

B. Appleman and Card Game

time limit per test: 1 second

memory limit per test: 256 megabytes

input: standard input

output: standard output

Appleman has n cards. Each card has an uppercase letter written on it. Toastman must choose k cards from Appleman's cards. Then Appleman should give Toastman some coins depending on the chosen cards. Formally, for each Toastman's card i you should calculate how much Toastman's cards have the letter equal to letter on i th, then sum up all these quantities, such a number of coins Appleman should give to Toastman.

Given the description of Appleman's cards. What is the maximum number of coins Toastman can get?

Input

The first line contains two integers n and k ($1 \leq k \leq n \leq 10^5$). The next line contains n uppercase letters without spaces — the i -th letter describes the i -th card of the Appleman.

Output

Print a single integer — the answer to the problem.

Examples

input
15 10 DZFDZFZDFDDDDDDF
output
82

input
6 4 YJSNPI
output
4

Note

In the first test example Toastman can choose nine cards with letter D and one additional card with any letter. For each card with D he will get 9 coins and for the additional card he will get 1 coin.