

Planets

2023/2024 SEASON – SIXTH ROUND



Galactus found the list of the birth years of every planet in the Milky Way. It contains n numbers : $p_1, p_2, \dots, p_n$, in which p_i means that planet i was born in year p_i . Every planet begins with mass 0, but its core constantly attracts objects and at any moment if the planet is x years old, its mass is x^2 .

Galactus also knows the list of m years, in which he would be hungry and would have to eat a planet. The list is made up of m numbers : $y_1, y_2, \dots, y_m$. It is guaranteed that there will always be a planet for him to eat.

He gives you the two lists and in exchange of not eating Earth, he wants you to tell him the maximum possible sum of the masses of the planets he would eat.

Input

The first line of the file **planets.in** contains n and m – the amount of planets and years, when Galactus will be hungry. The next line contains n numbers $p_1, p_2, \dots, p_n$ – the list of the planets' birth years. The next line contains m numbers $y_1, y_2, \dots, y_m$ – the list of years, when Galactus will be hungry.

Output

On the only line of the file **planets.out** print 1 number, answering Galactus' question.

Constraints

$$1 \leq m \leq n \leq 10^5$$

$$1 \leq p_i, y_j \leq 10^6$$

Time Limit: 1sec.

Memory Limit: 256 MB

Sample Test

Input (planets.in)	Output (planets.out)
4 3 3 1 7 5 2 4 9	18