Practical No. 1

Working with basic C# and ASP.NET (Console Application).

a) Create an application that accepts four int values from the user and displays addition.

Program.cs

```
using System;
namespace ConsoleApp
{
   public class Program
   {
      public static void Main(string[] args)
      {
         int n1, n2, n3, n4, sum;
         Console.WriteLine("Enter a number 1: ");
         n1 = int.Parse(Console.ReadLine());
         Console.WriteLine("Enter a number 2: ");
         n2 = int.Parse(Console.ReadLine());
         Console.WriteLine("Enter a number 3: ");
         n3 = int.Parse(Console.ReadLine());
         Console.WriteLine("Enter a number 4: ");
         n4 = int.Parse(Console.ReadLine());
         sum = n1 + n2 + n3 + n4;
         Console.WriteLine("Sum is  = " + sum);
         Console.ReadKey();
      }
   }
}
```

Output:

```
Enter a number 1:
5
Enter a number 2:
5
Enter a number 3:
5
Enter a number 4:
5
Sum is  = 20
```

b) Create an application to demonstrate String Operation that accepts four int values from the user and displays addition.

Program.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
namespace StringOperation
{
   class Program
   {
      static void Main(string[] args)
      {
         int n, l = 1;
         string s1, s2;
         Char c, b;
         do
         {
            Console.WriteLine("1.Clone \n2.Compare \n3.Concat \n4.SubString \n5.ToLower
\n6.ToUpper \n7.Replace \n8.Remove \n9.Insert \n10.IndexOf \n11.Length ");
            Console.Write("\nEnter your choice: ");
            n = int.Parse(Console.ReadLine());
            switch (n)
            {
               case 1:
                  Console.Write("Enter any string : ");
                  s1 = Console.ReadLine();
                  s2 = "";
                  s2 = (String)s1.Clone();
                  Console.WriteLine("s1=" + (s1) + "\ns2=" + s2);
                  break;
               case 2:
                  Console.Write("Enter 1st string : ");
                  s1 = Console.ReadLine();
                  Console.Write("Enter 2nd string: ");
                  s2 = Console.ReadLine();
                  Console.WriteLine(s1.CompareTo(s2) + "\n");
                  break;
               case 3:
                  Console.Write("Enter 1st string : ");
                  s1 = Console.ReadLine();
                  Console.Write("Enter 2nd string : ");
                  s2 = Console.ReadLine();
                  Console.WriteLine(string.Concat(s1, s2));
                  break;
```

```
    case 4:
        Console.Write("Enter any string : ");
        s1 = Console.ReadLine();
        s2 = s1.Substring(2);
        Console.WriteLine(s2);
        break;
    case 5:
        Console.Write("Enter any string : ");
        s1 = Console.ReadLine();
        Console.WriteLine(s1.ToLower());
        break;
    case 6:
        Console.Write("Enter any string : ");
        s1 = Console.ReadLine();
        Console.WriteLine(s1.ToUpper());
        break;
    case 7:
        Console.Write("Enter any string: ");
        s1 = Console.ReadLine();
        Console.WriteLine("Enter characters to replace:");
        b = Console.ReadLine()[0];
        c = Console.ReadLine()[0];
        s2 = s1.Replace(b, c);
        Console.WriteLine("After Replacement: " + s2);
        break;
    case 8:
        Console.Write("Enter any string : ");
        s1 = Console.ReadLine();
        s2 = s1.Remove(1);
        Console.WriteLine("Removed 2nd character: " + s2);
        break;
    case 9:
        Console.Write("Enter any string : ");
        s1 = Console.ReadLine();
        s2 = s1.Insert(2, "-");
        Console.WriteLine(s2);
        break;
    case 10:
        Console.Write("Enter any string: ");
        s1 = Console.ReadLine();
        Console.WriteLine("Enter index to search:");
        c = Console.ReadLine()[0];
        int a = s1.IndexOf(c);
        Console.Write("Index is " + a);
        break;
    default:
        Console.Write("Invalid choice");
        break;
}
Console.WriteLine("\nWant to continue performing operation(1/0):");
```

```
            l = int.Parse(Console.ReadLine());
        } while (l == 1);
        Console.ReadKey();
    }
  }
}
```

Output:

