

Spring 2021

CSCI 2450: HW5 (Programming Assignment) (10 points)

Problem 1: Greatest Common Divisor (GCD)

Greatest Common Divisor (GCD): The greatest common divisor (GCD) of two integers is the largest integer that will evenly divide both integers. The GCD algorithm involves integer division in a loop, described by the following pseudocode:

```
int GCD (int x, int y) {  
    x = abs(x)    //absolute value  
    y = abs(y)  
    do {  
        int n = x % y  
        x = y  
        y = n  
    } while (y > 0)  
    return x  
}
```

Implement this function in assembly language and write a test program that calls the function several times, passing it different values. Display all results on the screen. (**Hint:** You may use any concepts we have covered till now. You may need to use instructions from chapter 07.)

Submission & Marking Guideline

- This is an individual assignment. Do not share your work with others.

- **Deadline**

May 06, 2021 Thursday 11:59 pm

- **Submission**

- Your solution must be an assembly language file (.asm). Follow this naming convention:

Firstname_Lastname_HW5.asm

You may email me your work only if Moodle is not working.

You may ask clarifications on this assignment by attending a student session with the HelpDesk. Or, ask me after class or at my office.

Good Luck!