***10.16** (*Divisible by* `2` *or* `3`) Find the first ten numbers with `50` decimal digits that are divisible by `2` or `3`.

***10.17** (*Square numbers*) Find the first ten square numbers that are greater than `Long.MAX_VALUE`. A square number is a number in the form of n^2. For example, 4, 9, and 16 are square numbers. Find an efficient approach to run your program fast.

***10.18** (*Large prime numbers*) Write a program that finds five prime numbers larger than `Long.MAX_VALUE`.

***10.19** (*Mersenne prime*) A prime number is called a *Mersenne prime* if it can be written in the form $2^p - 1$ for some positive integer p. Write a program that finds all Mersenne primes with $p \leq 100$ and displays the output as shown below. (*Hint*: You have to use `BigInteger` to store the number, because it is too big to be stored in `long`. Your program may take several hours to run.)

```
p         2^p - 1

2           3
3           7
5          31
...
```

10.21 (*Divisible by* `5` *or* `6`) Find the first ten numbers greater than `Long.MAX_VALUE` that are divisible by `5` or `6`.