Modified Subsequence Sum

Assume we have a sequence of numbers $a = a_1 \dots a_n$ and a positive integer k. Let $b = b_1 \dots b_m$ be any subsequence of a.
We define $S(b)$ as follows.

- First let $S_1(b)$ be the sum of the elements in b. Next for each $1 \le i \le m-1$ we consider the terms b_i and b_{i+1}.
- Let d_i denote the distance between these terms in the original sequence a. By this we mean if the terms b_i and b_{i+1} correspond to the terms a_j and $a_{j'}$ respectively then $d_i = j' - j$.
- Let $S_2(b)$ be the sum of $(d_i - 1)^2$.
- Define $S(b) = S_1(b) - k \times S_2(b)$.

What is the maximum value of S obtained over all non-empty subsequences of a?

Input Format

The first line contains two space separated integers denoting the values of n and k respectively. The next line contains n space separated integers denoting the elements in a.

Constraints

- $1 \le n \le 3 \times 10^5$
- $1 \le k \le 1000$
- $-10^{11} \le a_i \le 10^{11}$

Output Format

Print a single line denoting the maximum value of S attained over all subsequences of a.

Sample Input 0

```
5 5
1 2 3 4 5
```

Sample Output 0

```
15
```

Explanation 0

The solution here is to take the value of the entire sequence as the subsequence. The value for each d_i is 1.
$S(b) = S_1(b) - k \times S_2(b) \Rightarrow 15 - 5 \times 0$
So the result is the sum of all the terms in the sequence, i.e. 15.

Sample Input 1

```
5 3
1 2 3 -1 5
```

Sample Output 1

```
10
```

Explanation 1

Again the best choice here is the use the whole sequence. If we use the whole sequence, $1, 2, 3, -1, 5$, the value for each d_i is 1. $S(b) = S_1(b) - k \times S_2(b) \Rightarrow 10 - 3 \times 0 = 10$. The other option that appears reasonable is to take the subsequence $1, 2, 3, 5$. This will give a sum of 11 but the value of d_3 in this subsequence is 2. So when we calculate the value of S for this subsequence we have to subtract $3 \times (2-1)^2$ to give a final value of 8. So comparing the two of them, the maximum value of $S(b) = 10$.

Sample Input 2

```
6 1
1 2 3 -10 -10 10
```

Sample Output 2

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12
```

Explanation 2

Here the best subsequence is $1, 2, 3, 10$. The total sum is 16 and we subtract 4 for the jump from 3 to 10 that skips the two -10s.