Group of Friends

locked

Problem Submissions

Time Limit : $C/C++$ $(2s)$, $Java$ $(4s)$
Memory Limit : $512\ MB$

In SRBD, there has been a new culture in which each Engineer has to solve at least one programming problem in a week. This week one of the engineers in SRBD became sick and he needs help to solve the problem assigned to him. As other engineers have their own problems to solve, would you help him? If you are interested let's hear out the problem.

SRBD is going to arrange a chess tournament next month. They collected the online ratings of the registered players already. The rating of the i^{th} player is represented as $A[i]$.

The players will compete in groups. Now the challenge is how to make the groups according to their ratings. SRBD came up with an interesting idea to tackle this. They asked the players to make friends with each other based on some rules.

- Player x and player y are friends if their ratings ($A[x]$ and $A[y]$) have a common divisor greater than 1. Also, if x is a friend of y and y is a friend of z, then x and z are friends too.
- All friends will make a single group.
- If a player has no friends, he will make a group by himself.

For different groups, SRBD needs to make different banners, jerseys, and other arrangements. Therefore, they need this information beforehand, how many different groups will there be?

Input Format

Input starts with an integer N denoting the number of players.

The next line contains an array A of N integers denoting the rating of i^{th} player.

Constraints

- $1 \leq N \leq 10^5$
- $2 \leq A[i] \leq 10^5$, i is index of array

Output Format

Print the number of different groups.

Sample Input 0

```
6
2 4 6 9 5 25
```

Sample Output 0

```
2
```

Explanation 0

Players 1, 2, and 3 are friends because their ratings 2, 4, and 6 have a common divisor 2.

Players 3 and 4 are friends because their ratings 6 and 9 have a common divisor 3.

Therefore, players 1, 2, 3, and 4 are friends and belong to a group.

Similarly, players 5 and 6 are friends and belong to another group.

C

```c
#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>

int main() {

    /* Enter your code here. Read input from STDIN. Print output to STDOUT */
    return 0;
}
```

Line: 1 Col: 1