Practical No: 02

I. Practical Significance

Namespaces organize the objects defined in an assembly. Assemblies can contain multiple namespaces, which can in turn contain other namespaces. Namespaces prevent ambiguity and simplify references when using large groups of objects such as class libraries.

II. Relevant Program Outcomes (POs)

Basic knowledge: Apply knowledge of mathematics and engineering as it applies to the field of computer software and hardware.

Discipline knowledge: To apply knowledge of computer engineering field to solve core and applied engineering problems.

Experiments and practice: Able to plan and perform experiments and practices with its results to solve computer engineering problems.

Engineering tools: Formulate and solve problems related to computer engineering field using appropriate techniques/tools.

III. Competency and Practical skills

This practical expects to develop the following skills in the student.

Develop VB.NET programs to solve computer group related problems.

1. Write a VB.NET program to use of Namespaces.
2. Compile/Debug/Save the „VB.NET‟ program.

IV. Relevant Course Outcome(s)

Use Visual Studio IDE to design application.

V. Practical Outcome (PrOs)

Develop a .Net program using existing & user defined Namespace in VB.net Application

VI. Relevant Affective domain related Outcome(s)

1. Follow safety measures.
2. Follow ethical practices

VIII. Resources required (Additional)

- If any web reference is required.

X. Resources required (Actual)

1) https://www.dotnetperls.com/namespace-vbnet
2) https://docs.microsoft.com/en-us/dotnet/visual-basic/programming-guide/program-structure/namespaces

XI. Practical Related Questions

Write a program using user defined and existing namespaces in VB.Net.

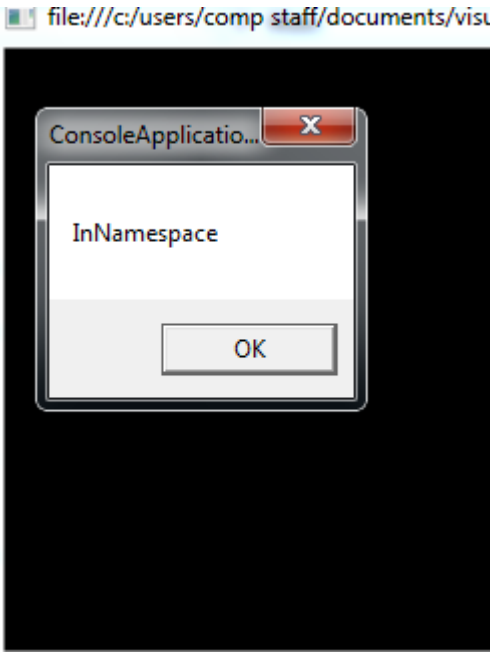
User defined :

Module1

```
Namespace MyColor
    Public Class Color
        Sub Color()
            MsgBox("InNamespace")
        End Sub
    End Class
End Namespace
Module Module1
    Dim c As New MyColor.Color

    Sub Main()
        c.Color()
        Console.ReadLine()
    End Sub

End Module
```



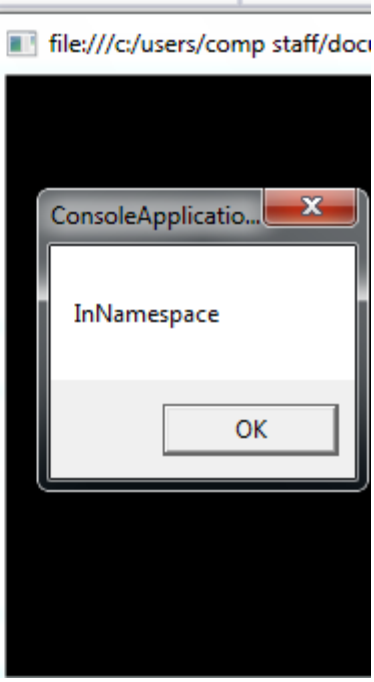
existing namespaces

```
Imports System.Drawing
Imports System.Windows

Namespace MyColor
    Public Class Color
        Sub Color()
            MsgBox("InNamespace")
        End Sub
    End Class
End Namespace
Module Module1
    Dim c As New MyColor.Color

    Sub Main()
        c.Color()
        Console.ReadLine()
    End Sub

End Module
```



XIII. Practical Related Question

1. Differentiate between namespace & assembly

S.No	Namespace	Assembly
1	Namespace is the logical naming decided at design time by the developer.	Scope for a particular type is defined at run time using Assembly.
2	Namespace contains set of unique names.	Assembly contains code of the form MSIL (Microsoft Intermediate Language)
3	Classes available in your program will be logically grouped together under a namespace.	Logical units are physically grouped together as assembly.
4	Namespace can include multiple assemblies.	An assembly can contain types belonging to different namespaces.
5	Namespace doesn't have any classification.	Assembly can be classified as private assembly and public assembly. Private assembly is specific to a single application but shared/public assembly contains libraries which can be used by multiple applications.
6	Namespaces have to be mentioned in Project-Properties.	Assemblies need not be explicitly specified. They are automatically described in metadata and manifest files.

2. Compare between option strict & option explicit

- Option explicit
  - Set to on or off.
  - On is by default.
  - Requires declaration of all variables before they are used.
- Option strict
  - Set to on or off.
  - Off is by default.
  - If the option is on, you cant assign value of one data type to another.(cause data type is having less precise data storage capacity.)

XIV. Exercise

1. List namespaces in VB.net?

2. **Write a program to implement the namespace Student in your VB.net Application.**
   First Add 2 class files in console application.

Add code in class1.vb

```
Namespace Perls
    Class Website
        Public Shared Sub Execute()
            Console.WriteLine("Perls Website")
        End Sub
    End Class
End Namespace
```

Add code in class2.vb

```
Namespace Ruby
    Class Website
        Public Shared Sub Open()
            Console.WriteLine("Ruby Website")
        End Sub
    End Class
End Namespace
```

Then add code into Module1.vb