

1.

A leap year is a year which either a year that is a multiple of 4 but not a multiple of 100
or
it is a multiple of 400.

Suppose you have a variable *y* which holds a year number, could you write a function to determine if *y* was a leap year or not? What would that function return?

2.

Given a date stored in 3 variables *d*, *m* and *y*, construct a program to determine the date the next day.

3.

Given a date stored in 3 variables *d*, *m* and *y*, construct a program to determine the date the previous day.

4.

A **prime number** is one where the only divisors of the number are 1 and itself.
Could you write a function that determined whether a number *n* was a prime number?

5.

A **perfect number** is one where the sum of its divisors (other than the number itself) equals itself. 6 and 28 are examples of perfect numbers.

$$6 = 1 + 2 + 3$$

$$28 = 1 + 2 + 4 + 7 + 14$$

Could you write a function to determine whether a number was perfect?
Would these 2 functions have anything in common?