ITP 365: Introduction to C++ Programming

Lab Practical 5 Due: EOC (End of Class)

Goal

Lets practice writing recursive functions! Today you'll write 2 recursive functions. One to sum the digits of a positive integer and another to calculate the greatest common divisor.

Setup

- Create a project for your platform – no starter project is needed for this lab.
- At the top of every file make sure you add comments in the following format (using your name, email, and specify whether you did your work on Windows or Mac):

```
// ITP 365 Spring 2017
// LP5 – Recursion
// Name: Tommy Trojan
// Email: ttrojan@usc.edu
// Platform: PC
```

Requirements

sumDigits function:

- Accepts a single int as input and returns an int holding the sum of the digits. See the lecture slides for details about implementing the function.

getGCD function:

- Accepts two int variables as input and returns an int holding the greatest common denominator. See the lecture slides for details about implementing the function.

main function:

- Prompt the user for 2 numbers. Use the function you created to calculate the sum of the digits for the 2 numbers. Use the function you created to calculate the greatest common denominator.

Sample output

Below is an abbreviated version of the program's output. User input is in **red**.

```
Gimme a number: 121
Gimme another number: 25795
Sum digits (121) = 4
Sum digits (25795) = 28
gcd(121, 25795) = 11
```

Deliverables

1. A compressed folder containing only the file **main.cpp** named **Lab5**.