J - Jungle

Time limit : 8sec / Memory limit : 256MB

Problem

Wolf Sothe owns a long land in the jungle. In this linear land, N trees grow at regular intervals. The size of the i_{th} tree from one end is given as t_i.

Inside the jungle it is dark because trees obstruct sunlight. In order to let sunlight shine into the jungle, Wolf Sothe considers cutting some of the N trees (or cutting no one). More specifically, trees will be cut with the following rules.

- Up to M trees can be cut (no more than M).
- Considering the impact on the surrounding ecosystem, it is not allowed to cut two or more trees in arbitrary K consecutive trees. More precisely, there is not $i(1 \leqq i \leqq N-K+1)$ such that 2 or more trees are cut in the $i_{th}, (i+1)_{th}, ..., (i+K-1)_{th}$ trees from one end.
- If Wolf Sothe cuts the i_{th} tree from one end, the size of the tree t_i becomes 0.
- We want the maximum value of the sum of sizes of K consecutive trees to be as small as possible. Namely, we want to minimize $\max\limits_{1 \leq i \leq N-K+1} \sum\limits_{j=i}^{i+K-1} t_j$.

Since the size of the N trees and M, K have been given, when we make the optimal cutting choice for the trees, please obtain the minimum value of the maximum value of the sum of sizes of consecutive K trees.

Input

Inputs will be given by standard input in following format.

```
N  M  K
t₁
t₂
:
tN
```

- At the first line, integer $N(1 \leqq N \leqq 100,000)$, $M(1 \leqq M \leqq N)$, $K(1 \leqq K \leqq N)$ will be given.
- From the second line there are N additional lines to give information about sizes of trees. At the i_{th} line, integer $t_i(1 \leqq t_i \leqq 1,000,000,000)$ will be given.

Output

Please print the minimum value of the maximum value of the sum of sizes of consecutive K trees, when we made the optimal cutting choice for the trees in a line.

Print a newline at the end of output.

Input Example 1

```
6 2 3
1
5
6
2
4
3
```

Output Example 1

```
7
```

If Wolf Sothe cuts the 3_{rd} and 6_{th} tree, the minimum value of the maximum value of the sum of sizes of consecutive 3 consecutive trees will be obtained when it is for the $2_{nd}, 3_{rd}, 4_{th}$ tree. The sum of sizes is $5 + 0 + 2 = 7$.

Input Example 2

```
10 3 4
3
14
1
5
9
2
6
5
3
5
```

Output Example 2

```
17
```