

LAB 05

Question 03

using System;

namespace ArithmeticCalculator

{

public class CalculateValues

{

public double Addition(double
num1, double num2)

{

return num1 + num2;

}

public double Subtraction(double
num1, double num2)

{

return num1 - num2;

}

```
    public double Multiplication(double  
num1, double num2)  
    {  
        return num1 * num2;  
    }
```

```
    public double Division(double  
num1, double num2)  
    {  
        if (num2 == 0)  
        {  
            throw new  
DivideByZeroException("Cannot divide  
by zero.");  
        }  
        return num1 / num2;  
    }  
}
```

```
class Program
```

```
{
    static void Main(string[] args)
    {
        Console.WriteLine("Enter 01 for
addition");
        Console.WriteLine("Enter 02 for
subtraction");
        Console.WriteLine("Enter 03 for
multiplication");
        Console.WriteLine("Enter 04 for
division");

        Console.WriteLine("Enter your
choice :");
        string choiceInput =
Console.ReadLine();

        if (int.TryParse(choiceInput, out
int choice))
        {
            if (choice >= 1 && choice <= 4)
```

```
        {
            Console.WriteLine("Enter
number 1:");
            string num1Input =
Console.ReadLine();

            Console.WriteLine("Enter
number 2:");
            string num2Input =
Console.ReadLine();

            if
(double.TryParse(num1Input, out double
num1) && double.TryParse(num2Input,
out double num2))
            {
                CalculateValues
calculator = new CalculateValues();
                double result = 0;

                switch (choice)
```

```
{
    case 1:
        result =
calculator.Addition(num1, num2);
        break;
    case 2:
        result =
calculator.Subtraction(num1, num2);
        break;
    case 3:
        result =
calculator.Multiplication(num1, num2);
        break;
    case 4:
        try
        {
            result =
calculator.Division(num1, num2);
        }
        catch
(DivideByZeroException ex)
```

```
        {  
  
        Console.WriteLine($"Error:  
{ex.Message}");  
  
            return;  
        }  
        break;  
    }  
  
        Console.WriteLine($"Your  
answer is : {result}");  
    }  
    else  
    {  
  
        Console.WriteLine("Invalid input. Please  
enter valid numbers.");  
    }  
}  
else  
{
```

```
Console.WriteLine("Invalid  
choice. Please enter a valid option (1-  
4).");
```

```
        }  
    }  
    else  
    {  
        Console.WriteLine("Invalid  
input. Please enter a valid choice (1-  
4).");  
    }  
}  
}
```

Question 04

In a C# console application, you can create a separate class file and add a private method like `private void sayHello()` to it. However, you won't be able to access the private method directly from the main class or any other class.

Here's an example of how you can create the separate class and private method:

Create a new class file named `HelloWorld.cs`:

```
using System;
```

```
namespace ConsoleApp
{
    public class HelloWorld
    {
        private void sayHello()
        {
            Console.WriteLine("Hello,
World!");
        }
    }
}
```

In the `Program.cs` (Main class) file, try to

access the `sayHello()` method:

using System;

```
namespace ConsoleApp
{
    class Program
    {
        static void Main(string[] args)
        {
            HelloWorld hello = new
HelloWorld();
            // hello.sayHello(); // This will give
a compile-time error
        }
    }
}
```

The class object "hello.sayHello()" will cause a compile-time error when you attempt to call the "sayHello()" method from the "Main" method, stating that the

method is unreachable owing to its protection level. The "sayHello()" method is only accessible within the "HelloWorld" class and not from other classes because it is a private method.

Change the "sayHello()" method's access modifier to "public" if you wish to use it outside of the "HelloWorld" class. The object of the "HelloWorld" class can then be used to call it from other classes.

Therefore, to respond to your inquiry, the private function "sayHello()" cannot be accessed from outside the "HelloWorld" class. You must alter the access modifier on it to "public" or any other less limiting modifier (for example, "internal," "protected," or "protected internal").