Shri Swami Vivekanand Shikshan Sanstha's

VIVEKANAND COLLEGE, KOLHAPUR.

Department of Bachelor of Computer Application

CERTIFICATE

(Lab Course Based On Asp.Net with C#)

This is to certify that Shri / Miss.

Class_____Roll No._____Exam Seat No. _____has completed the required

practical work satisfactory during   Nov 2023 to Dec 2023   in the academic year 2023 - 2024.

Date: /   / 2023.

1)_____   1) _____

  Teacher In-charge   Examiner

                                         HOD of BCA

2) _____   2) _____   Vivekanand College, Kolhapur.

  Teacher In-charge   Examiner

Examiner

Shri Swami Vivekanand Shikshan Sanstha's

VIVEKANAND COLLEGE (AUTONOMOUS), KOLHAPUR.
Department of Bachelor of Computer Application

INDEX

Class: BCA – III   **YEAR: 2023 – 2024.**   **Roll No.** ☐

LAB COURSE BASED ON ASP.Net with C#

Sr. No.	Assignment Name	Date	Remark	Sign
1	Accept your Name in TextBox1 and check it not greater than 10 character, print appropriate message using if.. else.. Accept Fee in TextBox2 and check Fee should be in number and >=16000			
2	Write a console program to accept a single alphabet and convert it into lower if it is upper and vice versa			
3	Write a Console Program to accept number from lower to limit to higher limit 10 numbers in integer array and print all the divisors of 12.			
4	Write a console program to convert entered days into years, weeks and days			
5	Write a console program to calculate area of sphere by using function.			
6	Write a program to accept a lower or upper alphabet check it is vowel or consonant using switch Statement.			
7	Write a console program to declare and initialize as string ="Fox jump over the lazy dog" And count total words in the string.			
8	Write a Console program to accept 5 integer numbers in an array and find sum and average of elements And then count total elements below average and above average			
9	Write a console program to accept year and check it is leap or not.			
10	Write a console program to accept 5 elements in an integer array and find minimum and maximum element in it.			
11	Write a console program to write a function Add with 2 integer numbers as parameter having return type int and call it in Main() method to display sum of 2 numbers.			
12	Create Employee form to accept EmpNO, Name, Designation, Salary. Using ADO create connectively to add records in database table Emp. Take 2 buttons Submit and Clear button			
13	Write a console program to accept base and index as integer and find power(p= 23=8) without using built-in math functions			

-
-

Program No 1: Accept your Name in TextBox1 and check it not greater than 10 character, print appropriate message using if.. else.. Accept Fee in TextBox2 and check Fee should be in number and >=16000

- **Webform1.aspx**

```aspx
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs" Inherits="Demo1.WebForm1" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
    <link rel="stylesheet" type="text/css" href="webFormStyle.css" />
</head>
<body>
    <form id="form1" runat="server">
        <div>

            Enter Your Name: <asp:TextBox ID="TextBox1" runat="server"></asp:TextBox>
             <br />
             <br />
             Enter Fee Amount:<asp:TextBox ID="TextBox2" runat="server"></asp:TextBox>
             <br />

             <asp:Button ID="SubmitButton" runat="server" Text="Submit" OnClick="SubmitButton_Click" />
             <br /><br />
             <asp:Label ID="ResultLabel" runat="server" Text=""></asp:Label>
        </div>
    </form>
</body>
</html>
```

- Webform1.aspx.cs

```csharp
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace Demo1
{
    public partial class WebForm1 : System.Web.UI.Page
    {
        protected void SubmitButton_Click(object sender, EventArgs e)
        {
            string enteredName = TextBox1.Text;
            if(enteredName.Length <= 10)
            {
                string enteredFeeText = TextBox2.Text;
```
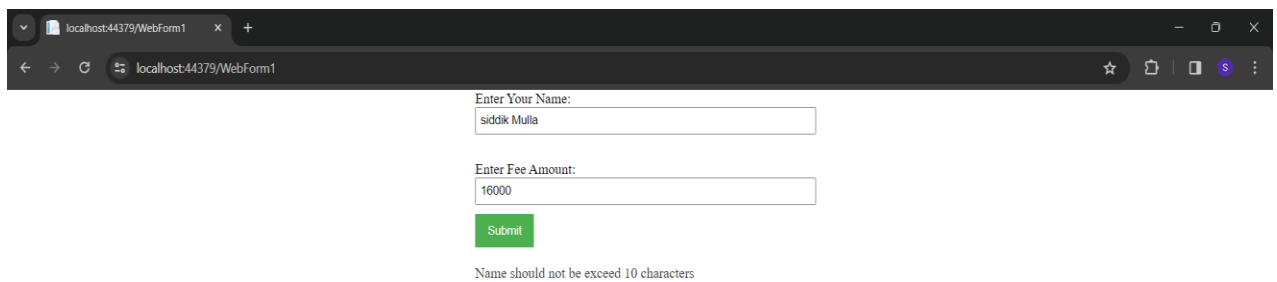
```csharp
                if(int.TryParse(enteredFeeText, out int enteredFee) &&     enteredFee >= 16000)
                {
                    ResultLabel.Text = "Name and Fee are Valid";
                }
                else
                {
                    ResultLabel.Text = "Fee should be a number and greater than or equal to 16000";
                }
            }
            else
            {
                ResultLabel.Text = "Name should not be exceed 10 characters";
            }

        }
    }
}
```

