

K-area

SEASON 6 – ROUND FOUR – 100 points



For a sequence of N integers – $a_0, a_1, \dots, a_{n-1}$ we define the k -area of a number to be the sum of the number with index i , the k numbers to its left and the k numbers to its right. Write a program, which for a given sequence of numbers and number k outputs the index of the number with the largest k -area. If there is more than one largest area, output the smallest index.

Note: if before or after a given index there are less than k numbers, we only take into account their sum when calculating the k -area (i.e. we can imagine that the missing numbers are all 0).

Input

The first row of the file `karea.in` contains two positive integers N and k – the length of the sequence and the size of the area respectively.

N integers follow – the numbers of the sequence.

Output

In the output file `karea.out` print the position of the number with the largest k -area. In case there is more than one such are, print the smallest index. (Indexing begins at 0).

Constraints

$$3 \leq N \leq 10^6$$

$$3 \leq k \leq 5 \cdot 10^5$$

$$-1000 \leq a_i \leq 1000$$

Time limit: 0.5 sec

Memory limit: 256 MB

Example test

Input (<code>karea.in</code>)	Output (<code>karea.out</code>)
5 1 -10 9 -10 -5 -9	0
6 4 -6 10 -9 -5 -6 3	5

Clarifications

Example 1: The values of the 1-areas in each position are as follows:

0: $-10 + 9 = -1$

1: $-10 + 9 + (-10) = -11$

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2: $9 + (-10) + (-5) = -6$

3: $-10 + (-5) + (-9) = -24$

4: $-5 + (-9) = -14$

The largest value is -1 at index 0.