

A. Maxim and Discounts

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

Maxim always goes to the supermarket on Sundays. Today the supermarket has a special offer of discount systems.

There are m types of discounts. We assume that the discounts are indexed from 1 to m . To use the discount number i , the customer takes a special basket, where he puts exactly q_i items he buys. Under the terms of the discount system, in addition to the items in the cart the customer can receive at most two items from the supermarket for free. The number of the "free items" (0, 1 or 2) to give is selected by the customer. The only condition imposed on the selected "free items" is as follows: each of them mustn't be more expensive than the cheapest item out of the q_i items in the cart.

Maxim now needs to buy n items in the shop. Count the minimum sum of money that Maxim needs to buy them, if he use the discount system optimally well.

Please assume that the supermarket has enough carts for any actions. Maxim can use the same discount multiple times. Of course, Maxim can buy items without any discounts.

Input

The first line contains integer m ($1 \leq m \leq 10^5$) — the number of discount types. The second line contains m integers: q_1, q_2, \dots, q_m ($1 \leq q_i \leq 10^5$).

The third line contains integer n ($1 \leq n \leq 10^5$) — the number of items Maxim needs. The fourth line contains n integers: a_1, a_2, \dots, a_n ($1 \leq a_i \leq 10^4$) — the items' prices.

The numbers in the lines are separated by single spaces.

Output

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

Examples

input
1 2 4 50 50 100 100
output
200

input
2 2 3 5 50 50 50 50 50
output
150

input
1 1 7 1 1 1 1 1 1 1

output
3

Note

In the first sample Maxim needs to buy two items that cost 100 and get a discount for two free items that cost 50. In that case, Maxim is going to pay 200.

In the second sample the best strategy for Maxim is to buy 3 items and get 2 items for free using the discount. In that case, Maxim is going to pay 150.