Bagă Bani

Input file:	**standard input**
Output file:	**standard output**
Time limit:	0.3 seconds
Memory limit:	1024 megabytes

> You're making millions, you are the flyest,
> But you also have to live. Instead of hoarding
> money, it's better to spend it up.
>
> Puya, Don Baxter, Connect-R - "Baga Bani"

After some unfortunate financial decisions, Eugen the businessman ended up owing s euros to the bank. He currently has 0 euros.

During day i ($1 \le i \le n$), Eugen will gain a_i euros from his business ventures. Note that a_i may be negative.

At the end of each day i ($1 \le i \le n$), Eugen can pay off a part of his debt.

If Eugen has a negative amount of money at any given time, then he is considered bankrupt and can no longer clear his debt.

However, Eugen's debt will increase by r euros each day, until the debt is fully paid off. In particular, if Eugen managed to pay off his debt at the end of day d, then he would have had to pay $s + (d - 1) \cdot r$ euros in total.

Find the first day when Eugen can fully repay his debt, regardless of whether this would make Eugen go bankrupt later. If Eugen cannot repay his debt, print 1" instead.

Input

Each test contains multiple test cases. The first line of input contains a single integer t ($1 \le t \le 5 \cdot 10^4$) — the number of test cases. The following lines contain the descriptions of the test cases.

The first line of each test case contains three integers n, s and r ($1 \le n \le 2 \cdot 10^5$, $1 \le s \le 10^9$, $0 \le r \le 10^9$) — the number of days, the initial number of euros Eugen owes, and the rate at which the debt increases, respectively.

The second line of each test case contains n integers $a_1, a_2, \ldots, a_n$ ($-10^9 \le a_i \le 10^9$) — the amount of money Eugen receives on each day.

Output

For each test case, print the first day when Eugen can fully repay his debt, regardless of whether this would make Eugen go bankrupt later. If Eugen cannot repay his debt, print 1" instead.

Example

standard input	standard output
5	3
5 5 2	-1
3 -1 8 2 1	-1
4 7 1	6
5 2 1 1	7
3 4 0	
3 -4 1000000000	
6 4 1	
3 -3 3 -3 4 5	
7 20 4	
10 7 2 -1 10 11 12	

Note

Explanation of the first test case:

- Eugen earns 3 euros in the first day.

- Eugen pays 2 euros to the bank at the end of the first day. Eugen's debt is now $5 - 2 = 3$ euros.

- Eugen loses 1 euro in the second day. Eugen's debt also increases to $3 + 2 = 5$ euros.

- Eugen pays 0 euros to the bank at the end of the second day.

- Eugen earns 8 euros in the third day. Eugen's debt also increases to $5 + 2 = 7$ euros.

- Eugen can fully pay off his debt at the end of the third day.

In the second test case, Eugen cannot fully repay his debt.

In the third test case, Eugen will go bankrupt in the second day, before being able to repay his debt.