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1. Code for “Euclid’s Reciprocal Divide and conquer” to find to GCD using while loop.

```java
/*
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 */

import java.util.Scanner;

public class EuclideanAlgorithm {
    Run | Debug
    public static void main(String[] args) {
        // Create a Scanner object for user input
        Scanner scannerM24W0272 = new Scanner(System.in);
        // Prompt the user to enter two positive integers
        System.out.print(s:"Enter the first positive integer: ");
        int a = scannerM24W0272.nextInt();
        System.out.print(s:"Enter the second positive integer: ");
        int b = scannerM24W0272.nextInt();
        // Ensure both inputs are positive
        if (a <= 0 || b <= 0) {
            System.out.println(x:"Both numbers must be positive. Please try again.");
            //return;
        }
        // Perform Euclidean algorithm using a do-while loop
        int remainderM24W0272;
        do {
            remainderM24W0272 = a % b;
            a = b;
            b = remainderM24W0272;
        } while (remainderM24W0272 != 0);
        // Print the greatest common divisor (GCD)
        if (a >= 0 && b >= 0) {
        System.out.println("The greatest common divisor (GCD) of the two numbers is: " + a);
        }
        // Close the scanner
        scannerM24W0272.close();
    }
}
```
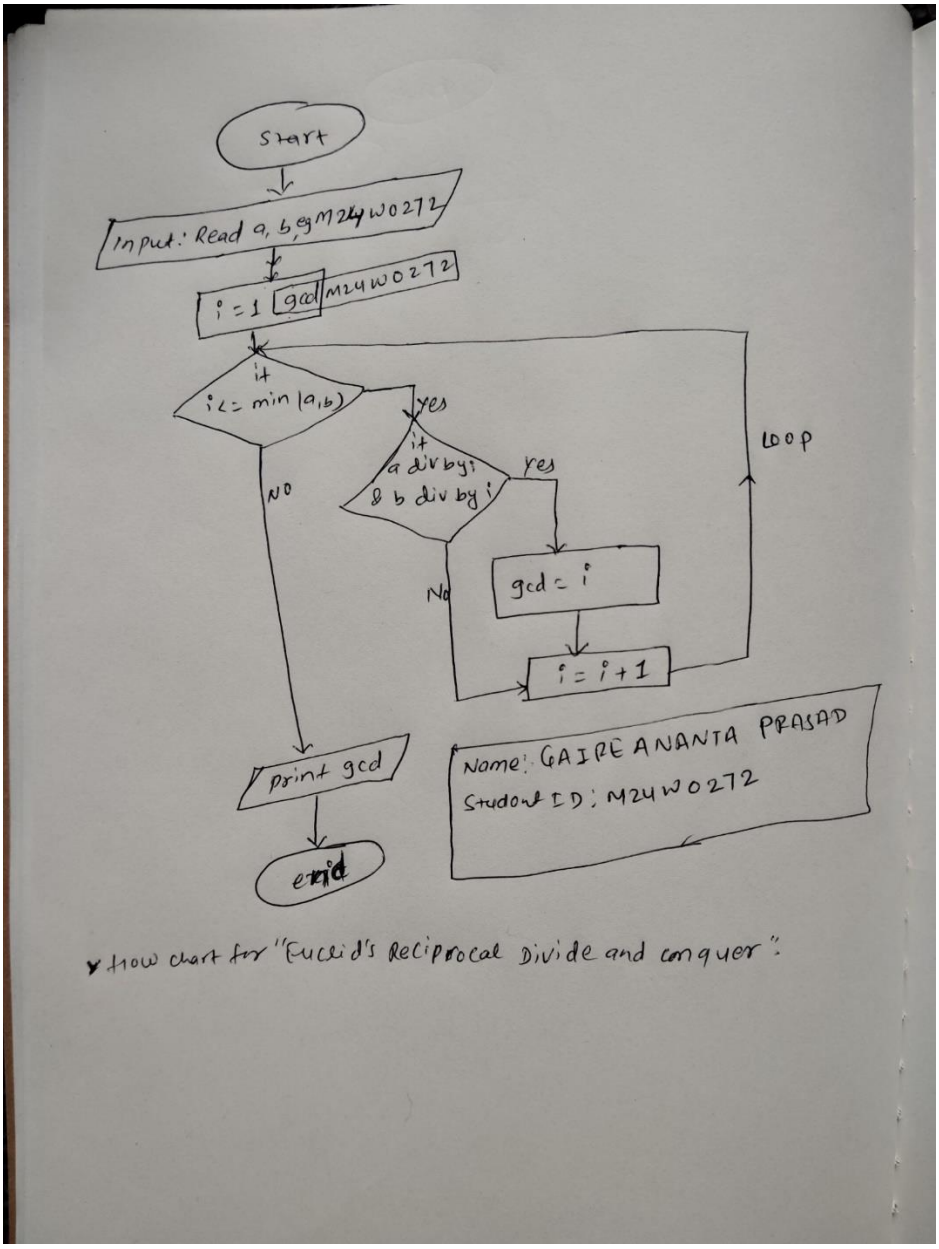
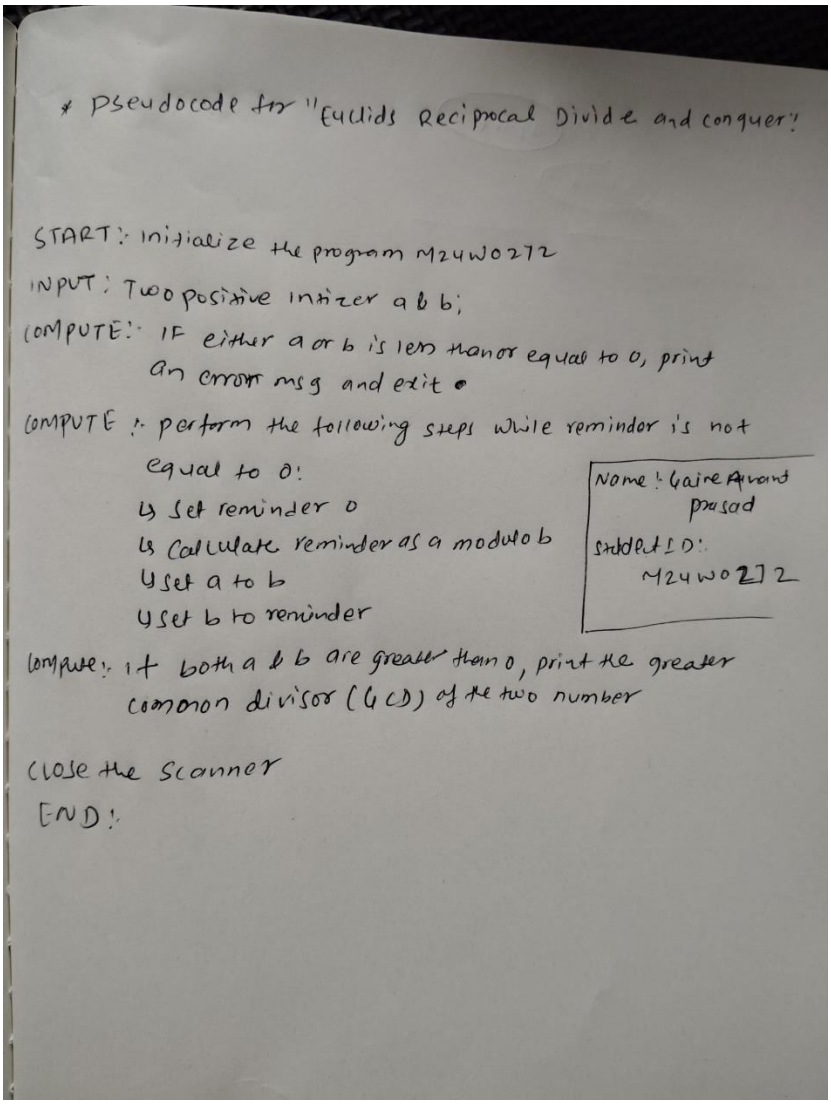

a. Output

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS D:\kcgi\Java> ^C
PS D:\kcgi\Java>
PS D:\kcgi\Java>  d:; cd 'd:\kcgi\Java'; & 'C:\Users\gaire\AppData\Local\Programs\Eclipse Ad
ceptionMessages' '-cp' 'C:\Users\gaire\AppData\Roaming\Code\User\workspaceStorage\cff8322bbc
eanAlgorithm'
Enter the first positive integer: 124
Enter the second positive integer: 128
The greatest common divisor (GCD) of the two numbers is: 4
PS D:\kcgi\Java>
```

2. Flow chart for “Euclid’s Reciprocal Divide and conquer”



3. Pseudocode for “Euclid’s Reciprocal Divide and conquer”



* Pseudocode for "Euclids Reciprocal Divide and conquer":

START: Initialize the program M24W0272

INPUT: Two positive integer a b b;

COMPUTE: IF either a or b is less than or equal to 0, print an error msg and exit.

COMPUTE: perform the following steps while remindor is not equal to 0:

- Set reminder 0
- Calculate reminder as a modulo b
- Set a to b
- Set b to reminder

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compute: if both a & b are greater than 0, print the greater common divisor (GCD) of the two number

Close the Scanner

END: