Git repo: *https://github.com/Jenishkubavat/dotnet-practicals.git*

Assignment no.2

Problem :-1

Code:

Main file:

```
using System;

class Program
{
    static void Main(string[] args)
    {
        int a = 18;
        int b = 6;
        int c = 2;
        int d = 3;
        double x = 5;
        double y = 4;
        double z = 2;

        Pro_1.add(a, b);
        Pro_1.sub(a, b);
        Pro_1.mul(a, b);
        Pro_1.div(a, b);
        Pro_1.complex(a, b, c);
        Pro_1.complex2(a, b, c, d);
        Pro_1.findMinMax();
        Pro_1.doubleArithametics(x, y, z);
        Pro_1.roundingError();
        Pro_1.decimalMinMax();
        Pro_1.decimalVsDouble();
        Pro_1.areaOfCircle();


    }


}
```

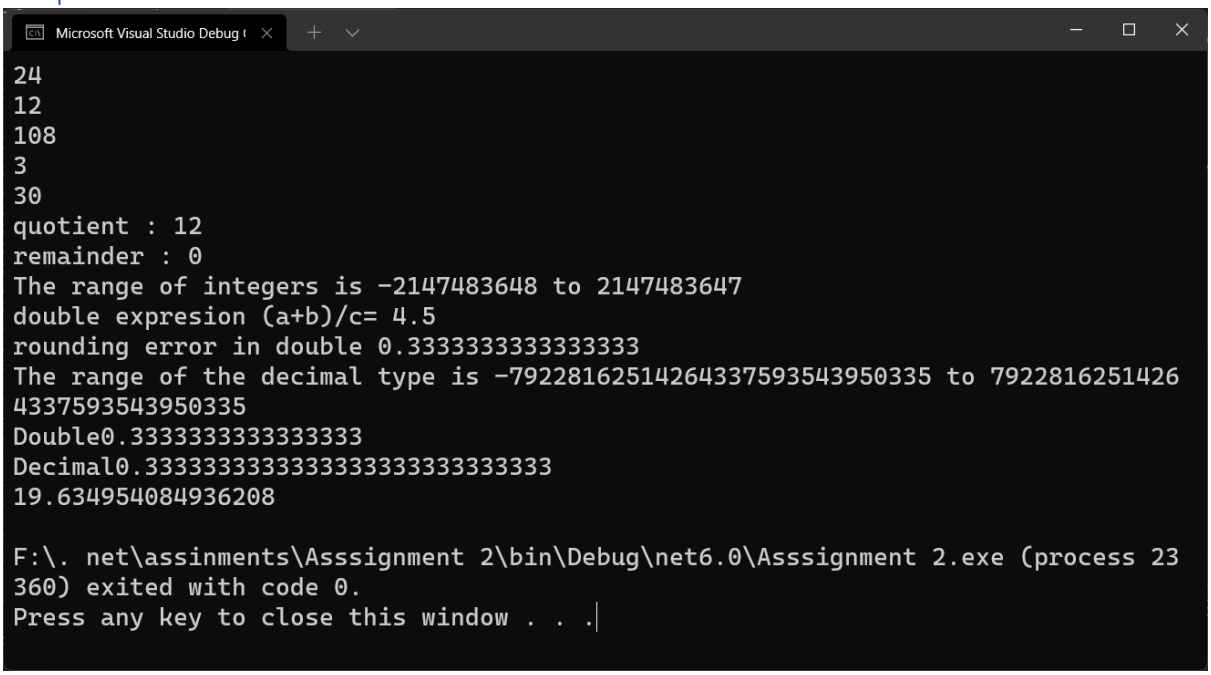
Class file(Prob_1):

```
using System;

static class Pro_1
{

    public static void add(int a, int b)
    {

        int c = a + b;
        Console.WriteLine(c);
    }
    public static void sub(int a, int b)
```

```
{
    int d = a - b;
    Console.WriteLine(d);
}
public static void mul(int a, int b)
{
    int e = a * b;
    Console.WriteLine(e);
}
public static void div(int a, int b)
{
    int f = a / b;
    Console.WriteLine(f);
}

public static void complex(int a, int b, int c)
{
    int g = a + b * c;
    Console.WriteLine(g);
}

public static void complex2(int a, int b, int c, int d)
{
    int e = (a + b) / c;
    int f = (a + b) % c;

    Console.WriteLine($"quotient : {e}");
    Console.WriteLine($"remainder : {f}");
}

public static void findMinMax()
{
    int max = int.MaxValue;
    int min = int.MinValue;
    Console.WriteLine($"The range of integers is {min} to {max}");
}
public static void doubleArithametics(double x, double y, double z)
{
    double d = (x + y) / z;
    Console.WriteLine($"double expresion (a+b)/c= {d}");
}
public static void minMax()
{
    double max = double.MaxValue;
    double min = double.MinValue;
    Console.WriteLine($"The range of double is {min} to {max}");

}
public static void roundingError()
{
    double third = 1.0 / 3.0;
    Console.WriteLine($"rounding error in double {third}");

}
public static void decimalMinMax()
{
    decimal min = decimal.MinValue;
    decimal max = decimal.MaxValue;
    Console.WriteLine($"The range of the decimal type is {min} to {max}");
}
public static void decimalVsDouble()
{
    double a = 1.0;
```

```
        double b = 3.0;
        Console.WriteLine($"Double{a / b}");

        decimal c = 1.0M;
        decimal d = 3.0M;
        Console.WriteLine($"Decimal{c / d}");

    }
    public static void areaOfCircle()
    {
        double radius = 2.50;
        double area = Math.PI * radius * radius;
        Console.WriteLine(area);
    }

}
```

