

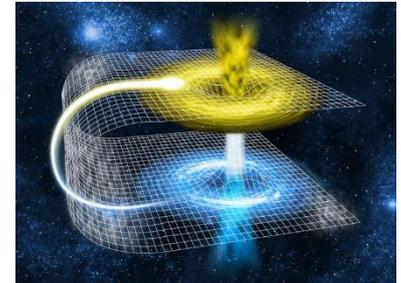
Problem I

Space-Time Travel

Time Limit: 1 second

You have just invented a Space-Time Warping Machine that can help you to travel across time and space.

To travel from Universe A to Universe B, you need to determine the total amount of energy for space-time warping. Universe A is characterized by n integer attributes a_1, a_2, \dots, a_n ; and Universe B is represented by m integer attributes b_1, b_2, \dots, b_m .



The total energy for space-time warping from Universe A to Universe B is determined by the following formula:

$$E = \sum_{i=1}^n \sum_{j=1}^m (i - j) |a_i - b_j|$$

Input

The first line contains a positive integer number n , the number of attributes to represent Universe A ($1 \leq n \leq 10^5$).

The second line contains n integer numbers a_1, a_2, \dots, a_n , $1 \leq a_i \leq 10^4$ for $1 \leq i \leq n$.

The third line contains a positive integer number m , the number of attributes to represent Universe B ($1 \leq m \leq 10^5$).

The fourth line contains m integer numbers b_1, b_2, \dots, b_m , $1 \leq b_j \leq 10^4$ for $1 \leq j \leq m$.

Output

Display the total energy for space-time warping from Universe A to Universe B.

Sample Input

Sample Output

3 1 2 3 3 1 2 3	0
4 1 4 3 6 3 8 1 1	34