# FC723 Programming Theory

**Assessment Title:** Portfolio Project 1

**Module Code:** FC723

**Class/Group:** Group B

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I confirm that this assignment is my own work. Where I have referred to academic sources, I have provided in-text citations and included the sources in the final reference list.

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## Pseudocode for Euclidean Algorithm

Explanation:

* The algorithm calculates the GCD by iteratively replacing the larger number with the remainder of the division until one of the numbers becomes zero.

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## Python Implementation

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## Code Refactoring and Comments

* Changes made to improve the code:
* Added comments to explain what the code does.
* Used clear and simple variable names.
* Made the swapping process easier to understand.
* Steps taken to make the code easier to read.
* Checked and fixed spaces and indentation.
* Divided the code into separate functions to keep it organized.

## Git Workflow and Version Control

(Provide details for Git Workflow and Version Control here.)

## Proposed Algorithm Extension

* To extend the functionality of the Euclidean algorithm, a new function is\_coprime () which utilizes the Euclidean algorithm to determine whether two numbers are coprime has been introduced. Two numbers are considered coprime if their GCD = 1.
* In the main function the algorithm first takes user input for two numbers, computes their GCD using the Euclidean function, and then checks if the result is 1 to check if they are coprime.

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