Output:



Program 2:

Code:

Main file:

```
using System;

class Program
{
    static void Main(string[] args)
    {
        int a = 18;
        int b = 6;

        Pro_2.branching(a, b);
        Pro_2.compare();
        Pro_2.compare2();
        Pro_2.ifElse();
        Pro_2.ifElse2();
```

```
        Pro_2.whileLoop();
        Pro_2.doWhileLoop();
        Pro_2.forLoop();
        Pro_2.nestedLoop();
        Pro_2.isDivsibleBy3();



    }


}
```

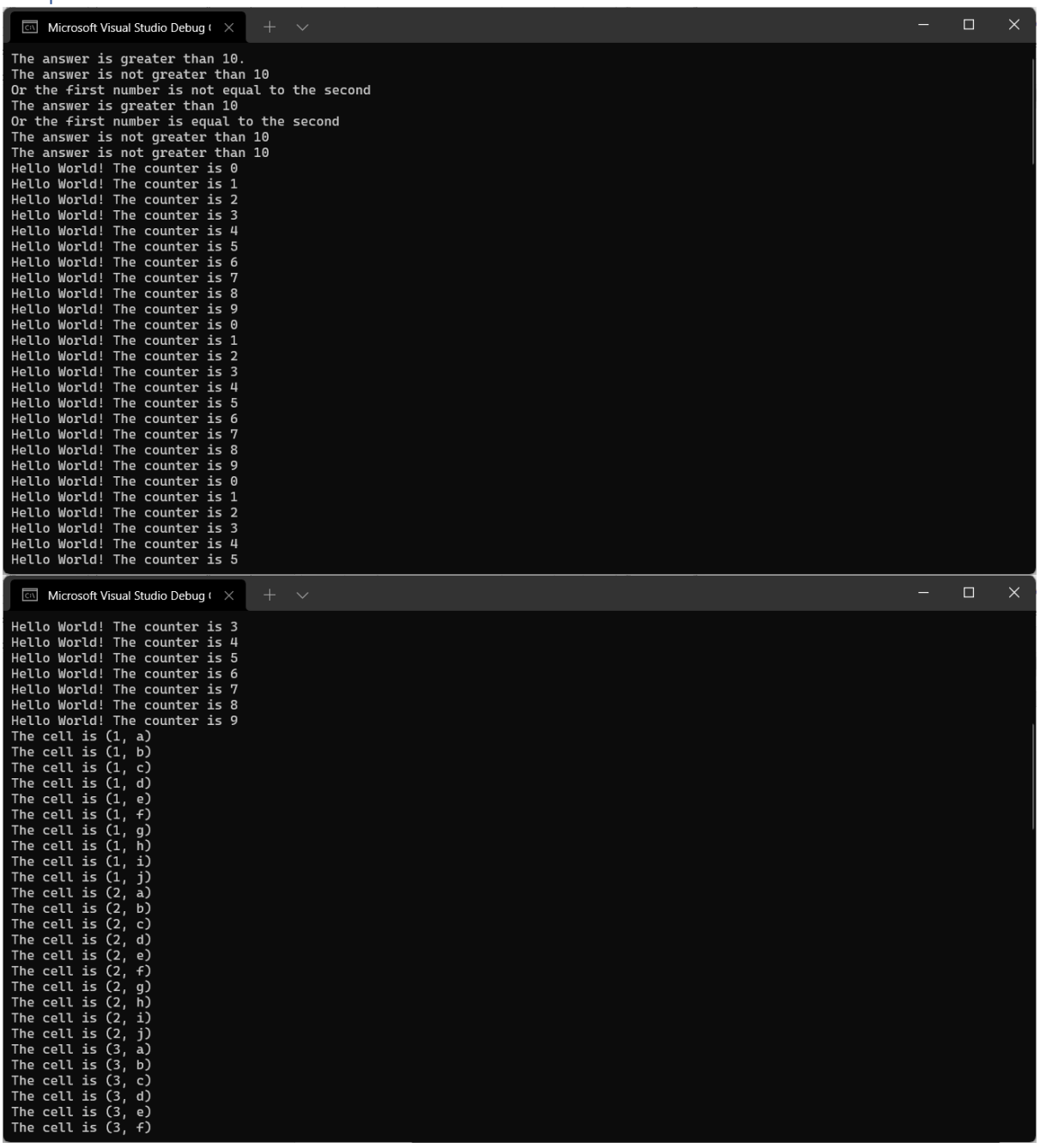
Class file(prob_2):

