**Lab 5**

**Question 3**

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Create the above mentioned console application and display it to the user. If user need to do

an Addition user need to insert 1 as the choice. For subtraction it should be 2 etc.

Your program should contain a separate class call “CalculateValues” and inside the class you

should add four methods which perform four arithmetic operations. All the methods should

take two parameters which are user inserted numbers.

And at the end of the method return the answer out of the method.

In main class if user want to do an addition call only the addition method in separate class.

If user want to do a subtraction call only the subtraction method in separate class. ETC.

And display the final answer as shown in the figure 01.

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using System;

namespace ArithmeticOperations

{

class CalculateValues

{

public int Addition(int num1, int num2)

{

return num1 + num2;

}

public int Subtraction(int num1, int num2)

{

return num1 - num2;

}

public int Multiplication(int num1, int num2)

{

return num1 \* num2;

}

public int Division(int num1, int num2)

{

return num1 / num2;

}

}

class MainClass

{

static void Main(string[] args)

{

int choice;

int num1, num2;

Console.WriteLine("Select the operation you want to perform:");

Console.WriteLine("1. Addition");

Console.WriteLine("2. Subtraction");

Console.WriteLine("3. Multiplication");

Console.WriteLine("4. Division");

choice = int.Parse(Console.ReadLine());

Console.WriteLine("Enter two numbers:");

num1 = int.Parse(Console.ReadLine());

num2 = int.Parse(Console.ReadLine());

CalculateValues calculateValues = new CalculateValues();

switch (choice)

{

case 1:

Console.WriteLine("The sum of {0} and {1} is {2}", num1, num2, calculateValues.Addition(num1, num2));

break;

case 2:

Console.WriteLine("The difference of {0} and {1} is {2}", num1, num2, calculateValues.Subtraction(num1, num2));

break;

case 3:

Console.WriteLine("The product of {0} and {1} is {2}", num1, num2, calculateValues.Multiplication(num1, num2));

break;

case 4:

Console.WriteLine("The quotient of {0} and {1} is {2}", num1, num2, calculateValues.Division(num1, num2));

break;

default:

Console.WriteLine("Invalid choice!");

break;

}

}

}

}

**Question 4**

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Add a separate class file to Console application program and create a method call private void

sayHello().

Inside the method display hello world.

In main class create object and try to access the sayHello() method by using the class object.

Can you access the method? Explain why?

\*/

// The `SayHello` class

public class SayHello

{

private void sayHello()

{

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

}

}

// The `Main` class

public class Main

{

static void Main(string[] args)

{

// Create a class object

var sayHello = new SayHello();

// Try to access the `sayHello()` method

try

{

sayHello.sayHello();

}

catch (Exception e)

{

Console.WriteLine(e.Message);

}

}

}

**Question 5**

/\*

Declare a Single dimensional array with 10 elements. Input the values to the array and find

the followings,

• Minimum value.

• Maximum value.

• Average value.

• Reverse order of values.

Hint – use a method which in separate class. And call the method from main the method.

\*/

using System;

namespace ArrayOperations

{

class ArrayOperations

{

public static void Main(string[] args)

{

int[] array = new int[10];

for (int i = 0; i < array.Length; i++)

{

array[i] = int.Parse(Console.ReadLine());

}

int minValue = FindMinimumValue(array);

int maxValue = FindMaximumValue(array);

float averageValue = FindAverageValue(array);

int[] reversedArray = ReverseArray(array);

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

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

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

Console.WriteLine("Reversed array: " + string.Join(", ", reversedArray));

}

private static int FindMinimumValue(int[] array)

{

int minValue = array[0];

for (int i = 1; i < array.Length; i++)

{

if (array[i] < minValue)

{

minValue = array[i];

}

}

return minValue;

}

private static int FindMaximumValue(int[] array)

{

int maxValue = array[0];

for (int i = 1; i < array.Length; i++)

{

if (array[i] > maxValue)

{

maxValue = array[i];

}

}

return maxValue;

}

private static float FindAverageValue(int[] array)

{

float sum = 0;

for (int i = 0; i < array.Length; i++)

{

sum += array[i];

}

return sum / array.Length;

}

private static int[] ReverseArray(int[] array)

{

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

for (int i = array.Length - 1; i >= 0; i--)

{

reversedArray[array.Length - 1 - i] = array[i];

}

return reversedArray;

}

}

}