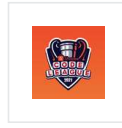


Shopee Programming Contest

Logout

02 : 58 : 12
HRS MIN SEC

Shopee Programming Contest

LIVE INVITE ONLY ACCESS

Mar 20, 2021, 01:00 PM WIB - Mar 20, 2021, 04:00 PM WIB

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Divider

Max. score: 20

Shopee has N software engineers. Shopee accommodates them by arranging N tables on a 1D plane. However, many people raise concerns that the work environment is too noisy. To mitigate this issue, Shopee decides to group the engineers into K groups. A group is a non-overlapping segment of contiguous engineers. Shopee will then put dividers between the groups.

The noise value of a group is defined by the following function:

$$\text{noise}(l, r) = (\sum_{i=l}^r A_i)(r - l + 1)$$

Let:

$\text{noise}(l, r)$ be the noise value of a group consisting of the l -th engineer up to the r -th engineer.

A_i be the noise factor of the i -th engineer.

Shopee wants to minimize the total noise value. Please help Shopee to find the minimum total noise value possible.

Input

The first line of input contains 2 integers: N, K ($1 \leq N \leq 10\,000, 1 \leq K \leq \min(N, 100)$) representing the number of engineers and the number of groups respectively. The next line contains N integers: A_i ($1 \leq A_i \leq 10\,000$) representing the noise factor of the i -th engineer.

Output

Output in a line an integer representing the minimum total noise value possible.

SAMPLE INPUT



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

SAMPLE OUTPUT



```
20
```

Explanation

?

There are 3 ways to put the divider:

1. 1 | 3 2 4
Noise = $(1 * 1) + (9 * 3) = 28$
2. 1 3 | 2 4
Noise = $(4 * 2) + (6 * 2) = 20$
3. 1 3 2 | 4
Noise = $(6 * 3) + (4 * 1) = 22$

We can see that from all the possibilities, 20 is the minimum total noise value.

Time Limit:	1.0 sec(s) for each input file.
Memory Limit:	64 MB
Source Limit:	1024 KB
Marking Scheme:	Score is assigned when all the testcases pass.
Allowed Languages:	Bash, C, C++, C++14, C++17, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, Java 14, JavaScript(Rhino), JavaScript(Node.js), Julia, Kotlin, Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, Python 3.8, R(RScript), Racket, Ruby, Rust, Scala, Swift-4.1, Swift, TypeScript, Visual Basic

CODE EDITOR

Save C++14 (g++ 5.4.0)  

```
1  /*
2  // Sample code to perform I/O:
3
4  cin >> name;                // Reading input from STDIN
5  cout << "Hi, " << name << ".\n";    // Writing output to STDOUT
6
7  // Warning: Printing unwanted or ill-formatted data to output will cause the test cases to fail
8  */
9
10 // Write your code here
11
```

1:1 vscode

☒ Provide custom input

COMPILE & TEST

SUBMIT


 **Tip:** You can submit any number of times you want. Your best submission is considered for computing total score.

 **Support:** For any queries or issues, write to techsg@shopee.com.

Your Rating:

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