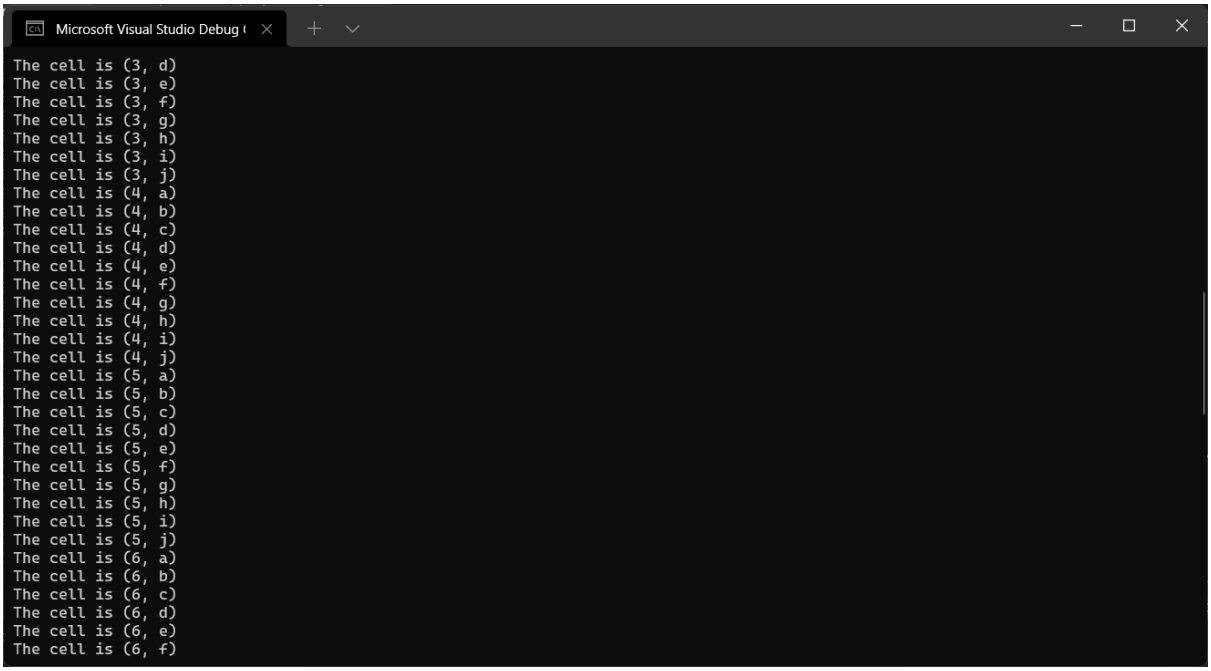
```
using System;

public static class Pro_2
{
	public static void branching(int a, int b)
	{
		if (a + b > 10)
			Console.WriteLine("The answer is greater than 10.");
	}
	public static void ifElse()
	{
		int a = 5;
		int b = 3;
		if (a + b > 10)
			Console.WriteLine("The answer is greater than 10");
		else
			Console.WriteLine("The answer is not greater than 10");
	}
	public static void ifElse2()
	{
		int a = 5;
		int b = 3;
		if (a + b > 10)
		{
			Console.WriteLine("The answer is greater than 10");
		}
		else
		{
			Console.WriteLine("The answer is not greater than 10");
		}
	}
	public static void compare()
	{
		int a = 5;
		int b = 3;
		int c = 4;
		if ((a + b + c > 10) && (a == b))
		{
			Console.WriteLine("The answer is greater than 10");
			Console.WriteLine("And the first number is equal to the
second");
		}
		else
		{
			Console.WriteLine("The answer is not greater than 10");
			Console.WriteLine("Or the first number is not equal to the
second");
		}
	}
```