```
1.Clone
2.Compare
3.Concat
4.SubString
5.ToLower
6.ToUpper
7.Replace
8.Remove
9.Insert
10.IndexOf
11.Length

Enter your choice: 1
Enter any string : department
s1=department
s2=department
```

```
1.Clone
2.Compare
3.Concat
4.SubString
5.ToLower
6.ToUpper
7.Replace
8.Remove
9.Insert
10.IndexOf
11.Length

Enter your choice: 2
Enter 1st string : good
Enter 2nd string:
morning
-1
```

```
1.Clone
2.Compare
3.Concat
4.SubString
5.ToLower
6.ToUpper
7.Replace
8.Remove
9.Insert
10.IndexOf
11.Length

Enter your choice: 3
Enter 1st string : Good
Enter 2nd string : Morning
Good Morning
```

```
1.Clone
2.Compare
3.Concat
4.SubString
5.ToLower
6.ToUpper
7.Replace
8.Remove
9.Insert
10.IndexOf
11.Length

Enter your choice: 4
Enter any string : department
partment
```

```
1.Clone
2.Compare
3.Concat
4.SubString
5.ToLower
6.ToUpper
7.Replace
8.Remove
9.Insert
10.IndexOf
11.Length

Enter your choice: 5
Enter any string : DePaRTMenT
department
```

```
1.Clone
2.Compare
3.Concat
4.SubString
5.ToLower
6.ToUpper
7.Replace
8.Remove
9.Insert
10.IndexOf
11.Length

Enter your choice: 6
Enter any string : dePartMent
DEPARTMENT
```

```
1.Clone
2.Compare
3.Concat
4.SubString
5.ToLower
6.ToUpper
7.Replace
8.Remove
9.Insert
10.IndexOf
11.Length

Enter your choice: 7
Enter any string: department
Enter characters to replace:
t
d
After Replacement: depardmend
```

```
1.Clone
2.Compare
3.Concat
4.SubString
5.ToLower
6.ToUpper
7.Replace
8.Remove
9.Insert
10.IndexOf
11.Length

Enter your choice: 8
Enter any string : department
Removed 2nd character: d
```

```
1.Clone
2.Compare
3.Concat
4.SubString
5.ToLower
6.ToUpper
7.Replace
8.Remove
9.Insert
10.IndexOf
11.Length

Enter your choice: 9
Enter any string : India
In-dia
```

```
1.Clone
2.Compare
3.Concat
4.SubString
5.ToLower
6.ToUpper
7.Replace
8.Remove
9.Insert
10.IndexOf
11.Length

Enter your choice: 10
Enter any string: department
Enter index to search:
p
Index is 2
```

c) Create an application that receives the (studentid, studentname, coursename, dateofbirth) information from set of students. The application should display the information of all the students once the data is entered.

Program.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
namespace StudentDetails
{
   class Program
   {
      static void Main(string[] args)
      {
         int i;
         int[] s_id = new int[10];
         String[] s_name = new string[10];
         String[] c_name = new string[10];
         String[] d_o_b = new string[10];
         for (i = 0; i < 2; i++)
         {
            Console.WriteLine("Enter Student Id: ");
            s_id[i] = int.Parse(Console.ReadLine());
            Console.WriteLine("Enter Student Name: ");
            s_name[i] = Console.ReadLine();
            Console.WriteLine("Enter Course Name: ");
            c_name[i] = Console.ReadLine();
            Console.WriteLine("Enter Date of birth: ");
            d_o_b[i] = Console.ReadLine();
         }
         Console.WriteLine("Student Id:\tStudent Name:\tCousre Name:\tDate of Birth:");
         for (i = 0; i < 2; i++)
         {
            Console.WriteLine(s_id[i] + "\t\t" + s_name[i] + "\t\t" + c_name[i] + "\t\t" +
d_o_b[i]);
         }
         Console.ReadKey();
      }
   }
}
```

Output:

```
Enter Student Id:
101
Enter Student Name:
Student 1
Enter Course Name:
IT
Enter Date of birth:
01-05-2004
Enter Student Id:
102
Enter Student Name:
Student 2
Enter Course Name:
CS
Enter Date of birth:
31-08-2004
Student Id:     Student Name:   Cousre Name:    Date of Birth:
101             Student 1               IT              01-05-2004
102             Student 2               CS              31-08-2004
```

d) Create an application to demonstrate the following operations:

