**BRH Punchihewa**

**26998**

**C# LAB 01**

1. static void Main(string[] args)

{

Console. WriteLine("Enter name:");

string nm = Console.ReadLine();

Console. WriteLine ("Enter your batch:");

string batch = Console.ReadLine();

Console. WriteLine ("\nYour name: " + nm);

Console. WriteLine ("Your batch: " + batch);

Console.ReadLine();

}

2. static void Main(string[] args)

{

Console. WriteLine ("Enter the radius of the circle:");

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

double area= Math.PI \* Math.Pow(r,2);

Console. WriteLine ("your answer is " + area);

Console.ReadLine();

}

3. static void Main(string[] args)

{

Console.WriteLine("Enter first number:");

int number1=Convert.ToInt32(Console.ReadLine());

Console.WriteLine("Enter second number:");

int number2=Convert.ToInt32(Console.ReadLine());

int sum = (number1+number2);

Console.WriteLine("Your answer is " + sum);

Console.ReadLine();

}

4. static void Main(string[] args)

{

Console.WriteLine("Enter your salary amount");

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

Console.WriteLine("Enter your tax rate");

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

double taxam = (salary / tax);

double newsalary = (salary - taxam);

Console.WriteLine("Your new salary " + newsalary);

Console.ReadLine();

}

* **C# LAB 02**

1. static void Main(string[] args)

{

Console.WriteLine("Enter the first number:");

int number1=Convert.ToInt32(Console.ReadLine());

Console.WriteLine("Enter the second number:");

int number2=Convert.ToInt32(Console.ReadLine());

int sum = (number1+number2);

Console.WriteLine("Your answer is " + sum);

Console.ReadLine();

}

2. static void Main(string[] args)

{

Console.WriteLine("Enter your first number");

double number1= Convert.ToDouble(Console.ReadLine());

Console.WriteLine("Enter your second number");

double number2= Convert.ToDouble(Console.ReadLine());

// Calculate the sum

double addition = number1 + number2;

Console.WriteLine("Sum: " + sum);

// Calculate the subtraction

double subtraction = number1 - number2;

Console.WriteLine("Subtraction: " + subtraction);

// Calculate the multiplication

double multiplication = number1 \* number2;

Console.WriteLine("Multiplication: " + multiplication);

// Check for division by zero

if (number2 != 0)

{

// Calculate the division

double division = number1 / number2 ;

Console.WriteLine("Division: " + division);

}

else

{

Console.WriteLine("Division by zero is not allowed.");

}

Console.ReadLine();

}

3. static void Main(string[] args)

{

Console.WriteLine("Please enter the radius of the circle:");

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

double area = Math.PI \* Math.Pow(r, 2);

double circumference = 2 \* Math.PI \* r;

Console.WriteLine("Your circule area is " + area);

Console.WriteLine("Your circule circumference is " + circumference);

Console.ReadLine();

}

4. static void Main(string[] args)

{

Console.WriteLine("Enter your number");

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

if ( IsEven(number))

{

Console.WriteLine(number + " is an even number");

}

else

{

Console.WriteLine(number + " is an odd number");

}

Console.ReadLine();

}

static bool IsEven(int number)

{

return number % 2 == 0;

}

5. static void Main(string[] args)

{

const int totalInputs = 10;

Console.WriteLine("Enter " + totalInputs + " numbers:");

for (int i = 1; i <= totalInputs; i++)

{

Console.Write("Number " + i + ": ");

string input = Console.ReadLine();

if (int.TryParse(input, out int number))

{

if (IsEven(number))

{

Console.WriteLine(number + " is an even number.");

}

else

{

Console.WriteLine(number + " is an odd number.");

}

}

else

{

Console.WriteLine("Invalid input. Please enter a valid integer

number.");

}

}

Console.ReadLine();

}

static bool IsEven(int number)

{

return number % 2 == 0;

}

* **C# LAB 03**

1. static void Main(string[] args)

{

Console.WriteLine("Enter an integer");

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

if (IsEven(number))

{

Console.WriteLine(number + " is an even number");

}

else

{

Console.WriteLine(number + " is an odd number");

}

Console.ReadLine();

}

static bool IsEven(int number)

{

return number % 2 == 0;

}

2. static void Main(string[] args)

{

Console.WriteLine("Enter a string:");

string input = Console.ReadLine();

int vowelCount = CountVowels(input);

Console.WriteLine($"Number of vowels: {vowelCount}");

}

static int CountVowels(string input)

{

int count = 0;

string vowels = "AEIOUaeiou";

foreach (char c in input)

{

if (vowels.Contains(c))

{

count++;

}

}

return count;

}

3. static void Main(string[] args)

{

Console.WriteLine("Enter a number:");

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

int sum = CalculateSumOfDigits(number);

Console.WriteLine($"Sum of digits: {sum}");

Console.ReadLine();

}

static int CalculateSumOfDigits(int number)

{

int sum = 0;

for (; number != 0; number /= 10)

{

int digit = number % 10;

sum += digit;

}

return sum;

}

4. static void Main(string[] args)

{

Console.WriteLine("Enter a positive integer:");

