Wavelike Finding

Input file:	`standard input`
Output file:	`standard output`
Time limit:	7 seconds
Memory limit:	1024 megabytes

In this problem, you are given two fixed parameters k and W.

We call a sequence $a_1, a_2, \ldots, a_{2k}$ **shaky** if and only if $\sum_{i=1}^{k}(k-i+1)(a_i + a_{2k-i+1}) \geq W$. Note that the length of the sequence must be $2k$.

We also call a sequence $b_1, b_2, \ldots, b_m$ **wavelike** if and only if:

- $m \geq 2k$.
- It contains at least one **shaky** subsequence. Note that the **shaky** subsequence is not required to be contiguous.

You are also given a sequence $s_1, s_2, \ldots, s_n$, select disjoint **wavelike** consecutive subsequences from it as many as possible. Note that the selected consecutive subsequences don't need to cover the entire sequence. Here, "consecutive subsequence" means that it must be contiguous (i.e. a substring).

Input

The first line contains three integers n, k and W ($2 \leq n \leq 2 \cdot 10^5$, $1 \leq k \leq \frac{n}{2}$, $|W| \leq 10^{17}$).

The second line contains n integers $s_1, s_2, \ldots, s_n$ ($|s_i| \leq 10^6$).

Output

Output a single line containing an integer, denoting the maximum possible number of disjoint **wavelike** consecutive subsequences that you can select.

Examples

standard input	standard output
9 2 25 6 4 3 5 7 1 2 5 8	2
9 2 30 6 4 3 5 7 1 2 5 8	1
2 1 1 0 0	0
2 1 -6 -1 -5	1