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FACULTY OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY
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DOTNET PROGRAMMING

BIE33103
SECTION 04

LAB 2

ASP.NET IN CONSOLE APPLICATION

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Basic C# Examples

Example 1: C# Program to print Hello World

```csharp
1    using System;
2    namespace HelloWorldApplication
3    {
         0 references
4        class Program
5        {
             0 references
6            static void Main(string[] args)
7            {
8                Console.WriteLine("Hello World!");
9                Console.ReadKey();
10           }
11       }
12   }
```

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Hello World!
Press any key to continue . . .
```

Example 2: C# program to print an integer entered by user

```csharp
using System;

namespace PrintInteger
{
    0 references
    class Program
    {
        0 references
        static void Main(string[] args)
        {
            int number;
            Console.Write("Enter a number:");
            number = Convert.ToInt32(Console.ReadLine());

            Console.WriteLine("You entered :(0)",number);
            Console.ReadLine();
        }
    }
}
```
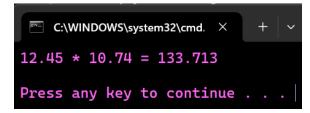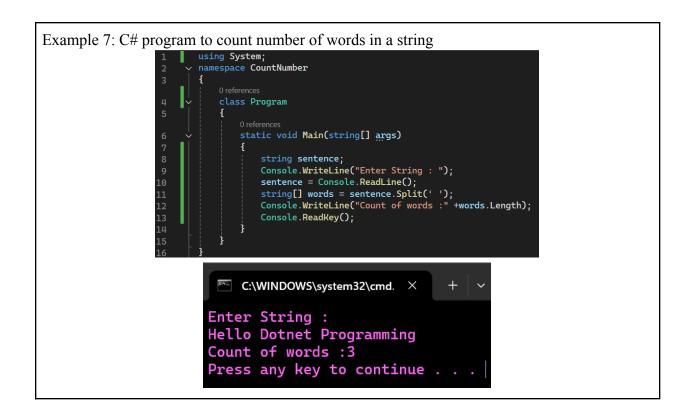
```
Enter a number:98
You entered 98:(0)
```

Example 3: C# program to add two integers

```csharp
using System;
namespace AddTwoInteger
{
    class Program
    {
        static void Main(string[] args)
        {
            int num1, num2, sum;
            Console.WriteLine("Calculate the sum of two numbers:");
            Console.Write("Input number1: ");
            num1 = Convert.ToInt32(Console.ReadLine());
            Console.Write("Input number2: ");
            num2 = Convert.ToInt32(Console.ReadLine());
            sum = num1 + num2;
            Console.Write("Result:" + sum);

            Console.ReadKey();
        }
    }
}
```

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Calculate the sum of two numbers:
Input number1: 2003
Input number2: 1997
Result:4000
```

Example 4: Multiply two integer numbers in C# console

```csharp
using System;

namespace MultiplyTwoInteger
{
    class Program
    {
        static void Main(string[] args)
        {
            int var1, var2, prod;
            Console.Write("Enter number 1: ");
            var1 = Int32.Parse(Console.ReadLine()); //READ NUMBER 1 AND PARSE TO INT
            Console.Write("Enter number 2: ");
            var2 = Int32.Parse(Console.ReadLine()); //READ NUMBER 2 AND CONVERT TO INT

            prod = var1 * var2;

            Console.Write("Result:"+ prod);
        }
    }
}
```

```
Enter number 1: 8
Enter number 2: 6
Result:48Press any key to continue . . . |
```

Example 5: multiply two floating point numbers in C# console

```csharp
using System;
namespace MultiplyTwoFloating
{
    class Program
    {
        static void Main(string[] args)
        {
            float number1, number2, product;
            number1 = 12.45f;
            number2 = 10.74f;

            product = number1 * number2;

            Console.WriteLine("{0} * {1} = {2}", number1, number2, product);
            Console.ReadLine();
        }
    }
}
```

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12.45 * 10.74 = 133.713

Press any key to continue . . .
```

Example 6: C# calculate rectangle area

```csharp
using System;

namespace CalculateRectangle
{
    class Program
    {
        static void Main(string[] args)
        {
            int area, length, width;
            Console.Write("Please write the length of your rectangle: ");
            length = Convert.ToInt32(Console.ReadLine());
            Console.Write("Please write the width of your rectangle: ");
            width = Convert.ToInt32(Console.ReadLine());
            area = length * width;
            Console.WriteLine("The area of rectangle : {0}", area);
            Console.ReadKey();
        }
    }
}
```

```
Please write the length of your rectangle: 9
Please write the width of your rectangle: 7
The area of rectangle : 63
```

Example 7: C# program to count number of words in a string

