The Prime Meow

Input file:	standard input
Output file:	standard output
Time limit:	1 second
Memory limit:	256 megabytes

Meow is given two arrays — a and b. Each array contains N integers. He decided to write all the numbers down from a_i to b_i inclusively for each i, $(1 \leq i \leq N)$. It is guaranteed that each $a_i \leq b_i$. But Meow is being biased, Meow always skips prime numbers. Find the sum of numbers that Meow wrote down.

Input

The first line contains one integer, N $(1 \leq N \leq 10^5)$ — the number of integers of array a and array b.

The second line contains N space-separated integers $a_1, a_2, a_3, \ldots, a_N$ $(1 \leq a_i \leq 10^6)$ — the elements of array a Meow receives.

The third line contains N space-separated integers $b_1, b_2, b_3, \ldots, b_N$ $(1 \leq b_i \leq 10^6)$ — the elements of array b Meow receives.

Output

Output a line contains one integer — the sum of the numbers that Meow wrote down.

Example

standard input	standard output
4 2 3 8 2 6 7 11 11	84