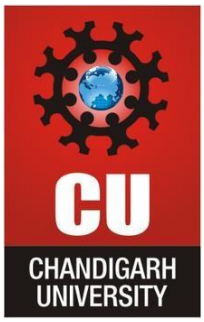
CHANDIGARH UNIVERSITY

UNIVERSITY INSTITUTE OF NGINEERING

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING



Submitted By: Vivek Kumar(21BCS8129)	**Submitted To:** Neha Dutta(E12830)
Subject Name	Design and Analysis of Algorithm Lab
Subject Code	20CSP-312
Branch	Computer Science and Engineering
Semester	5^{th}

Experiment - 1

Student Name: Vivek Kumar **UID: 21BCS8129**
Branch: BE-CSE(LEET) **Section/Group: 20BCS-WM-616/A**
Semester: 5th **Date of Performance: 16/08/2022**
Subject Name: DAA Lab **Subject Code: 20CSP-312**

1. Aim/Overview of the practical:
Code and analyse to compute the greatest common divisor (GCD) of two number.

2. Task to be done/ Which logistics used:
Find the GCD of two number using Euclidian Algorithm.

3. Requirements (For programming-based labs):

- Laptop or PC.
- Operation system (Mac, Windows, Linux, or any)
- Vs-Code with MinGw or any C++ Compiler

4. Algorithm/Flowchart (For programming-based labs):

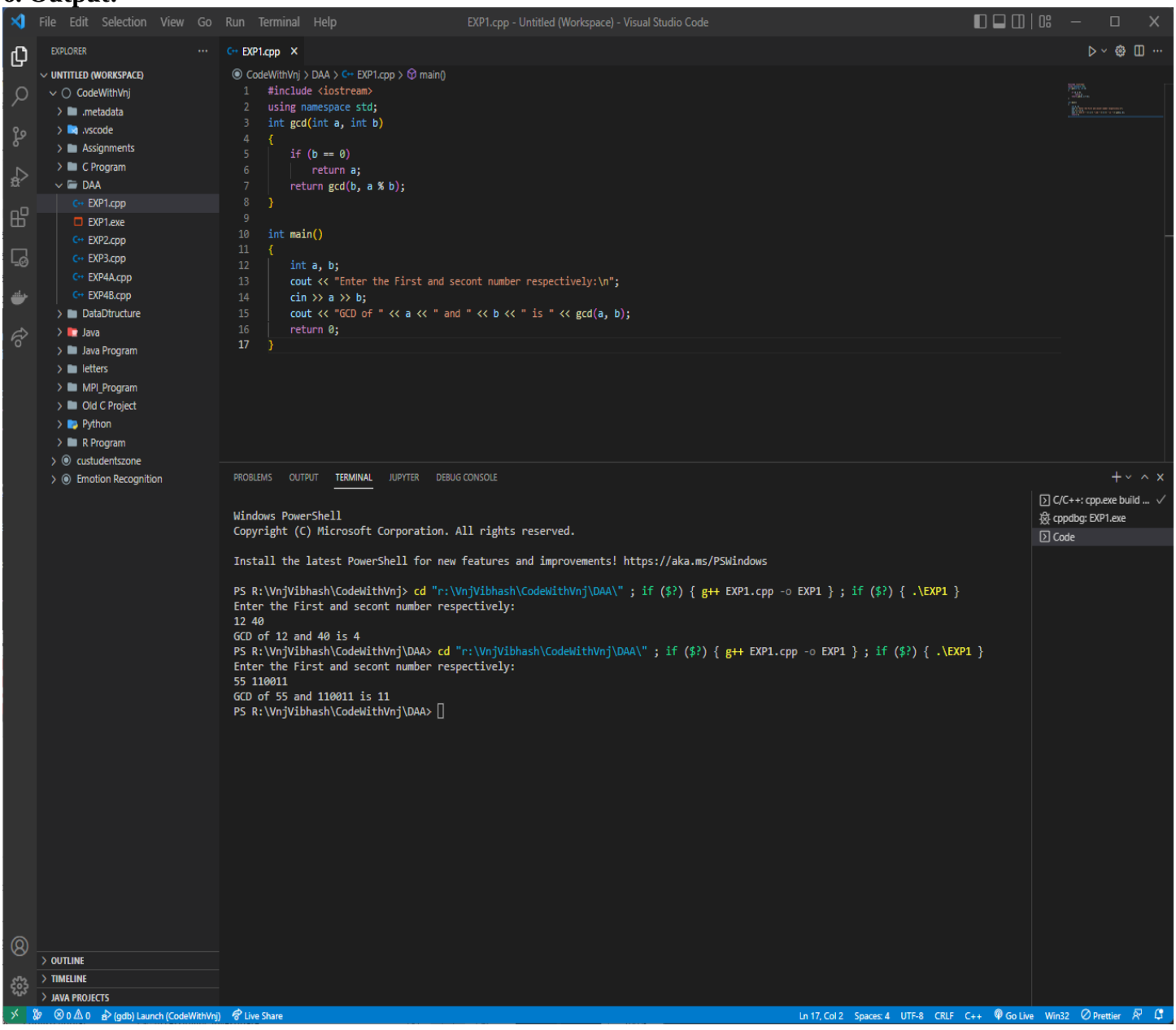
Step 1: Let a, b be the two numbers
Step 2: a mod b = R
Step 3: Let a = b **and** b = R
Step 4: Repeat Steps 2 and 3 until a mod b is greater than 0
Step 5: GCD = b
Step 6: Finish

5. Steps for experiment/practical/Code:

```cpp
#include <iostream>
using namespace std;
int gcd(int a, int b)
{
    if (b == 0)
        return a;
    return gcd(b, a % b);
}

int main()
{
    int a, b;
    cout << "Enter the First and secont number respectively:\n";
    cin >> a >> b;
    cout << "GCD of " << a << " and " << b << " is " << gcd(a, b);
    return 0;
}
```

6. Output:



Learning outcomes (What I have learnt):

1. How to find the GCD of two number
2. How to Use recursive function.
3. Use of modulus operator

Evaluation Grid (To be created per the faculty's SOP and Assessment guidelines):

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.	Worksheet completion including writing learning objectives/Outcomes. (To be submitted at the end of the day).		
2.	Post-Lab Quiz Result.		
3.	Student Engagement in Simulation/Demonstration/Performance and Controls/Pre-Lab Questions.		
	Signature of Faculty (with Date):	Total Marks Obtained:	