



Happiness Score

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Summer is coming!

When you travel, you always plan ahead. You have shortlisted N cities to travel. Each city has distinct integer id from 1 to N . Each city also has a satisfaction score associated with it. If you travel to a city you will get the satisfaction score. Your "Happiness Score" is the sum of all the satisfaction scores from all the cities you've travelled to.

You have a passion for numbers - especially prime numbers. You want to know how many possible unique prime numbers you can get as "Happiness Score" by visiting any subset (possibly some or all) of the N cities.

Input Format

First line will be an integer denoting number of cities. Second line will have satisfaction score S_i for all the cities from 1 to N .

Notes

- $1 \leq N \leq 18$
- $1 \leq S_i \leq 100000$
- A prime number is a natural number greater than 1 which has no positive divisors other than 1 and itself.

Output Format

Output should be an integer number denoting how many possible **Happiness Scores** you can get which are prime numbers.

Sample Input

```
3
3 2 6
```

Sample Output

```
4
```

Explanation



You can achieve "Happiness Scores" 3, 2, (3+2), (3+2+6), where all of them are prime numbers. Here 2, 3, 5, 11 are prime numbers.



Submissions: 557

Max Score: 100

Difficulty: Moderate

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Java 8  

```
1 import java.io.*;
2 import java.util.*;
3
4 public class Solution {
5
6     public static void main(String[] args) {
7         /* Enter your code here. Read input from STDIN. Print output to STDOUT.
7         Your class should be named Solution. */
8     }
9 }
```

Line: 1 Col: 1

 [Upload Code as File](#)☐ Test against custom input

Run Code

Submit Code

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