Problem AB. AB

Time limit 2000 ms
Mem limit 1048576 kB

Problem Statement

Takahashi is taking exams on N subjects. The score on each subject will be an integer between 0 and K (inclusive).

He has already taken exams on $N-1$ subjects and scored A_i points on the i-th subject.

His goal is to achieve the average score of M points or above on the N subjects.

Print the minimum number of points Takahashi needs on the final subject to achieve his goal.

If the goal is unachievable, print `-1` instead.

Constraints

- $2 \leq N \leq 100$
- $1 \leq K \leq 100$
- $1 \leq M \leq K$
- $0 \leq A_i \leq K$
- All values in input are integers.

Input

Input is given from Standard Input in the following format:

N K M
A_1 A_2 ... A_{N-1}

Output

Print the minimum number of points required on the final subject, or `-1`.

Sample 1

Input	Output
5 10 7 8 10 3 6	8

If he scores 8 points on the final subject, his average score will be $(8 + 10 + 3 + 6 + 8)/5 = 7$ points, which meets the goal.

Sample 2

Input	Output
4 100 60 100 100 100	0

Scoring 0 points on the final subject still meets the goal.

Sample 3

Input	Output
4 100 60 0 0 0	-1

He can no longer meet the goal.