

# Hidden Treasure of Arrayland

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

In the land of Arrayland, numbers hold the key to unlocking hidden treasures. You have been given an array of integers which may contain both positive and negative values. Your task is to find the maximum possible sum of a consecutive subarray.

However, you have a magical power: you can choose at most  $K$  subarray and flip the sign of each element in that subarray (i.e., multiply each element by  $-1$ ). This power can help you turn negative numbers into positive ones and vice versa. You can also choose to not use your power.

What is the maximum consecutive sum you can get?

A consecutive sum refers to the sum of elements in a subarray where the elements are contiguous (i.e., next to each other) in the original array.

## Input

The first line contains two integers  $N$  ( $1 \leq N \leq 100,000$ ) and  $K$  ( $1 \leq K \leq 100$ ), the number of elements in the array and the number of times you can use your power.

The second line contains  $N$  integers  $A_i$  ( $-10^4 \leq A_i \leq 10^4$ ), the elements of the array.

## Output

Print a line with an integer, the maximum consecutive sum you can get.

## Examples

standard input	standard output
5 1 10 -10 10 -10 10	30
5 3 1 2 3 4 5	15
10 1 1 -100 1 -100 1 -100 1 -100 1 -100	497