PROBLEM 1

Emptying Vaults

Time and memory limits: 1 second, 256 MB

What a terrible day! First, your chauffeur falls ill, forcing you to drive your twelfth Rolls-Royce to the golf club *all* by yourself. Then, you accidentally leave your rose-gold Rolex at your second mansion, bringing about your tardiness to the weekly billionaire meetup. And now, if all that wasn't enough, the tax collectors are coming tonight to inspect your treasury.

Your wealth is located within N different vaults, each capable of holding at most P gold coins. The ith vault currently holds B_i of these coins.

It takes you one second to perform the following move:

- Pick two distinct vaults X and Y, where X is not empty and Y is not full.
- Move **one** coin from vault X into vault Y.

To dodge your taxes this year, you want to show off as many empty vaults as possible. However, you only have K seconds to rearrange your treasury before the collectors come knocking at your doors.

What's the maximum number of empty vaults you can have before they arrive?

Subtasks and Constraints

Your program will be graded using many secret tests. Every test follows some rules:

- $2 \leq N \leq 200\,000$.
- $1 \leq P \leq 200\,000$.
- $0 \leq B_i \leq P$ for all i.
- $0 \leq K \leq 1\,000\,000\,000$.

The secret tests are divided into subtasks. Your program must correctly solve **every test** within a subtask to earn the marks for that subtask:

- For Subtask 1 (10 points), $N \leq 1000$ and $B_i = 1$ for all i.
- For Subtask 2 (20 points), $B_i = 1$ for all i.
- For Subtask 3 (20 points), $N \times K \leq 200\,000$.
- For Subtask 4 (20 points), $K \leq 200\,000$.
- For Subtask 5 (30 points), no special rules apply.

Input

Your solution must read input and print output. We recommend using the solution templates (which you can find on the competition website) to help you with input and output.

The input follows a specific format:

- The first line contains three integers N, P, and K.
- The second line contains N integers $B_1, B_2, \ldots, B_N$, the number of coins in each vault.

Output

Your program must output the maximum number of vaults that can be empty after at most K moves.

Sample Input 1

```
5 4 10
3 0 3 1 3
```

Sample Output 1

```
2
```

Sample Input 2

```
6 10 3
2 6 1 0 5 6
```

Sample Output 2

```
3
```

Explanation

In the 1st sample case, vault 2 is already empty. We can move the single coin from vault 4 into vault 1, leaving two empty vaults. It is impossible to empty a third vault, since the 10 coins would need to fit into the two remaining vaults, which can hold only $2 \times 4 = 8$ coins in total. Therefore, the answer is 2.

In the 2nd sample case, vault 4 is already empty. We can spend three seconds moving the one coin from vault 3 and the two coins from vault 1 into other vaults. This leaves vaults 1, 3, and 4 empty.