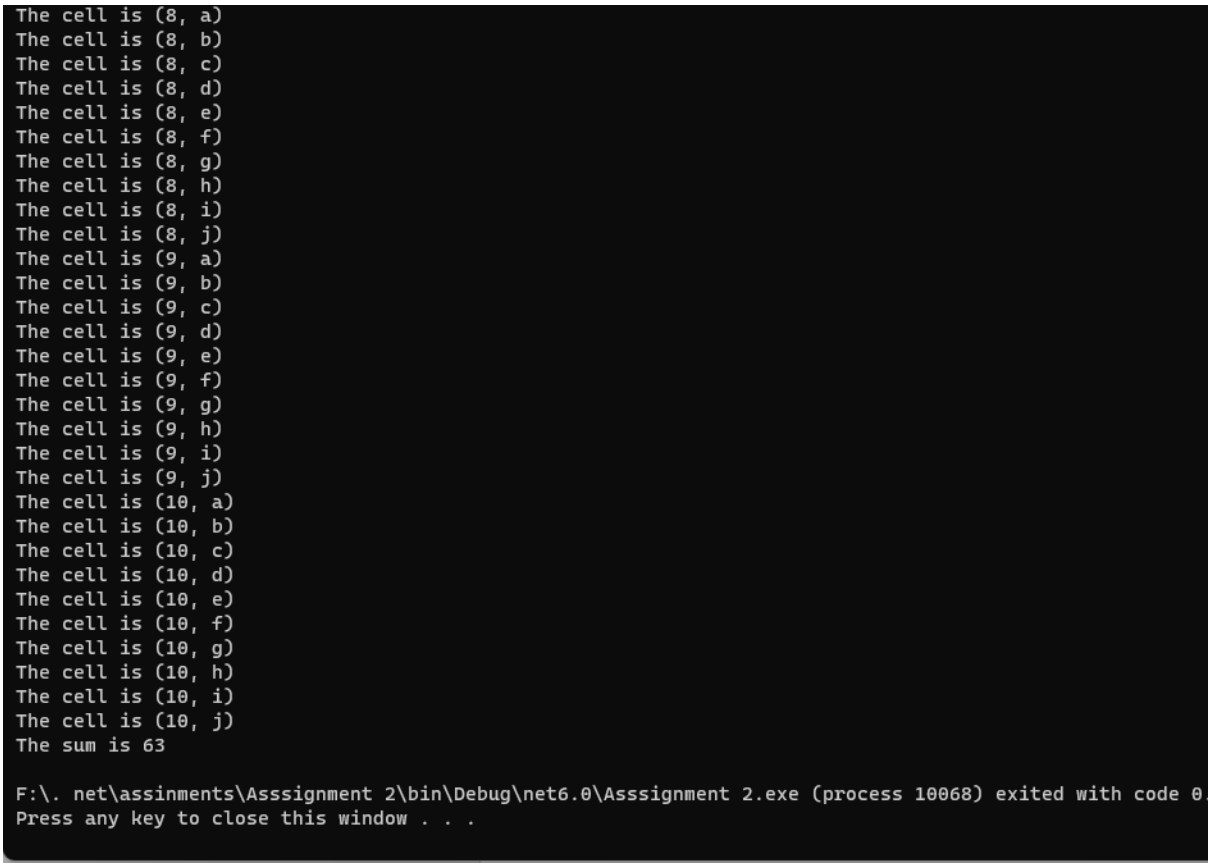
```
        public static void compare2()
        {
                int a = 5;
                int b = 3;
                int c = 4;
                if ((a + b + c > 10) || (a == b))
                {
                        Console.WriteLine("The answer is greater than 10");
                        Console.WriteLine("Or the first number is equal to the
second");
                }
                else
                {
                        Console.WriteLine("The answer is not greater than 10");
                        Console.WriteLine("And the first number is not equal to the
second");
                }
        }
        public static void whileLoop()
        {
                int counter = 0;
                while (counter < 10)
                {
                        Console.WriteLine($"Hello World! The counter is {counter}");
                        counter++;
                }
        }

        public static void doWhileLoop()
        {
                int counter = 0;
                do
                {
                        Console.WriteLine($"Hello World! The counter is {counter}");
                        counter++;
                } while (counter < 10);
        }
        public static void forLoop()
        {
                for (int counter = 0; counter < 10; counter++)
                {
                        Console.WriteLine($"Hello World! The counter is {counter}");
                }
        }
        public static void nestedLoop()
        {
                for (int row = 1; row < 11; row++)
                {
                        for (char column = 'a'; column < 'k'; column++)
                        {
                                Console.WriteLine($"The cell is ({row}, {column})");
                        }
                }
        }
        public static void isDivsibleBy3()
        {
                int sum = 0;
                for (int number = 1; number < 21; number++)
                {
                        if (number % 3 == 0)
                        {
                                sum = sum + number;
                        }
```

```
            }
            Console.WriteLine($"The sum is {sum}");
        }

}
```