```csharp
using System;
namespace CountNumber
{
    class Program
    {
        static void Main(string[] args)
        {
            string sentence;
            Console.WriteLine("Enter String : ");
            sentence = Console.ReadLine();
            string[] words = sentence.Split(' ');
            Console.WriteLine("Count of words :" +words.Length);
            Console.ReadKey();
        }
    }
}
```

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Enter String :
Hello Dotnet Programming
Count of words :3
Press any key to continue . . .
```

C# Conditional Examples

Example 1: C# coding for decision.

```csharp
using System;
namespace Decision
{
    class Program
    {
        static void Main(string[] args)
        {
            int value = 10 / 2;
            if (value == 5)
            {
                Console.WriteLine(true);
            }
        }
    }
}
```

```
True
Press any key to continue . . .
```

Example 2: Generates the sum of N numbers in C#

```csharp
using System;

namespace GenerateSumNumber
{
    0 references
    class Program
    {
        0 references
        static void Main(string[] args)
        {
            int number, sum = 0;
            Console.Write("Enter a Number : ");
            number = Convert.ToInt32(Console.ReadLine());
            if (number < 0)
            {
                Console.Write("Please Enter Positive Number");
            }
            else
            {
                while (number > 0)
                {
                    sum += number;
                    number -= 1;
                }
            }
            Console.WriteLine("The sum is " + sum);
            Console.ReadKey();
        }
    }
}
```

```
Enter a Number : 6
The sum is 21
```

Example 3: C# coding for function.

```csharp
1   using System;
2   namespace CalculatorApplication
3   {
4       2 references
        class NumberManipulator
5       {
            1 reference
6           public int FindMax(int num1, int num2)
7           {
8               /* local variable declaration */
9               int result;
10
11              if (num1 > num2)
12              {
13                  result = num1;
14              }
15              else
16              {
17                  result = num2;
18              }
19              return result;
20          }
            0 references
21          static void Main (string[] args)
22          {
23              /* local variable definition */
24              int a = 100;
25              int b = 200;
26              int ret;
27
28              NumberManipulator n = new NumberManipulator(); //object n
29
30              //calling the FindMax() method using object n by sending value of a and b;
31              //and return value will be stored in ret
32              ret = n.FindMax(a, b);
33              Console.WriteLine("Max value is : {0}", ret);
34              Console.ReadLine();
35          }
36      }
```

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Max value is : 200

Press any key to continue . . .
```

C# Loop Examples

Example 1: C# coding for array.

```csharp
using System;
namespace ArrayNumber
{
    class Program
    {
        static void Main()
        {
            // Three-element array

            int[] array = { -5, -6, -7 };

            for (int i = 0; i < 3; i++)
            {
                Console.WriteLine(array[i] + "\n");
            }
        }
    }
}
```

```
C:\WINDOWS\sy
-5

-6

-7
```

Example 2: Display numbers between 1 to 100 using for loop

```csharp
using System;

namespace LoopNumber
{
    class Program
    {
        static void Main(string[] args)
        {
            int n;
            Console.Write("Number :");
            n = Convert.ToInt32(Console.ReadLine());
            for (int i = 1; i <= n; i++)
            {
                Console.WriteLine(i);
            }
            Console.ReadKey();
        }
    }
}
```

```
Number :15
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
```

Example 3: Calculate sum and average of an array in C#

```csharp
using System;
namespace CalculateSumAndAverage
{
    0 references
    internal class Program
    {
        0 references
        static void Main(string[] args)
        {
            double sum = 0, avg = 0;
            double[] numbers = { 10, 20, 50, 40 };
            for (int i = 0; i < numbers.Length; i++)
            {
                sum += numbers[i];
            }
            avg = sum / numbers.Length;
            Console.WriteLine("The sum is : " + sum);
            Console.WriteLine("The average is : " + avg);

            Console.ReadKey();
        }
    }
}
```

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The sum is : 120
The average is : 30
Press any key to continue . . .
```

Example 4: C# program to convert digits to words

```csharp
using System;

namespace ConvertDigitToWord
{
    0 references
    class Program
    {
        0 references
        public static void Main(string[] args)
        {
            int number;
            int nextDigit;
            int numDigits;
            int[] n = new int[20];

            string[] digits = { "zero", "one", "two", "three", "four", "five", "six", "seven", "eight", "nine" };

            Console.WriteLine("Enter the number:");
            number = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Number: " + number);
            Console.Write("Number in words: ");
            nextDigit = 0;
            numDigits = 0;
            do
            {
                nextDigit = number % 10;
                n[numDigits] = nextDigit;
                numDigits++;
                number = number / 10;
            } while (number > 0);
            numDigits--;
            for (; numDigits >= 0; numDigits--)
                Console.Write(digits[n[numDigits]] + " ");
            Console.WriteLine();
            Console.ReadLine();
        }
    }
}
```

```
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Enter the number:
2003
Number: 2003
Number in words: two zero zero three

Press any key to continue . . .
```