Output:

Enter Your Name:
siddik Mulla

Enter Fee Amount:
16000

Submit

Name should not be exceed 10 characters

-

-

Program No 2: Write a console program to accept an alphabet and convert it into lower if it is upper and vice versa.

```csharp
namespace Prac2
{
    internal class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Enter any alphabet:");
            char inputChar = Console.ReadKey().KeyChar;
            if (Char.IsLetter(inputChar))
            {
                char convertedChar = Char.IsUpper(inputChar) ? Char.ToLower(inputChar) : Char.ToUpper(inputChar);
                Console.WriteLine($"\nConverted alphabet : {convertedChar}");
            }
            else
            {
                Console.WriteLine("\nPlease enter valid alphabet.");
            }

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

Output:
Enter any alphabet:
S
Converted alphabet : s

Enter any alphabet:
d
Converted alphabet : D

-
-

Program No 3: Write a console program to accept number from lower limit to upper limit 10 numbers in inetger array and print all divisors of 12.

```csharp
using System;
class Program
{
    static void Main()
    {
        Console.WriteLine("Enter lower limit:");
        int lowerLimit = int.Parse(Console.ReadLine());

        Console.WriteLine("Enter higher limit:");
        int higherLimit = int.Parse(Console.ReadLine());

        int[] numbers = new int[10];

        Console.WriteLine("Enter 10 numbers within the specified range:");

        for (int i = 0; i < 10; i++)
        {
            Console.Write($"Enter number {i + 1}: ");
            numbers[i] = int.Parse(Console.ReadLine());

            if (numbers[i] < lowerLimit || numbers[i] > higherLimit)
            {
                Console.WriteLine($"Number should be between {lowerLimit} and {higherLimit}. Please enter a valid number.");
                i--; // Decrement i to re-enter the current number.
            }
        }

        Console.WriteLine("\nDivisors of 12:");

        foreach (var item in numbers)
        {
            if (12 % item == 0)
            {
                Console.WriteLine(item);
            }
        }

        Console.ReadKey();
    }
}
```

Output:
Enter lower limit:
1
Enter higher limit:
20
Enter 10 numbers within the specified range:
Enter number 1: 1
Enter number 2: 2
Enter number 3: 3
Enter number 4: 4
Enter number 5: 5
Enter number 6: 6
Enter number 7: 7
Enter number 8: 8
Enter number 9: 9
Enter number 10: 12

Divisors of 12:
1
2
3
4
6
12

-
-
Program No 4: Write a console program to convert days into years,weeks and days.

```csharp
namespace Prac4
{
    internal class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Enter the Number of days:");
            int totalDays = Convert.ToInt32(Console.ReadLine());

            int years = totalDays / 365;
            int remainingDays = totalDays % 365;
            int weeks = remainingDays / 7;
            int days = remainingDays % 7;

            Console.WriteLine($"{totalDays} days = :");
            Console.WriteLine($"{years} years ,{weeks} weeks,and {days} days");

            Console.ReadKey();
        }


    }
}
```

Output:
Enter the Number of days:
1500
1500 days = :
4 years ,5 weeks,and 5 days

-
-

Program No 5: Write a console program to calculate area of sphere using function.

```csharp
using System;

namespace Prac5
{
    internal class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Enter the Radius of Sphere:");
            double radius = Convert.ToDouble(Console.ReadLine());

            double area = calculateSphereArea(radius);
            Console.WriteLine($"The area of Sphere with radius {radius} is:{area}");

            Console.ReadKey();
        }

        static double calculateSphereArea(double radius)
        {
            double area = 4 * Math.PI * Math.Pow(radius, 2);
            return area;
        }

    }
}
```

Output:
Enter the Radius of Sphere:
6
The area of Sphere with radius 6 is: 452.38934211693

-

-

Program No 6: Write a console program to accept a lower or upper alphabet check if it is vowel or consonant using switch statement.

