

B. Design Tutorial: Learn from Life

time limit per test: 1 second

memory limit per test: 256 megabytes

input: standard input

output: standard output

One way to create a task is to learn from life. You can choose some experience in real life, formalize it and then you will get a new task.

Let's think about a scene in real life: there are lots of people waiting in front of the elevator, each person wants to go to a certain floor. We can formalize it in the following way. We have n people standing on the first floor, the i -th person wants to go to the f_i -th floor.

Unfortunately, there is only one elevator and its capacity equal to k (that is at most k people can use it simultaneously). Initially the elevator is located on the first floor. The elevator needs $|a - b|$ seconds to move from the a -th floor to the b -th floor (we don't count the time the people need to get on and off the elevator).

What is the minimal number of seconds that is needed to transport all the people to the corresponding floors and then return the elevator to the first floor?

Input

The first line contains two integers n and k ($1 \leq n, k \leq 2000$) — the number of people and the maximal capacity of the elevator.

The next line contains n integers: f_1, f_2, \dots, f_n ($2 \leq f_i \leq 2000$), where f_i denotes the target floor of the i -th person.

Output

Output a single integer — the minimal time needed to achieve the goal.

Examples

input
3 2 2 3 4
output
8
input
4 2 50 100 50 100
output
296
input
10 3 2 2 2 2 2 2 2 2 2 2
output
8

Note

In first sample, an optimal solution is:

1. The elevator takes up person #1 and person #2.
2. It goes to the 2nd floor.
3. Both people go out of the elevator.
4. The elevator goes back to the 1st floor.
5. Then the elevator takes up person #3.

Codeforces Round #270

Finished

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ACM-ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.



Start virtual contest

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→ Contest materials

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6. And it goes to the 2nd floor.
7. It picks up person #2.
8. Then it goes to the 3rd floor.
9. Person #2 goes out.
10. Then it goes to the 4th floor, where person #3 goes out.
11. The elevator goes back to the 1st floor.