Before reading past below instructions:

1. Create an account in Github using your name in this format: lastname\_firstname\_section
2. Request access to [Lycevm<3Alabang · GitHub](https://github.com/Lycevm-3Alabang)
3. Upload this file ON YOUR GITHUB ACCOUNT with answer under the title / file name : E3\_Assessment\_\_[Section]\_[LastnameFirstName]  
   example: E3\_Assessment\_\_BSCS32E1\_AlamoNinoFrancisco

Help: [Get started with GitHub documentation - GitHub Docs](https://docs.github.com/en/get-started)

**Sample Assessment for Introduction to Programming**

This assessment is designed to evaluate your understanding of basic programming concepts in C#, HTML, CSS, and JavaScript.

Instructions: Read each question carefully and provide complete and clear answers. Avoid multiple-choice format responses. Focus on demonstrating your understanding through code, explanations, and discussions.

**Part 1: C# (30 points)**

(10 points) Write a C# program that calculates the area of a triangle given its base and height. Include user input for both values and display the calculated area.

Answer:

using System;

class Program

{

// Write a program to find the area of a triangle

static double TriangleArea(double a, double b)

{

double Area;

Area = (a \* b) / 2; // A is a for the Base and B is for the height when the system multiply it 3x4 we got 12 divided it into 2 it will be 6

return Area;

}

public static void Main(string[] args)

{

double a, b; // double means that for every root there is a decimal same thing as float for the other languages int we use it for fixed number such as 1,2,3,4,5etc without the decimal numbers

Console.WriteLine("Enter Base Of Triangle");

// In here the user will type in a numbers they would like for the base of the triangle

a = Convert.ToDouble(Console.ReadLine());

Console.WriteLine("Enter Height Of Triangle");

// now here the user inputs the height of the triangle

b = Convert.ToDouble(Console.ReadLine());

Console.WriteLine("Area of Triangle: {0}", Math.Round(TriangleArea(a, b), 2));

Console.ReadLine(); //Now here is the final process when the system or computer reads the equation it shows us the answer by multiplying and dividing them into 2 saying Area of Triangle is = Answer

}

}

**(10 points) Declare an array of 5 integers and fill it with values based on a user-defined formula (e.g., n^2). Then, print the largest element in the array.**

**(10 points) Implement a simple for loop that iterates from 1 to 10 and prints each number along with its square root.**

**Part 2: HTML, CSS, and JavaScript (30 points)**

**HTML (10 points):** You are provided with the following incomplete HTML code snippet:

**HTML**

**<!DOCTYPE html>**

**<html>**

**<head>**

**<title>My Website</title>**

**</head>**

**<body>**

**<h1>Welcome to...</h1>**

**<p>This is a paragraph...</p>**

**<ul>**

**<li>Item 1</li>**

**<li>Item 2</li>**

**</ul>**

**</body>**

**</html>**

Complete the code snippet by adding the following elements:

An image within the <body> tag with a relevant src attribute.

An ordered list (<ol>) with three items.

A hyperlink within a <p> tag that points to an external website.

A CSS styling rule using an inline style attribute to change the font color of the <h3> heading.

CSS (10 points): Create a CSS stylesheet that defines the following styles:

Change the background color of the body element to light blue.

Apply a padding of 20px to all headings (h1, h2, h3).

Set the font size of the <p> tag to 14px.

Make the list items (li) have a bullet point style instead of the default numbers.

**JavaScript (10 points):** Write a JavaScript function that takes a number as input and returns a string indicating whether the number is even or odd. Then, add a button to your HTML page that, when clicked, calls this function and displays the result (even or odd) in a paragraph element below the button.

**Part 3: Essay Question (40 points)**

Discuss the importance of object-oriented programming (OOP) concepts in software development. Explain the key principles of OOP (encapsulation, inheritance, polymorphism, abstraction) and provide examples of how they can be used to create more efficient, maintainable, and reusable code. Include real-world scenarios or cases where OOP is particularly valuable.

Points Distribution:

Each part carries equal weight (30 points).

Code clarity, functionality, and explanations will be considered in grading.

The essay question focuses on understanding and application of OOP concepts.