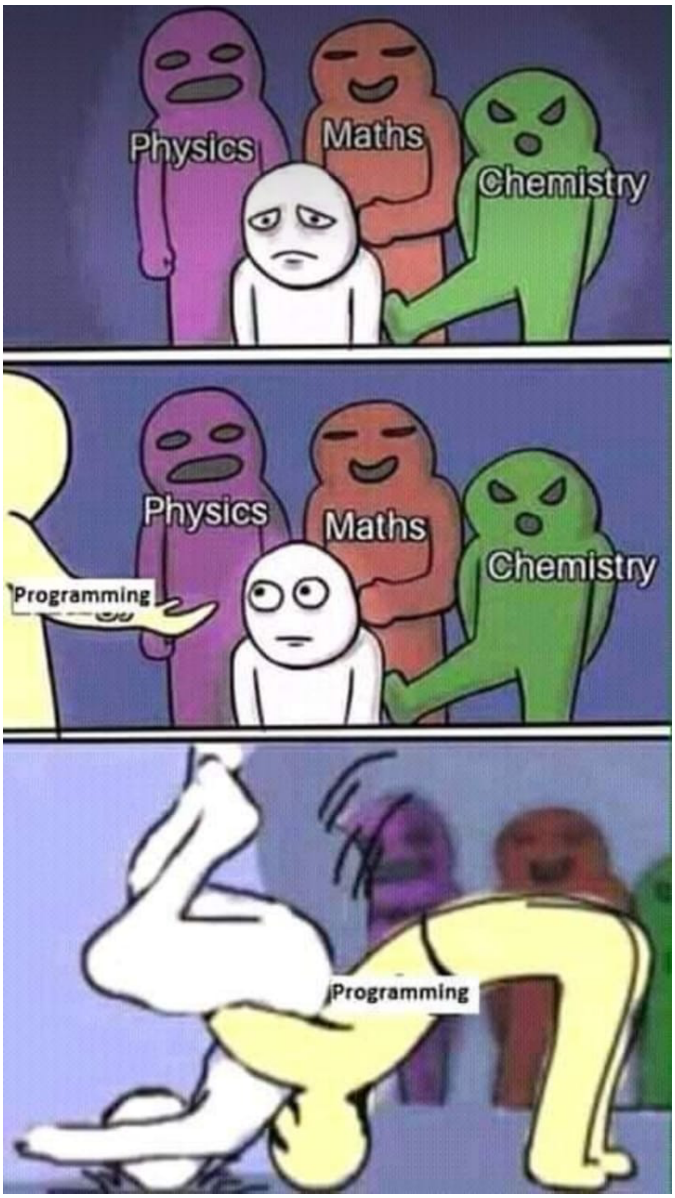
The effect of coffee = **a1 = 5, a2 = 5, a3 = 5, a4 = 5, a5 = 5**

If you drink **a1~a4** at the first day, you finish **5 + (5-1) + (5-2) + (5-3) = 14** lines of code.

If you drink **a5** at the second day, you finish **5** lines of code.

14+5 > 16 therefore you can finish your code by **2** days,

and it's the minimum number of days that you can achieve.



Input

First line contains one integer **t(1 <= t <= 10)** which means the number of testcases.

Each testcases contains two lines.

First line contains two integer **n(1 <= n <= 2*10^5), m(1 <= m <= 10^9)**

Second line contains **n** numbers **ai(1 <= ai <= 10^9)**

Output

For each testcase print only one number which means the **minimum number of days**

that you can write more than **m** lines of code.

If you can't finish your code in any way, print -1.

Remember to print `\n` at the end of output.

Sample Input

Download (data:text/plain;charset=utf-8,6%0A5%208%0A3%202%202%201%201%0A7%2010%0A4%204%203%202%202%201%201%0A5%2015%0A5%205%205%

```
6
5 8
3 2 2 1 1
7 10
4 4 3 2 2 1 1
5 15
5 5 5 5 5
5 16
5 5 5 5 5
5 26
5 5 5 5 5
7 10
1 4 1 2 3 4 2
```

Sample Output

Download (data:text/plain;charset=utf-8,5%0A2%0A2%0A2%0A-1%0A2%0A)

```
5
2
2
2
-1
2
```

Discuss