Week 05 : Programming Assignment 2

Due on 2025-02-27, 23:59 IST

This program is to find the GCD (greatest common divisor) of two integers writing a recursive function findGCD(n1,n2).

Your function should return -1, if the argument(s) is(are) negative (zero is allowed).

Private Test cases used for evaluation	Input	Expected Output	Actual Output	Status
Test Case 1	3 -1	-1	-1	Passed
Test Case 2	30 20	10	10	Passed

The due date for submitting this assignment has passed.
2 out of 2 tests passed.
You scored 100.0/100.

Assignment submitted on 2025-02-24, 00:10 IST

Your last recorded submission was :

```java
import java.util.Scanner;

interface GCD {
    public int findGCD(int n1,int n2);
}
// Class B implements the GCD interface
class B implements GCD {
    // Recursive method to calculate GCD
    public int findGCD(int n1, int n2) {
        // If either of the numbers is negative, return -1
        if (n1 < 0 || n2 < 0) {
            return -1;
        }
        // Base case: If second number is 0, return the first number
        if (n2 == 0) {
            return n1;
        }
        // Recursive call using Euclidean algorithm
        return findGCD(n2, n1 % n2);
    }
}
public class W05_P2{
        public static void main (String[] args){
          B a = new B();   //Create an object of class B
            // Read two numbers from the keyboard
            Scanner sc = new Scanner(System.in);
            int p1 = sc.nextInt();
           int p2 = sc.nextInt();
            System.out.print(a.findGCD(p1,p2));
    }
}
```

Sample solutions (Provided by instructor)

```java
import java.util.Scanner;

interface GCD {
    public int findGCD(int n1,int n2);
}
class B implements GCD {
    int n1,n2;

    //Create a method to calculate GCD
    public int findGCD(int n1, int n2){
        if(n1==0&& n2==0) {
            return -1;
        }
        else if(n2 == 0){
            return n1;
        }

        else {
            return findGCD(n2, n1%n2);
        }
        }
 }
public class W05_P2{
        public static void main (String[] args){
          B a = new B();   //Create an object of class B
            // Read two numbers from the keyboard
            Scanner sc = new Scanner(System.in);
            int p1 = sc.nextInt();
           int p2 = sc.nextInt();
            System.out.print(a.findGCD(p1,p2));
    }
}
```