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**C# Lab 05.**

Question 03

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.

Question 04.

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?

Question 05.

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.

Answers

Question 03

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

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;

namespace ArrayOperations

{

class ArrayOperations

{

static int[] array = new int[10];

static void Main(string[] args)

{

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

{

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

}

int minimumValue = findMinimumValue();

int maximumValue = findMaximumValue();

double averageValue = findAverageValue();

reverseArray();

Console.WriteLine("The minimum value is {0}", minimumValue);

Console.WriteLine("The maximum value is {0}", maximumValue);

Console.WriteLine("The average value is {0}", averageValue);

Console.WriteLine("The reversed array is {0}", array);

}

static int findMinimumValue()

{

int minimumValue = array[0];

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

{

if (array[i] < minimumValue)

{

minimumValue = array[i];

}

}

return minimumValue;

}

static int findMaximumValue()

{

int maximumValue = array[0];

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

{

if (array[i] > maximumValue)

{

maximumValue = array[i];

}

}

return maximumValue;

}

static double findAverageValue()

{

int sum = 0;

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

{

sum += array[i];

}

double averageValue = (double)sum / array.Length;

return averageValue;

}

static void reverseArray()

{

int temp;

for (int i = 0; i < array.Length / 2; i++)

{

temp = array[i];

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

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

}

}

}

}