Koka Kanika (70 Points)

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Kanika lives in a 2-Dimensional universe. She earned a lot of money from her Godzilla internship last year and spent it to buy **n** units area of land in Argentina. Area in this universe has only 1 dimension, so the land she bought can be thought of as a line segment of length **n** stretched along the x-axis. She came to know that Koka cultivation is legal in Argentina and now plans to use exactly **k** units of her land i.e. a **contiguous** sub-segment of length **k** for growing Koka. She will then process the crop produce into Kokaine and sell it to make a lot of money. As a first step of cultivation, she needs to level the land.

Subtask 2 (70 Points)
She has measured the elevation of ground at all the n units of length in the form of a list **L** of n numbers. A sub-segment of the ground is leveled by reducing the complete sub-segment to an elevation equal to the minimum elevation of any region in that sub-segment. The amount of effort in reducing the elevation of one unit length of land by one unit height is 1.
For example - a sub-segment having elevations 2, 3, 3, 1 is reduced to 1, 1, 1, 1 and the total effort for this is 1+2+2+0 = 5. Refer to the sample tests to get a better understanding.
Kanika wants to choose a sub-segment of length k such that the effort of leveling it is the minimum. Calculate this minimum effort value for her. Answer may be too large, **use long instead of int**.

Hint: You can use array implementation of stack to find the minimum elevation in a sub-segment.

Input

The first line contains two space separated integers **n** and **k**.
The second line contains **n** space separated integers - The $\mathbf{L_i}$
$1 \leq n \leq 10^5$
$1 \leq k \leq n$
$1 \leq L_i \leq 10^9$

Output

Output one integer: the minimum effort required to level **some** k units of **contiguous** area.

Examples

standard input	standard output
7 3 21 17 9 24 12 7 16	14
7 2 11 25 18 5 23 11 1	7

Note

In the given sample, Kanika can choose the size 3 contiguous sub-segment: **12 7 16**. The effort required for leveling this sub-segment will be the effort required to make the elevation of all three locations equal to the minimum elevation 7. Effort = (12-7) + (7-7) + (16-7) = 5 + 0 + 9 = 14
It can be seen that no other **contiguous** segment of size k=3 requires lesser effort.
In the second sample, Kanika can choose the size 2 contiguous sub-segment: **25 18**.
Effort = (25-18) + (18-18) = 7 + 0 = 7