PROBLEMS   SUBMIT   STATUS   STANDINGS   CUSTOM TEST

A. Sereja and Coat Rack

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

Sereja owns a restaurant for n people. The restaurant hall has a coat rack with n hooks. Each restaurant visitor can use a hook to hang his clothes on it. Using the i-th hook costs a_i rubles. Only one person can hang clothes on one hook.

Tonight Sereja expects m guests in the restaurant. Naturally, each guest wants to hang his clothes on an available hook with minimum price (if there are multiple such hooks, he chooses any of them). However if the moment a guest arrives the rack has no available hooks, Sereja must pay a d ruble fine to the guest.

Help Sereja find out the profit in rubles (possibly negative) that he will get tonight. You can assume that before the guests arrive, all hooks on the rack are available, all guests come at different time, nobody besides the m guests is visiting Sereja's restaurant tonight.

Input
The first line contains two integers n and d ($1 \le n, d \le 100$). The next line contains integers $a_1, a_2, ..., a_n$ ($1 \le a_i \le 100$). The third line contains integer m ($1 \le m \le 100$).

Output
In a single line print a single integer — the answer to the problem.

Examples

input
2 1 2 1 2

output
3

input
2 1 2 1 10

output
-5

Note
In the first test both hooks will be used, so Sereja gets $1 + 2 = 3$ rubles.

In the second test both hooks will be used but Sereja pays a fine 8 times, so the answer is $3 - 8 = -5$.

Codeforces Round #215 (Div. 2)
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]

→ Problem tags

[implementation]

No tag edit access

→ Contest materials

- Announcement ✕
- Tutorial ✕