NO GCD

You are given **N(1<=N<=100000)** integers. Each integer is square free(meaning it has no divisor which is a square number except 1) and all the prime factors are less than 50. You have to find out the number of pairs are there such that their gcd is 1 or a prime number. Note that (i,j) and (j,i) are different pairs if i and j are different.

Input

The first line contains an integer **T(1<=T<=10)** , the number of tests. Then T tests follows. First line of each tests contain an integer **N**. The next line follows **N** integers.

Output

Print **T** lines. In each line print the required result.

Sample Input	Sample Output
1 3 2 1 6	8

Explanation

gcd(1,2)=1

gcd(2,1)=1

gcd(2,6)=2, a prime number

gcd(6,2)=2, a prime number

gcd(1,6)=1

gcd(6,1)=1

gcd(2,2)=2, a prime number

gcd(1,1)=1

So, total of 8 pairs.

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