```csharp
using System;
namespace Prac6
{
    internal class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Enter a alphabet lower or Upper case:");
            char inputChar = Convert.ToChar(Console.ReadLine());

            switch (Char.ToLower(inputChar))
            {
                case 'a':
                case 'e':
                case 'i':
                case 'o':
                case 'u':
                    Console.WriteLine($"{inputChar} is a Vowel.");
                    break;
                default:
                    if (Char.IsLetter(inputChar))
                    {
                        Console.WriteLine($"{inputChar} is a Consosent.");
                    }
                    else
                    {
                        Console.WriteLine($"Invalid Input");
                    }
                    break;
            }
            Console.ReadKey();
        }
    }
}
```

Output:
Enter a alphabet lower or Upper case:
A
A is a Vowel.

Enter a alphabet lower or Upper case:
s
s is a Consosent.

-

-

Program No 7: Write a console program to declare and initialize as string ="Fox jump over lazy dog" and count total words in the string.

```csharp
using System;

namespace Prac7
{
    internal class Program
    {
        static void Main(string[] args)
        {
            string s = "Fox jump over the lazy dog";
            int wordCount = CountWords(s);
            Console.WriteLine($"The total numbers of the words in string                    is: {wordCount}");
            Console.ReadKey();
        }

        static int CountWords(string str)
        {
            string[] words = str.Split(new char[] { ' ', '\t', '\n',
        '\r' }, StringSplitOptions.RemoveEmptyEntries);
            return words.Length;
        }
    }
}
```

Output:
The total numbers of the words in string is: 6

-

-

Program No 8: Write a console program to accept 5 integer numbers in array and find sum and average of elements and then count elements below and above average.

```csharp
using System;
class Program
{
    static void Main()
    {
        int[] numbers = new int[5];
        Console.WriteLine("Enter 5 integers:");
        for (int i = 0; i < 5; i++)
        {
            Console.Write($"Enter number {i + 1}: ");
            numbers[i] = Convert.ToInt32(Console.ReadLine());
        }
        int sum = 0;
        foreach (var num in numbers)
        {
            sum += num;
        }
        double average = (double)sum / numbers.Length;

        Console.WriteLine($"\nSum: {sum}");
        Console.WriteLine($"Average: {average}");
        int belowAverageCount = 0, aboveAverageCount = 0;
        foreach (var num in numbers)
        {
            if (num < average)
            {
                belowAverageCount++;
            }
            else if (num > average)
            {
                aboveAverageCount++;
            }
        }
        Console.WriteLine($"Elements below average: {belowAverageCount}");
        Console.WriteLine($"Elements above average: {aboveAverageCount}");
        Console.ReadKey();
    }
}
```
Output:
Enter 5 integers:
Enter number 1: 5
Enter number 2: 4
Enter number 3: 3
Enter number 4: 2
Enter number 5: 1

Sum: 15
Average: 3
Elements below average: 2
Elements above average: 2

-

-

Program No 9: Write a console program to accept a year and check if it is leap or not.

```csharp
using System;
namespace Prac9
{
    internal class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Enter the Year:");
            int year = Convert.ToInt32(Console.ReadLine());

            if (IsLeapYear(year))
            {
                Console.WriteLine($"{year} is a leap year");
            }
            else
            {
                Console.WriteLine($"{year} is a not leap year");
            }
            Console.ReadKey();
        }

        static bool IsLeapYear(int year)
        {
            return (year % 4 == 0 && year % 100 != 0) || (year % 400 ==0);
        }
    }
}
```

Output:
Enter the Year:
2016
2016 is a leap year

Enter the Year:
2023
2023 is a not leap year

-

-

Program No 10: Write a console program to accept 5 elements in an integer array and find minimum and maximum element in it.

```csharp
using System;
class Program
{
    static void Main()
    {
        int t = 5;
        int[] numbers = new int[t];

        Console.WriteLine($"Enter {t} integers:");

        for (int i = 0; i < t; i++)
        {
            Console.Write($"Enter number {i + 1}: ");
            numbers[i] = Convert.ToInt32(Console.ReadLine());
        }

        int min = int.MaxValue;
        int max = int.MinValue;

        foreach (var num in numbers)
        {
            if (num < min)
            {
                min = num;
            }

            if (num > max)
            {
                max = num;
            }
        }
        Console.WriteLine($"Minimum number: {min}");
        Console.WriteLine($"Maximum number: {max}");
        Console.ReadKey();
    }
}
```

Output:
Enter 5 integers:
Enter number 1: 5
Enter number 2: 45
Enter number 3: 32
Enter number 4: 12
Enter number 5: 90

Minimum number: 5
Maximum number: 90

-

-

Program No 11: Write a console program to write a function add with 2 integer numbers as parameter having type int and call it in Main() method to display Sum of 2 numbers.

