Practical Demo
Module – 1

1) **Create First C# Program "Hello World"**

- **Defining namespace in C#**

```
namespace DemoNamespace
{
Class DemoClass
   {
    Public void DemoMethod()
    {
     System.Console.WriteLine(“Created Demo namespace”);
    }
 }
}
```

O/P: Created Demo namespace

- **Nested namespace**

```
 Using System;
namespace DemoNamespace
{
 Namespace Nested
          {
         Public class SampleClass
              {
         Public static void DemoMethod()
                    {
           Console.WriteLine(“Nested Demonamespace”);
```

```
                    }
                }
            }
        }
            Namespace DemoProgram
            {
          Public class DemoClass
            {
                Public static void Main()
                  {
                   DemoNamespace.Nested.SampleClass. DemoMethod();
                        }
                  }
            }
```

O/P: Nested Demonamespace

2) What is class?

```
using System;
 namespace Test
 {
    Class Test {
      static void Main(string[] args)
      {
        Console.WriteLine("Created first program of C# ");
      }
    }
 }
```

O/P: Created first program of C#

3)Variable and Method Declaration

```
class NumberManipulator
{
     public int FindMax(int num1, int num2)
        {
                int result;
                if (num1 > num2)
               result = num1;
        }
      Else
        {
        result = num2;
         return result;
         }
}
```

4) Understanding datatypes & variables with conversion

- **Datatype Conversion**
    - Implicit type conversion

```
using System;
namespace Implicit
{
   class SumProgram
   {
      static void Main(string[] args)
  {
int x= 100;
int y= 200;
long sum;
```

```
            sum  =  x +  y;
            Console.WriteLine("sum= " + sum);
         }
       }
    }
```

O/P: Sum=300

- Explicit Conversion

```
class Test
{
   static void Main()
   {
      double x = 1234.7;
      int a;
      a = (int)x;
      System.Console.WriteLine(a);
   }
}
```

O/P: 1234

5) Boxing And Unboxing

- **Boxing**

```
class TestBoxing
{
   static void Main()
   {
      int i = 123;
      object o = i;
```

```
        i = 456;
        System.Console.WriteLine("The value-type value = {0}", i);
        System.Console.WriteLine("The object-type value = {0}", o);
    }
}
```

O/P:

The value-type value = 456

The object-type value = 123

- **Unboxing**

```
class TestUnboxing
{
    static void Main()
    {
        int i = 123;
        object o = i;
        try
        {
            int j = (short)o;
            System.Console.WriteLine("Unboxing OK.");
        }
        catch (System.InvalidCastException e)
        {
            System.Console.WriteLine("{0} Error: Incorrect unboxing.",
e.Message);
        }
    }
}
```

O/P:

Specified cast is not valid. Error: Incorrect unboxing.

6) Understanding Decision making & statements

- **If Condition**

```
using System;
public class IfExample
  {
    public static void Main(string[] args)
    {
       int num = 10;
       if (num % 2 == 0)
       {
          Console.WriteLine("It is even number");
       }
    }
  }
```

- **If else Condition**

```
using System;
public class IfExample
  {
     public static void Main(string[] args)
     {
        int num = 11;
        if (num % 2 == 0)
        {
           Console.WriteLine("It is even number");
        }
        else
        {
           Console.WriteLine("It is odd number");
        }
```

```
    }
  }
```

- **If – else if – else condition**

```
using System;
public class IfExample
  {
    public static void Main(string[] args)
    {
      Console.WriteLine("Enter a number to check grade:");
      int num = Convert.ToInt32(Console.ReadLine());

      if (num <0 || num >100)
      {
        Console.WriteLine("wrong number");
      }
      else if(num >= 0 && num < 50){
        Console.WriteLine("Fail");
      }
      else if (num >= 80 && num < 90)
      {
        Console.WriteLine("A Grade");
      }
      else if (num >= 90 && num <= 100)
      {
        Console.WriteLine("A+ Grade");
      }
    }
  }
```

- **Switch Case**

```
using System;
public class IfExample
   {
      public static void Main(string[] args)
      {
int day = 4;
switch (day)
{
 case 6:
   Console.WriteLine("Today is Saturday.");
   break;
 case 7:
   Console.WriteLine("Today is Sunday.");
   break;
 default:
   Console.WriteLine("Looking forward to the Weekend.");
   break;
}
}
```