

Project Euler #187: Semiprimes



This problem is a programming version of [Problem 187](#) from [projecteuler.net](#)

A composite is a number containing at least two prime factors. For example, $15 = 3 \times 5$; $9 = 3 \times 3$; $12 = 2 \times 2 \times 3$.

There are ten composites below thirty containing precisely two, not necessarily distinct, prime factors: 4, 6, 9, 10, 14, 15, 21, 22, 25, 26.

How many composite integers n , $n < N$, have precisely two, not necessarily distinct, prime factors?

Input Format

The first line of each test file contains a single integer T , the number of test cases. T lines follow, each containing a single integer N .

Constraints

$$1 \leq T \leq 20$$

$$5 \leq N \leq 5 \times 10^7$$

Output Format

Output exactly T lines with a single number on each - an answer to the corresponding test case.

Sample Input

```
1
5
```

Sample Output

```
1
```