Problem AT3. TASKS
⏳ 1.5 sec.   💾 256 MB

In your free time you experiment with new low-level optimizations in your computer's CPU. This time around you have the following task:

There are n tasks, waiting for CPU time in queue. Each task is assigned a *type*. Your CPU can handle at most m tasks of the same type together before risking irreversible damage. To optimize the time needed to task all the tasks, you will separate them in batches such that no type appears more than m times in any one batch. Each batch consist of some continuous interval of tasks from the queue.

To further optimize the amortized time needed to perform the tasks, you have taken the hard choice to give up on performing up to k tasks. They are fully removed from the queue and will not play any further role in your algorithm.

Find the minimal number of batches you need to create for all your tasks, even after you are allowed to remove upto k of them from the queue.

Input

The first line of the standard input consists of n, m and k – the number of tasks, the maximum amount of same type tasks you can process in one batch and the number of tasks you can remove. The next line consist of n numbers describing the type of the i-th task in the queue.

Output

Print on the only line of the standard output only the minimal number of batches you will create.

Constraints

- $1 \le m \le n \le 5 \times 10^4$
- $0 \le k \le \min(n, 400)$
- $1 \le a_i \le n$

Subtasks

Subtask	Points	Necessary subtasks	n	k	Other constraints
0	0	—	—	—	Examples.
1	8	—	—	—	$a_i = 1$
2	10	—	≤ 2000	$= 0$	—
3	15	2	≤ 2000	≤ 20	—
4	13	2	—	$= 0$	—
5	19	3, 4	—	≤ 20	—
6	35	0 − 5	—	—	—

Points for a given subtask are only awarded if all tests provided for it are successfully passed.

Examples

Input	Output	Explanation
8 2 1 1 1 2 2 1 2 2 2	2	Removing the sixth task in the queue allows you to separate the rest of the processes in two batches: the first one consists of the first four tasks and the second one consists of the 5-th, 7-th and the 8-th one (in the original queue).
5 1 0 3 3 3 3 3	5	You cannot remove any of the tasks and cannot put them together in batches.