1. To generate Fibonacci Series.

Program.cs

```
using System;
public class FibonacciExample
{
   public static void Main(string[] args)
   {
      int n1 = 0, n2 = 1, n3, i, num;
      Console.Write("Enter the number of elements:");
      num = int.Parse(Console.ReadLine());
      Console.Write(n1 +" "+n2 +" ");
      for (i = 2; i < num; ++i)
      {
         n3 = n1 + n2;
         Console.Write(n3 +" ");
         n1 = n2;
         n2 = n3;
      }
      Console.ReadKey();
   }
}
```

Output:

```
Enter the number of elements:10
0 1 1 2 3 5 8 13 21 34
```

2. Test for Prime Numbers.

Program.cs

```
using System;
public class PrimeNumberExample
{
   public static void Main(string[] args)
   {
      int n, i, m = 0, flag = 0;
      Console.Write("Enter the number to check whether Prime:");
      n = int.Parse(Console.ReadLine());
```

```
        m = n / 2;
        for (i = 2; i <= m; i++)
        {
            if (n % i == 0)
            {
                Console.Write("Number is not Prime.");
                flag = 1;
                break;
            }
        }
        if (flag == 0)
            Console.Write("Number is Prime.");
        Console.ReadKey();
    }
}
```

Output:

```
Enter the number to check whether Prime:5
Number is Prime.
```

```
Enter the number to check whether Prime:8
Number is not Prime.
```

3. Test for Vowels.

Program.cs

```
using System;
public class Demo
{
    public static void Main(string[] args)
    {
        char ch;
        Console.Write("Input an Alphabet (A-Z or a-z) : ");
        ch = Convert.ToChar(Console.ReadLine().ToLower());
        int i = ch;
        if (i >= 48 && i <= 57)
        {
            Console.Write("You entered a number, please enter an alphabet.");
        }
        else
        {
            switch (ch)
            {
```

```
            case 'a':
               Console.WriteLine("The Alphabet is vowel");
               break;
            case 'i':
               Console.WriteLine("The Alphabet is vowel");
               break;
            case 'o':
               Console.WriteLine("The Alphabet is vowel");
               break;
            case 'u':
               Console.WriteLine("The Alphabet is vowel");
               break;
            case 'e':
               Console.WriteLine("The Alphabet is vowel");
               break;
            default:
               Console.WriteLine("The Alphabet is not a vowel");
               break;
         }
      }
      Console.ReadKey();
   }
}
```

Output:

```
Input an Alphabet (A-Z or a-z) : A
The Alphabet is vowel
```

```
Input an Alphabet (A-Z or a-z) : u
The Alphabet is vowel
```

```
Input an Alphabet (A-Z or a-z) : Y
The Alphabet is not a vowel
```

```
Input an Alphabet (A-Z or a-z) : z
The Alphabet is not a vowel
```

4. For Each Loop Example.

Program.cs

```
using System;
public class ForEachExample
{
   public static void Main(string[] args)
   {
      string[] cars = { "Volvo", "BMW", "Ford", "Mazda" };
      foreach (string i in cars)
      {
         Console.WriteLine(i);
      }
      Console.ReadKey();
   }
}
```

Output:

```
Volvo
BMW
Ford
Mazda
```

5. Reverse a Number & Find sum of digit of a No.

Program.cs

```
using System;
public class Program
 {
   static void Main(String[] args)
    {
      int n, reverse = 0, sum = 0, rem;
      Console.Write("Enter a number: ");
      n = int.Parse(Console.ReadLine());
      int originalNumber = n;
      while (n != 0)
      {
         rem = n % 10;// Get the last digit
         reverse = reverse * 10 + rem; // Build the reversed number
         sum += rem; // Add the digit to the sum
```

```
            n /= 10; // Remove the last digit from the original number
        }
        Console.WriteLine("Original Number: " + originalNumber);
        Console.WriteLine("Reversed Number: " + reverse);
        Console.WriteLine("Sum of Digits: " + sum);
        Console.ReadKey();
    }
}
```

Output:

```
Enter a number: 54321
Original Number: 54321
Reversed Number: 12345
Sum of Digits: 15
```