Output:




Microsoft Visual Studio Debug
The cell is (3, d)
The cell is (3, e)
The cell is (3, f)
The cell is (3, g)
The cell is (3, h)
The cell is (3, i)
The cell is (3, j)
The cell is (4, a)
The cell is (4, b)
The cell is (4, c)
The cell is (4, d)
The cell is (4, e)
The cell is (4, f)
The cell is (4, g)
The cell is (4, h)
The cell is (4, i)
The cell is (4, j)
The cell is (5, a)
The cell is (5, b)
The cell is (5, c)
The cell is (5, d)
The cell is (5, e)
The cell is (5, f)
The cell is (5, g)
The cell is (5, h)
The cell is (5, i)
The cell is (5, j)
The cell is (6, a)
The cell is (6, b)
The cell is (6, c)
The cell is (6, d)
The cell is (6, e)
The cell is (6, f)


The cell is (8, a)
The cell is (8, b)
The cell is (8, c)
The cell is (8, d)
The cell is (8, e)
The cell is (8, f)
The cell is (8, g)
The cell is (8, h)
The cell is (8, i)
The cell is (8, j)
The cell is (9, a)
The cell is (9, b)
The cell is (9, c)
The cell is (9, d)
The cell is (9, e)
The cell is (9, f)
The cell is (9, g)
The cell is (9, h)
The cell is (9, i)
The cell is (9, j)
The cell is (10, a)
The cell is (10, b)
The cell is (10, c)
The cell is (10, d)
The cell is (10, e)
The cell is (10, f)
The cell is (10, g)
The cell is (10, h)
The cell is (10, i)
The cell is (10, j)
The sum is 63
F:\. net\assinments\Asssignment 2\bin\Debug\net6.0\Asssignment 2.exe (process 10068) exited with code 0
Press any key to close this window . . .