Eat Your Peanuts

You and your friends are at a peanut eating contest. There are **N** plates on the table in order **1 to N.** You are given the number of peanuts in each plate (not all equal).

You need to **assign** each of your friends **one or more plates** that are **next to each other.** You also need to make sure that **no one eats too much** and hurt themselves. It is okay if you **don't assign** plates to **some** of your friends, but **all plates** should be **assigned** to someone. Same plate **cannot** be assigned to **more than one** of your friends.

Write a program to **minimize** the **total number** of peanuts eaten by the friend who eats the **most number** of peanuts.

Input Format

The first line of the input has **2** integers **N** and **F** respectively, separated by a space. The number of plates and the number of friends. Each of the following **N** lines have a single integer, A_i the number of peanuts in the i^{th} plate. There can be empty plates too. (0 peanuts in the plate)

Constraints

- $1 \leq N \leq 10^6$
- $1 \leq F \leq 10^3$
- $1 \leq A_i \leq 10^3$

Output Format

Output just **one integer** representing your answer, the **total number of peanuts** eaten by the friend who eats most peanuts.

Sample Input 0

```
6 3
4
2
3
7
1
9
```

Sample Output 0

```
9
```

Explanation 0

We assign first **3** plates to one friend i.e. **4 + 2 + 3 = 9**
We assign next **2** plates to another friend i.e. **7 + 1 = 8**
We assign last plate to the remaining friend i.e. **9**

Maximum of **{9, 8, 9}** is **9**. So the number of peanuts eaten by the friend who eats most peanuts is **9**.

On the other hand if we assign all plates to just one friend then that friend eats **26** peanuts which is worse than the above solution.