NANDINI BHATTACHARYA

DEMO

MODULE – 1

3. Create First C# Program "Hello World"

3.1 What is namespace?

- **Defining namespace in C#**

```
namespace MyNamespace
{
        Class MyClass
        {
                Public void MyMethod()
                {
                        System.Console.WriteLine(“Creating my namespace”);
                }
        }
} //output: Creating my namespace
```

In the above example, a namespace MyNamespace is created. It consists of a class MyClass as its member. MyMethod is a method of class MyClass.

- **Accessing members of namespace in C#**

```
MyNamespace.MyClass myclass= new MyNamespace.MyClass();
```

- **The ‘using’ keyword**

```
using System;
namespace MyNamespace
{
        class Hello
        {
                Static void Main(string args[])
                {
                        Console.WriteLine("Hello World");
                }
        }
} //output: Hello World
```

- **Nested namespace**

```
Using System;
namespace MyNamespace
{
        Namespace Nested
        {
        Public class SampleClass
        {
```

```
                Public static void myMethod()
                {
                        Console.WriteLine(“Nested namespace”);
                }
        }
        }
}
Namespace MyProgram
{
        Public class MyClass
        {
                Public static void Main()
                {
                        MyNamespace.Nested.SampleClass.myMethod();
                }
        }
} //output: Nested namespace
```

- **Creating aliases**

```
using con = System.Console; // Create an alias
class MyClient
{
public static void Main()
{
con.WriteLine("Hey");
}
} //output: Hey
```

3.2 What is class?

- **Constructors**

```
class MyClass
{
  public MyClass()
  {

  }
```

- **Method**

```
public void MyMethod(int parameter1, string parameter2)
{
  // write your method code here

}
```

- **Property**

```
private int _myPropertyVar;

public int MyProperty
```

```
{
   get { return _myPropertyVar; }
   set { _myPropertyVar = value; }
}
```

_myPropertyVar is a private field that cannot be accessed directly. It will only be accessed via MyProperty. Thus, MyProperty encapsulates _myPropertyVar.

- **Class example**

```
using System;
  public class Student
  {
     public int id;
     public String name;
  }
  class TestStudent{
   public static void Main(string[] args)
     {
        Student s1 = new Student();
        s1.id = 101;
        s1.name = "Nandini";
        Console.WriteLine(s1.id);
        Console.WriteLine(s1.name);

     }
  } //output: 101
                Nandini
```

3.3 Variable & Method Declaration

```
Using System;
namespace Declaring
{
        Class Program
        {
                String name=”Nandini”, city=”Rajkot”;
                Public void printdetails()
                {
                        Console.WriteLine(“Name:”+name);
                        Console.WriteLine(“City:”+ city);
                }

                Static void Main(string[] args)
                {
                        Program p=new Program();
                        p.printdetails();
                }
        }
} //output-> Name: Nandini
              City:Rajkot
```

6. Understanding datatypes & variables with conversion

6.2 Data type Conversion

1. **Implicit type conversion**

```
using System;
namespace Implicit
{
   class SumProgram
   {
      static void Main(string[] args)
      {
         int value1 = 567;
         int value2 = 765;
         long summation;
         summation = value1 + value2;
         Console.WriteLine("summation = " + summation);
      }
   }
} //output-> Sum=1332
```

2. Explicit type conversion

```
using System;
namespace Explicit
{
  class ExplicitConversion
  {
     public static void Main(string[] args) {
       double d = 5673.74;
       int i;
       // cast double to int.
       i = (int)d;
       Console.WriteLine(i);
     }
  }
} //output: 5673
```

3. Conversion with built-in methods

```
using System;
namespace Conver
{
class BuiltIn
{
    public static void Main(String[] args)
     {
            float f = 56.123F;
                    Console.WriteLine(Convert.ToString(f));
                    Console.WriteLine(Convert.ToUInt32(f));
    }
}
}//output:56.123
            56
```

6.3 Boxing/Unboxing

```
using System;
class Box
{
      Public static void Main()
     {
                int num = 10;
                object obj = num;     // boxing

                int i = (int)obj;          // unboxing

                Console.WriteLine("Value of object is : " + obj);
                Console.WriteLine("Value of i is : " + i);
     }
}//output->Value of object is : 10
              Value of i is : 10
```

7. Understanding Decision making & statements

7.1 if else, switch

- **If...else if**

```
using System;
public class Condition
{
        public static void Main()
        {
                int i = 10, j = 20;
                if (i == j)
                {
                        Console.WriteLine("i is equal to j");
                }
                else if (i > j)
                {
                        Console.WriteLine("i is greater than j");
                }
                else if (i < j)
                {
                        Console.WriteLine("i is less than j");
                }
        }
}//output: i is less than j
```

- **If...else if...else**

```
        using System;
        public class Condition
        {
```

```
        public static void Main()
        {
            int i = 20, j = 20;
            if (i > j)
            {
                Console.WriteLine("i is greater than j");
            }
            else if (i < j)
            {
                Console.WriteLine("i is less than j");
            }
            else
            {
                Console.WriteLine("i is equal to j");
            }
        }
}//output: i is equal to j
```

- **switch Statement**

```
using System;
public class SwitchCondition
{
    public static void Main()
    {
        string statementType = "switch";

        switch (statementType)
        {
            case "if.else":
                Console.WriteLine("if...else statement");
                break;
            case "ternary":
                Console.WriteLine("Ternary operator");
                break;
            case "switch":
                Console.WriteLine("switch statement");
                break;
        }
    }
}//output: switch statement
```