PDS Lab 5 Section 3 Date: 06.05.2021

Question 1

Write a C program to take as input two positive integers p and q such that it can work on the rational number p/q. The aim is to find the lowest form of p/q. By writing a function calculate the lowest form of p/q and print it.

Eg:

If 25/15 is the input then the output should be 5/3. If 20/4 is the input then the output should be 5.

Question 2

Write a C program to read a positive integer n from the keyboard, and then calls a recursive function to calculate the first n Fibonacci numbers. The program also has to print these n numbers. Make sure that each of the Fibonacci numbers calculated is printed exactly once!

Recall:

The first Fibonacci number is 1, the second Fibonacci number is also 1. The k-th Fibonacci number f(k) = f(k-1) + f(k-2), k > 2.

Question 3

Write a C program that

- a) reads a natural number n from keyboard
- b) Calls a recursive function digits() to find the number of digits in n.
- (c) Calls a recursive function IsPalindrome() to check if n is a palindrome.
- (d) Prints whether the input is a palindrome or not.

Definition: A number is a palindrome if it is the same when read in reverse order, i.e, from right to left. Eg. 121.