EXERCISE: Develop ASP.NET console application

i. Find number is even or odd using if else statement

```csharp
using System;

namespace Lab2
{
    0 references
    class FindEvenOddNum
    {
        0 references
        static void Main(string[] args)
        {
            // Prompt user to enter a number
            Console.WriteLine("Enter a number:");

            // Read input from the user
            string input = Console.ReadLine();

            // Parse the input to an integer
            if (int.TryParse(input, out int number))
            {   // Check if the number is even or odd using if-else
                if (number / 2 == 0)
                {
                    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.");
            }

            Console.WriteLine("Press any key to exit.");  // Wait for user to close the console
            Console.ReadKey();
        }
```

```
Enter a number:
9
9 is an odd number.
Press any key to exit.
```

ii. Calculate Body Mass Index (BMI) using switch case

```csharp
using System;

namespace Lab2
{
    class BMI
    {
        static void Main(string[] args)
        {
            double bmi, w, h;

            Console.Write("Enter your weight (in kg): ");
            w = Convert.ToDouble(Console.ReadLine());

            Console.Write("Enter your height (in m): ");
            h = Convert.ToDouble(Console.ReadLine());

            bmi = w / (h * h);
            Console.Write("Your BMI is: " + bmi);

            int category;

            if (bmi < 18.5)
                category = 1;  // Underweight
            else if (bmi >= 18.5 && bmi < 24.9)
                category = 2;  // Healthy
            else if (bmi >= 24.9 && bmi < 30)
                category = 3;  // Overweight
            else
                category = 4;  // Obesity

            switch (category)
            {
                case 1:
                    Console.WriteLine("\n\nUnderweight");
                    break;
                case 2:
                    Console.WriteLine("\n\nHealthy");
                    break;
                case 3:
                    Console.WriteLine("\n\nOverweight");
                    break;
                case 4:
                    Console.WriteLine("\n\nSuffering from Obesity");
                    break;
            }

            Console.ReadKey();
        }
    }
}
```

```
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Enter your weight (in kg): 60
Enter your height (in m): 1.57
Your BMI is: 24.3417582863402

Healthy
Press any key to continue . . .
```

iii. Generate Fibonacci series using for loop

```csharp
using System;
namespace Lab2_Fibonacci
{
    0 references
    class Program
    {
        0 references
        static void Main(string[] args)
        {   // Prompt user to enter the number of terms
            Console.WriteLine("Enter the number of Fibonacci terms you want to generate:");
            string input = Console.ReadLine();

            if (int.TryParse(input, out int n) && n > 0) // Parse the input to an integer
            {
                int firstNumber = 0, secondNumber = 1;

                Console.WriteLine("Fibonacci Series:");
                // Generate Fibonacci series using a for loop
                for (int i = 0; i < n; i++)
                {
                    Console.Write(firstNumber + " ");
                    int nextNumber = firstNumber + secondNumber; // Calculate the next number in the series
                    firstNumber = secondNumber;
                    secondNumber = nextNumber;
                }
            }
            else
            {
                Console.WriteLine("Invalid input. Please enter a positive integer.");
            }

            Console.WriteLine("\nPress any key to exit."); // Wait for user to close the console
            Console.ReadKey();
        }
    }
}
```

```
Enter the number of Fibonacci terms you want to generate:
6
Fibonacci Series:
0 1 1 2 3 5
Press any key to exit.
```

iv. To calculate carry mark, where carry mark = mark * 0.6. Use the following data:

Student	Mark
Student1	67
Student2	55
Student3	89
Student4	34

```csharp
1    using System;
2
3    namespace CarryMark
4    {
5        using System;
6
         0 references
7        class Program
8        {
             0 references
9            static void Main()
10           {
11               // Student data: Names and marks
12               string[] students = { "Student1", "Student2", "Student3", "Student4" };
13               int[] marks = { 67, 55, 89, 34 };
14
15               Console.WriteLine("Carry Marks:");
16               Console.WriteLine("------------------------------------");
17
18               // Loop through each student to calculate and display the carry mark
19               for (int i = 0; i < students.Length; i++)
20               {
21                   double carryMark = marks[i] * 0.6;
22                   Console.WriteLine($"{students[i]}: {carryMark:F2}");
23               }
24           }
25       }
26   }
```

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```
Carry Marks:
------------------------------------
Student1: 40.20
Student2: 33.00
Student3: 53.40
Student4: 20.40
Press any key to continue . . .
```