C# Lab 05

Question 03

1)

using System;

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.Write("Enter your choice: ");

int choice = Convert.ToInt32(Console.ReadLine());

Console.Write("Enter Number 1: ");

double num1 = Convert.ToDouble(Console.ReadLine());

Console.Write("Enter Number 2: ");

double num2 = Convert.ToDouble(Console.ReadLine());

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:

result = calculator.Division(num1, num2);

break;

default:

Console.WriteLine("Invalid choice");

return;

}

Console.WriteLine($"Your Answer is: {result}");

}

}

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)

{

Console.WriteLine("Cannot divide by zero.");

return 0;

}

return num1 / num2;

}

}

Question 04

1)

using System;

namespace MyConsoleApp

{

public class Greeting

{

private void sayHello()

{

Console.WriteLine("Hello, World!");

}

}

}

2)

using System;

namespace MyConsoleApp

{

class Program

{

static void Main(string[] args)

{

Greeting greetingObj = new Greeting();

Console.WriteLine("Main method is executed.");

}

}

}

3)

No.

They are defined only within the same class and cannot be accessed from outside that class.

Question 05

using System;

class ArrayHelper

{

public static int FindMinimum(int[] arr)

{

int min = arr[0];

foreach (int num in arr)

{

if (num < min)

min = num;

}

return min;

}

public static int FindMaximum(int[] arr)

{

int max = arr[0];

foreach (int num in arr)

{

if (num > max)

max = num;

}

return max;

}

public static double CalculateAverage(int[] arr)

{

double sum = 0;

foreach (int num in arr)

{

sum += num;

}

return sum / arr.Length;

}

public static int[] ReverseArray(int[] arr)

{

int[] reversedArray = new int[arr.Length];

for (int i = 0, j = arr.Length - 1; i < arr.Length; i++, j--)

{

reversedArray[j] = arr[i];

}

return reversedArray;

}

}

class Program

{

static void Main()

{

int[] array = new int[10];

Console.WriteLine("Enter 10 integers for the array:");

for (int i = 0; i < 10; i++)

{

Console.Write($"Element {i + 1}: ");

if (!int.TryParse(Console.ReadLine(), out array[i]))

{

Console.WriteLine("Invalid input. Please enter an integer.");

i--;

}

}

int min = ArrayHelper.FindMinimum(array);

int max = ArrayHelper.FindMaximum(array);

double average = ArrayHelper.CalculateAverage(array);

int[] reversedArray = ArrayHelper.ReverseArray(array);

Console.WriteLine("\nResults:");

Console.WriteLine("Minimum value: " + min);

Console.WriteLine("Maximum value: " + max);

Console.WriteLine("Average value: " + average);

Console.WriteLine("Reversed order of values:");

foreach (int num in reversedArray)

{

Console.Write(num + " ");

}

Console.WriteLine();

}

}