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

int sum = CalculateSumOfOddNumbers(n);

Console.WriteLine($"Sum of odd numbers from 1 to {n}: {sum}");

Console.ReadLine();

}

static int CalculateSumOfOddNumbers(int number)

{

int sum = 0;

for (int i = 1; i <= n; i += 2)

{

sum += i;

}

return sum;

}

* **C# LAB 04**

**Question 01**

1. internal class convertvalues

{

public void kilometerTOmeter()

{

Console.WriteLine("Enter the distance in kilometer:");

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

double meters = km \* 1000;

Console.WriteLine("The distance in meter is " + meters);

Console.ReadLine();

}

}

internal class Program

{

static void Main(string[] args)

{

convertvalues convert = new convertvalues();

convert.kmTOmeter();

}

}

2. internal class convertvalues

{

public void kilometerTOmeter(double kilometers)

{

double meters = kilometers \* 1000;

Console.WriteLine("The distance in meter is " + meters);

Console.ReadLine();

}

}

internal class Program

{

static void Main(string[] args)

{

Console.WriteLine("Enter the distance in kilometer:");

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

convertvalues convert = new convertvalues();

convert.kilometerTOmeter(kilometers);

}

}

3. internal class convertvalues

{

public double kilometerTOmeter(double kilometers)

{

double meters = kilometers \* 1000;

return meters;

}

}

internal class Program

{

static void Main(string[] args)

{

Console.WriteLine("Enter the distance in kilometer:");

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

convertvalues convert = new convertvalues();

double meters = convert.kilometerTOmeter(kilometers);

Console.WriteLine("The distance in meter is " + meters);

Console.ReadLine();

}

}

**Question 02**

1. internal class FindValues

{

public double FindArea(double radius)

{

double aria = Math.PI \* Math.Pow(radius, 2);

return aria;

}

public double FindCircumference(double radius)

{

double circumference = 2 \* Math.PI \* radius;

return circumference;

}

}

static void Main(string[] args)

{

Console.WriteLine("Enter the radius of the circle:");

double radius = double.Parse(Console.ReadLine());

FindValues calculator = new FindValues();

double aria = calculator.FindAria(radius);

double circumference = calculator.FindCircumference(radius);

Console.WriteLine($"Area of the circle: {aria}");

Console.WriteLine($"Circumference of the circle: {circumference}");

Console.ReadLine();

}

* **C# LAB 05**

**Question 03**

class Calculator

{

public double add(double num1, double num2)

{

return num1 + num2;

}

public double subtract(double num1, double num2)

{

return num1 - num2;

}

public double multiply(double num1, double num2)

{

return num1 \* num2;

}

public double divide(double num1, double num2)

{

return num1 / num2;

}

}

static void Main(string[] args)

{

{

Console.WriteLine("Select an operation:");

Console.WriteLine("1. Addition");

Console.WriteLine("2. Subtraction");

Console.WriteLine("3. Multiplication");

Console.WriteLine("4. Division");

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

if (choice == 1 || choice == 2 ||choice == 3 || choice == 4)

{

Console.WriteLine("Enter the first number:");

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

Console.WriteLine("Enter the second number:");

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

Calculator calculator = new Calculator();

switch (choice)

{

case 1:

double sum = calculator.add(num1, num2);

Console.WriteLine($"The result of addition is: {sum}");

break;

case 2:

double difference = calculator.subtract(num1, num2);

Console.WriteLine($"The result of subtraction is: {difference}");

break;

case 3:

double multiplication = calculator.multiply(num1, num2);

Console.WriteLine($"The result of multiplication is: {multiplication}");

break;

case 4:

double division = calculator.divide(num1, num2);

Console.WriteLine($"The result of division is: {division}");

break;

default:

Console.WriteLine("Invalid choice. Please select 1,2,3 or 4.");

break;

}

}

else

{

Console.WriteLine("Invalid choice. Please select 1,2,3 or 4.");

}

Console.ReadLine();

}

}

**Question 04**

**Question 05**

class ArrayProcessor

{

private int[] array;

public ArrayProcessor(int[] array)

{

this.array = array;

}

public int GetMinValue()

{

int min = array[0];

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

{

if (array[i] < min)

{

min = array[i];

}

}

return min;

}

public int GetMaxValue()

{

int max = array[0];

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

{

if (array[i] > max)

{

max = array[i];

}

}

return max;

}

public double GetAverageValue()

{

int sum = 0;

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

{

sum += array[i];

}

return (double)sum / array.Length;

}

public int[] ReverseArray()

{

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

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

{

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

}

return reversedArray;

}

}

static void Main()

{

int[] array = new int[10];

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

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

{

array[i] = Convert.ToInt32(Console.ReadLine());

}

ArrayProcessor arrayProcessor = new ArrayProcessor(array);

int minValue = arrayProcessor.GetMinValue();

int maxValue = arrayProcessor.GetMaxValue();

double averageValue = arrayProcessor.GetAverageValue();

int[] reversedArray = arrayProcessor.ReverseArray();

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

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

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

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

foreach (int num in reversedArray)

{

Console.Write(num + " ");

}

Console.ReadLine();

}