

3105 Prime Graphing

Computer Science student Alexander (named after Alexander, hometown of Euclid) is investigating prime numbers by graphing them. He started by taking a sheet of graphing paper, and labeled the x -axis with numbers from 0 to 19. He circled the prime numbers — (2, 3, 5, 7, 11, 13, 17, 19) which he then referred to as his prime axis.

He labeled the y -axis with sequential integers, 0 to 19, which he called his vertical series. He started by plotting a point on the graph where a prime number on the prime-axis intersected one of its multiples on the y -axis, and drew a horizontal line. Upon completion of his graph, he observed that all the numbers in his vertical series except for the number one were lined out because every number from 2 to 19 is a multiple of the given primes.

To investigate further, he tried skipping numbers in his vertical series. Instead of 0 to 19, he started skipping by prime numbers to see if there are any special properties. He chose 3 as his first prime, and used the series (0, 3, 6, 9, 12, 15, 18) as his vertical series (note that 18 is the largest multiple of 3 less than or equal to 19). He tried out skipping by composite numbers as well. He also even started to eliminate some primes from his prime-axis to see how that would affect the result.

He repeated this until he consumed sheets and sheets of paper and could not go on. He needs your help to write a program that can do his investigation thru a computer.

Given a maximum range, max , and a step amount, $step$, set-up a graph with y -axis 0 to (largest multiple of $step$ less than or equal to max), and a prime-axis comprised of a given set of prime numbers from the least prime to the greatest prime. Plot a point for each (x, y) pair where a prime on the prime-axis meets its multiple on the vertical series. Draw a horizontal line from this point to the y -axis. Count the number of elements in the vertical series that had at least one horizontal line drawn to it.

Input

The first line contains an integer p , where $p \leq 100$, corresponding to the number of unique primes in the prime axis. The next p lines contain the p unique prime numbers, where each prime is between 0 and 10,000,000. These are then followed by another line defining the number of test cases. Each test case will be defined using two lines. The first specifies the maximum range max , where $max \leq 10,000,000$. The second gives the value of $step$, where $step \leq 10,000,000$.

Output

Output one line for each test case displaying the number of elements in the vertical series that had at least one horizontal line drawn to it.

Sample Input

```
6
3
5
7
11
13
17
2
```

10000000

2

10

1

Sample Output

3194745

7