Weird Race

There is weird race on planet x. In the race there are n players on n tracks labeled from 1 to n. Since the race is weird, i^{th} racer starts the race at START[i] distance from zero position and i^{th} racer has constant speed of SPEED[i].
In this race resource required by i^{th} racer is maximum of current positions of all the racer from i^{th} to $(i+k-1)^{th}$ position. If $(i+k-1)^{th}$ exceeds n then the resource required by that racer is 0.
Race stops when sum of the resource required by each racer at any time is greater than the threshold(th) value.
The race will be stopped when the resources required will be greater than threshold(th).
You need to find the time at which race will be stopped.

Input:
First line contains a three integer n, k, th representing number of players and window size and the threshold value.
Second line contains n integers, i^{th} integer represents START[i].
Third line contains n integers, i^{th} integer represents SPEED[i].

Output:
Print single integer T representing time at which race will be stopped.

Constraints:
1 <= n, k <= 100000 ($\mathbf{10^5}$)
1 <= th <= 1000000000 ($\mathbf{10^9}$)
1 <= START[i] and SPEED[i] <= 100000($\mathbf{10^5}$)

Sample Input #1
5 2 50
5 2 3 1 4
2 3 3 3 3

Sample Output #1
4