

## 6796 Factorial Factors

The factorial of a number  $N$ , written  $N!$ , is the product of all integers between 1 and  $N$ , inclusively. For example,  $5! = 120$ .

Every integer greater than 1 can be written as the product of 1 or more prime numbers, some of which may repeat. For example,  $120 = 2 * 2 * 2 * 3 * 5$ .

For this problem, we are interested in the prime factorization of the factorial of a number. You will need to determine the number of total and distinct prime factors. For the example above, there are 5 total prime factors (2, 2, 2, 3, 5) and 3 distinct prime factors (2, 3, 5).

### Input

The first line of input will contain the number of test cases,  $C$  ( $1 \leq C \leq 50$ ). Each test case will consist of a single line containing an integer  $N$  ( $2 \leq N \leq 100,000$ ).

### Output

Each test case will result in a single line of output  $D T$  where  $D$  is the number of distinct prime factors of  $N!$  and  $T$  is the total number of prime factors of  $N!$ .

### Sample Input

```
2
5
6
```

### Sample Output

```
3 5
3 7
```