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Lab 05

Question 1

```
using System;

namespace ArithmeticOperationsCal
{
   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 ArgumentException("Cannot divide by zero.");
        }

        return num1 / num2;
    }
}


class Program
{
    static void Main()
    {

        Console.WriteLine("Enter 1 for Addition");
        Console.WriteLine("Enter 2 for Subtraction");
        Console.WriteLine("Enter 3 for Multiplication");
        Console.WriteLine("Enter 4 for Division");

        Console.WriteLine("Enter your choice:");
        int choice = int.Parse(Console.ReadLine());

        Console.WriteLine("Enter Number 1:");
        double num1 = double.Parse(Console.ReadLine());
```

```
Console.WriteLine("Enter Number 2:");
double num2 = double.Parse(Console.ReadLine());

CalculateValues calculator = new CalculateValues();



switch (choice)
{
   case 1:
      double additionResult = calculator.Addition(num1, num2);
      Console.WriteLine($"Your Answer is: {additionResult}");
      break;
   case 2:
      double subtractionResult = calculator.Subtraction(num1, num2);
      Console.WriteLine($"Your Answer is: {subtractionResult}");
      break;
   case 3:
      double multiplicationResult = calculator.Multiplication(num1, num2);
      Console.WriteLine($"Your Answer is: {multiplicationResult}");
      break;
   case 4:
      try
      {
         double divisionResult = calculator.Division(num1, num2);
         Console.WriteLine($"Your Answer is: {divisionResult}");
      }
```

```
                catch (ArgumentException ex)
                {
                    Console.WriteLine(ex.Message);
                }
                break;
            default:
                Console.WriteLine("Invalid choice.");
                break;
        }

    }
  }
}
```

Question 2

```
// hello.cs

using System;

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

```
        }
        public void SayHello()
        {
            sayHello();
        }
    }
}


// Program.cs

using System;

namespace ConsoleApplication
{
    class Program
    {
        static void Main()
        {
            Hello helloObject = new Hello();

            helloObject.SayHello();
        }
    }
}
```

No, I cannot access the private method directly from the main class or any other class outside the Hello class. The reason for this is that a private method is designed to be accessible only within the class it is defined in.

Question 3

```
using System;


namespace ArrayOperation
{
   class ArrayProcessor
   {


      public static int FindMinimum(int[] arr)
      {
         int min = arr[0];
         for (int i = 1; i < arr.Length; i++)
         {
            if (arr[i] < min)
            {
               min = arr[i];
            }
         }
         return min;
      }
      public static int FindMaximum(int[] arr)
      {
         int max = arr[0];
```

```
    for (int i = 1; i < arr.Length; i++)
    {
        if (arr[i] > max)
        {
            max = arr[i];
        }
    }
    return max;
}

public static double FindAverage(int[] arr)
{
    double sum = 0;
    for (int i = 0; i < arr.Length; i++)
    {
        sum += arr[i];
    }
    return sum / arr.Length;
}

public static void ReverseArray(int[] arr)
{
    int start = 0;
    int end = arr.Length - 1;

    while (start < end)
    {
```

```
            int temp = arr[start];
            arr[start] = arr[end];
            arr[end] = temp;

            start++;
            end--;
        }
    }
}



class Program
{
    static void Main()
    {
        int[] arr = new int[10];

        Console.WriteLine("Enter 10 integer values:");

        for (int i = 0; i < arr.Length; i++)
        {
            arr[i] = int.Parse(Console.ReadLine());
        }


        int min = ArrayProcessor.FindMinimum(arr);
```

```
        int max = ArrayProcessor.FindMaximum(arr);
        double average = ArrayProcessor.FindAverage(arr);

        Console.WriteLine("Minimum value: {min}");
        Console.WriteLine("Maximum value: {max}");
        Console.WriteLine("Average value: {average}");



        ArrayProcessor.ReverseArray(arr);

        Console.WriteLine("Array values in reverse order:");
        foreach (int num in arr)
        {
            Console.Write(num + " ");
        }
    }
  }
}
```