

Medellín Cartel

Input file: **standard input**
Output file: **standard output**
Time limit: 1 second
Memory limit: 256 megabytes

It's 1989 and you as the army chief of Colombia have to defeat the Medellín Cartel of Pablo Escobar. As you may know, Escobar has many Sicarios (hitmen) spread across the city of Medellín.

To defeat the cartel, you must fight and defeat **N** of these Sicarios numbered 1 to N. Each Sicario has a power $P_i (1 \leq i \leq N)$. Since your capabilities are limited, if the sum of powers of any **K** consecutive Sicarios is strictly greater than **X**, you will not be able to defeat the Cartel, and Escobar will win once again.

However, your Intelligence can do the following operation before you start fighting the Sicarios any number of times, and each operation costs 1 Peso:

- Choose the $i^{th} (1 \leq i \leq N)$ Sicario such that $P_i > 0$ and reduce its power P_i by 1.

What is the minimum number of Pesos you need to spend to successfully defeat the Cartel?

Input

The first line contains T, the number of test cases. Each test case contains two lines:

$N \ K \ X$

$P_1 \ P_2 \ \dots \ P_N$

Constraints

$$1 \leq T \leq 10^5$$

$$1 \leq N \leq 10^5$$

$$1 \leq K \leq \min(N, 10^2)$$

$$0 \leq X \leq 10^9$$

$$0 \leq P_i \leq 10^9 (1 \leq i \leq N)$$

It is guaranteed that the Sum of N over all test cases does not exceed 10^5

Output

Print T lines, each containing the minimum number of Pesos you need to spend to successfully defeat the Cartel for that test case.

Examples

standard input	standard output
2 4 3 4 3 2 3 1 2 2 4 2 1	4 0
1 3 1 5 4 6 3	1

Note

Test case 1 of first input:

Operation 1: choose Sicario 2

Operation 2: choose Sicario 3

Operation 3: choose Sicario 3

Operation 4: choose Sicario 2

Now the sum of no 3 consecutive Sicarios is greater than 4.