



## Lab Assignment 4

In this assignment you are to write a program to solve the following problem. As with all lab assignments, remember the following submission steps:

- Make sure your code passes at least all the provided JUnit tests
- Save, commit, and push all code changes
- Confirm the latest code is visible via the “Files” section of your repository website
- Confirm that the repository is private, and that the instructor has Developer access
- Note: you do **NOT** need to document your code

### Problem a (LA4a.java)

First write a method to calculate the greatest common divisor (GCD) of two positive integers using Euclid’s algorithm (also known as the Euclidean algorithm). Then write a `main` method that requests two positive integers from the user, validates the input, calls your method to compute the GCD, and outputs the return value of the method (all user input and output should be done in `main`).

Check Wikipedia to find more information about GCDs<sup>1</sup> and Euclid’s algorithm<sup>2</sup>. In particular, you will find this pseudocode for calculating the GCD, which should be useful to you:

```
function gcd(a, b)
    while b ≠ 0
        t := b
        b := a mod b
        a := t
    return a
```

Here is an example run of the program:

```
Enter a: 34
Enter b: 289
The GCD of 34 and 289 is 17
```

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<sup>1</sup> [https://en.wikipedia.org/wiki/Greatest\\_common\\_divisor](https://en.wikipedia.org/wiki/Greatest_common_divisor)

<sup>2</sup> [https://en.wikipedia.org/wiki/Euclidean\\_algorithm](https://en.wikipedia.org/wiki/Euclidean_algorithm)