OOP with C#

Lab Sheet – 01

01. using System;

```
class Program
{
   static void Main()
   {
      //  enter length and width
      Console.Write("Enter the length of the rectangle: ");
      double length = Convert.ToDouble(Console.ReadLine());

      Console.Write("Enter the width of the rectangle: ");
      double width = Convert.ToDouble(Console.ReadLine());

      //  calculate the area
      double area = CalculateArea(length, width);

      // Display the calculated area
      Console.WriteLine($"The area of the rectangle is: {area}");



      Console.ReadLine();
   }
```

```
    // Function to calculate the area of a rectangle
    static double CalculateArea(double length, double width)
    {
        return length * width;
    }
}
```

02.

```
using System;

class Program
{
    static void Main()
    {
        // Array to store the 10 numbers
        int[] numbers = new int[10];

        // user to enter 10 numbers
        for (int i = 0; i < 10; i++)
        {
            Console.Write($"Enter number {i + 1}: ");
            numbers[i] = Convert.ToInt32(Console.ReadLine());
        }

        // Display  number is even or odd
        Console.WriteLine("\nResult:");
        for (int i = 0; i < 10; i++)
        {
```

```
            string result = IsEven(numbers[i]) ? "even" : "odd";
            Console.WriteLine($"{numbers[i]} is {result}");
        }

        // Wait for user input before closing the console window
        Console.ReadLine();
    }

    // Function to check if a number is even
    static bool IsEven(int number)
    {
        return number % 2 == 0;
    }
}
```

03.

```
using System;

class Program
{
    static void Main()
    {
        // Prompt the user to enter a positive integer
        Console.Write("Enter a positive integer: ");
        int userInput = Convert.ToInt32(Console.ReadLine());

        // Check if the input is positive
        if (userInput > 0)
```

```
        {
            // Call the function to calculate the sum and display the result
            int sum = CalculateSum(userInput);
            Console.WriteLine($"The sum of all numbers from 1 to {userInput} is: {sum}");
        }
        else
        {
            //  error message for negative input
            Console.WriteLine("ERROR: Please enter a positive integer.");
        }

        // Wait for user input before closing the console window
        Console.ReadLine();
    }

    // Function to calculate the sum of all numbers from 1 to a given positive integer
    static int CalculateSum(int n)
    {
        return (n * (n + 1)) / 2;
    }
}
```