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**Important Concept**

* **A no. has all the prime factors less than or equal to sqrt(num).**
* **And its one prime factor can be greator than sqrt(num).**

**Average student**

Attempted by: **236**

/

Accuracy: **78%**

/

Maximum Points: **20**

/

2 Votes

/

No tags

**PROBLEM**

**EDITORIAL**

**MY SUBMISSIONS**

**ANALYTICS**

[**DISCUSSIONS**](https://www.hackerearth.com/practice/math/number-theory/basic-number-theory-1/practice-problems/algorithm/average-student/discussion/)NEW

Given an array of n elements.  
solve(x): no of element present in array which has exactly x divisor.

Kitu is giving exam which has only two question

* Evaluate 2+3−4−1
* Evaluate solve(2)+solve(3)−solve(4)−solve(1)

Since first part is very easy so she can solve it but she wants your help in second part.

Find the value of solve(2)+solve(3)−solve(4)−solve(1) .

**Constraint**  
1<=arri<=106  
1<=n<=106

**Input Format**

First line conatins single integer n

Second line contains n integers where ith integer denotes arri

**Output Format**

Print a single integer which is the required answer.

**SAMPLE INPUT**

3

2

3

6

**SAMPLE OUTPUT**

1

**Explanation**

2 and 3 has two divisors 1,2 and 1,3  respectively and 6 has 4 divisors 1,2,3,6  
solve(2)=2 , solve(3)=0 , solve(4)=1 , solve(1)=0

Thus , solve(2)+solve(3)−solve(4)−solve(1)=1

#include<bits/stdc++.h>

#define int long long int

#define pb push\_back

using namespace std;

vector<int> prime;

bool isprime[1000001];

void seive()

{

for(int i=2;i<1000000;i++)

{

if(isprime[i])

{

for(int j=i\*i;j<=1000000;j+=i)

isprime[j]=false;

}

}

for(int i=2;i<1000001;i++)

if(isprime[i])

prime.pb(i);

}

main()

{

ios\_base::sync\_with\_stdio(false);

cin.tie(NULL);

cout.tie(NULL);

memset(isprime,true,sizeof(isprime));

seive();

int ans[1000001]={0};

for(int i=1;i<1000001;i++)

{

int res=1;

int p=i;

for(int j=0;j<prime.size() && prime[j]<=sqrt(i);j++)

{

int q=0;

while(p%prime[j]==0)

{p/=prime[j];q++;}

res\*=(q+1);

if(res>4)

break;

}

if(p>1)

res\*=2;

if(res>4)

ans[i]=0;

else

ans[i]=res;

}

int n;

cin>>n;

int a[n],i;

for(i=0;i<n;i++)

cin>>a[i];

int d[5]={0};

for(int i=0;i<n;i++)

{

d[ans[a[i]]]++;

}

cout<<d[2]+d[3]-d[4]-d[1];

}