```csharp
using System;

class Program
{
    static void Main()
    {
        Console.WriteLine("Enter the first number:");
        int num1 = Convert.ToInt32(Console.ReadLine());

        Console.WriteLine("Enter the second number:");
        int num2 = Convert.ToInt32(Console.ReadLine());

        int sum = Add(num1, num2);

        Console.WriteLine($"The sum of {num1} and {num2} is: {sum}");
        Console.ReadKey();
    }

    static int Add(int a, int b)
    {
        return a + b;
    }
}
```

Output:
Enter the first number:
12
Enter the second number:
8
The sum of 12 and 8 is: 20

-
-

Program No 12: Create employee form to accept EmpNo, Name, Designation, and salary. Using ADO.NET create connectivity to add records in database table Emp. Take 2 Buttons Submit and Clear.

- **Webform1.aspx**

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"
Inherits="demo12.WebForm1" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
    <link rel="stylesheet" type="text/css" href="EmpForm.css" />
</head>
<body>
    <form id="form1" runat="server">
        <div>
            <h2>Employee Form</h2>
            <div>
                <asp:Label ID="lblEmpNo" runat="server"
Text="EmpNO:"></asp:Label>
                <asp:TextBox ID="txtEmpNo" runat="server"></asp:TextBox>
            </div>
            <div>
                <asp:Label ID="lblName" runat="server" Text="Name:"></asp:Label>
                <asp:TextBox ID="txtName" runat="server"></asp:TextBox>
            </div>
            <div>
                <asp:Label ID="lblDesignation" runat="server"
Text="Designation:"></asp:Label>
                <asp:TextBox ID="txtDesignation" runat="server"></asp:TextBox>
            </div>
            <div>
                <asp:Label ID="lblSalary" runat="server"
Text="Salary:"></asp:Label>
                <asp:TextBox ID="txtSalary" runat="server"></asp:TextBox>
            </div>
            <div>
                <asp:Button ID="btnSubmit" runat="server" Text="Submit"
OnClick="btnSubmit_Click" />
                <asp:Button ID="btnClear" runat="server" Text="Clear"
OnClick="btnClear_Click" />

            </div>
        </form>
</body>
</html>
```

- Webform1.aspx.cs

```csharp
using System;
using System.Collections.Generic;
using System.Data.SqlClient;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace demo12
{
    public partial class WebForm1 : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {

        }
        protected void btnSubmit_Click(object sender, EventArgs e)
        {
            string connectionString = "Data
Source=(LocalDB)\\MSSQLLocalDB;AttachDbFilename=C:\\Users\\Siddik\\OneDrive\\Docu
ments\\Employee.mdf;Integrated Security=True;Connect Timeout=30";
            using (SqlConnection connection = new
SqlConnection(connectionString))
            {
                connection.Open();

                string empNo = txtEmpNo.Text;
                string name = txtName.Text;
                string designation = txtDesignation.Text;
                string salary = txtSalary.Text;

                string query = "INSERT INTO employee (EmpNO, Name, Designation,
Salary) VALUES (@EmpNO, @Name, @Designation, @Salary)";
                using (SqlCommand command = new SqlCommand(query, connection))
                {
                    command.Parameters.AddWithValue("@EmpNO", empNo);
                    command.Parameters.AddWithValue("@Name", name);
                    command.Parameters.AddWithValue("@Designation", designation);
                    command.Parameters.AddWithValue("@Salary", salary);

                    command.ExecuteNonQuery();
                }
            }
.

        }

        protected void btnClear_Click(object sender, EventArgs e)
        {
            txtEmpNo.Text = string.Empty;
            txtName.Text = string.Empty;
            txtDesignation.Text = string.Empty;
            txtSalary.Text = string.Empty;
        }


    }
}
```

Output:
Form:

Database:

-

-

Program No 13: Write a console program to accept base and index as integer and find power (p=23=8) without using built-in-math function.

```csharp
using System;
class Program
{
    static void Main()
    {
        Console.WriteLine("Enter the base (integer):");
        if (int.TryParse(Console.ReadLine(), out int baseNumber))
        {
            Console.WriteLine("Enter the index (integer):");
            if (int.TryParse(Console.ReadLine(), out int index))
            {
                int result = CalculatePower(baseNumber, index);
                Console.WriteLine($"Result: {result}");
            }
            else
            {
                Console.WriteLine("Invalid input for index. Please enter a valid integer.");
            }
        }
        else
        {
            Console.WriteLine("Invalid input for base. Please enter a valid integer.");
        }
        Console.ReadKey();
    }

    static int CalculatePower(int baseNumber, int index)
    {
        if (index < 0)
        {
            Console.WriteLine("Index should be a non-negative integer.");
            return -1; // indicating an error
        }

        int result = 1;
        for (int i = 0; i < index; i++)
        {
            result *= baseNumber;
        }

        return result;
    }
}
```

Output:
Enter the base (integer):
2
Enter the index (integer):
5
Result: 32