Problem Set 2 Exercise #04: Perfect Number

Reference: Week 5 Lecture notes

Learning objective: Repetition statements

Estimated completion time: 15 minutes

Problem statement:

A perfect number is a positive integer that is equal to the sum of its proper divisors. A proper divisor is a positive integer other than the number itself that divides the number evenly (i.e. no remainder).

For example, 6 is the smallest perfect number, because the sum of its proper divisors 1, 2, and 3 is equal to 6. 8 is not a perfect number because 1 + 2 + 4 is not equal to 8. Note that 1 is not a perfect number by definition.

Write a program **perfect_number.c** that accepts a positive integer and determines whether the number is a perfect number or not.

Sample run #1:

```
Enter a positive integer: 6
6 is a perfect number
```

Sample run #2:

```
Enter a positive integer: 30
30 is not a perfect number, its sum of proper divisors is 42
```