**NameSpace:-** Software projects consist of several pieces of code such as classes, declarations, procedures and functions etc., known as the component or identifiers of the software project. In large projects the number of these components can be very large. These components can be grouped into smaller subcategories. This logical grouping construct is known as a "Namespace" or **we can say that the group of code having a specific name is a "Namespace".** In a Namespace the groups of components are somehow related to each other. Namespaces are similar in concept to a folder in a computer file system.

* we can access a member of a Namespace by using a dot(.) operator

1. **Ex. Imports** System

**FCL(Framework Class Library) :-** .NET Framework Class Library is the collection of classes, namespaces, interfaces and value types that are used for .NET applications. This is also called as Base Class Library and it is common for all types of applications i.e. the way you access the Library Classes and Methods in VB.NET will be the same in C#, and it is common for all other languages in .NET.

Ex. System.Data.OleDb

The following are different types of applications that can make use of .net class library.

1. Windows Application.

2. Console Application

3. Web Application.

4. XML Web Services.

5. Windows Services.

**Common Type System (CTS) :-** Common Type System (CTS) describes a set of data types, it ensure that objects written in different .Net supported languages can interact with each other. **For example**, C# has int Data Type and VB.Net has Integer Data Type. Hence a variable declared as int in C# or Integer in vb.net, finally after compilation, use the same structure Int32 from CTS.

**Common Language Specification (CLS)** It is a sub set of CTS and it specifies a set of rules that needs to be satisfied by all language compilers targeting CLR. It helps in cross language inheritance and cross language debugging.

**Garbage Collection :** Garbage collection is the mechanisam to releasing memory from unused objects and components of the application. Language such as C++ do not have any garbage collection system, therefor developers have to manually clean the memory. Visual Basic provides automatically Garbage collection system.

**Option Explicit statement** When Option Explicit statement is set to ON, you must explicitly declare all variables using the Dim or ReDim statements. By default it in ON.

* Option Explicit statement Must be first line in the code

Option Explicit Off

Module VBModule

Sub Main()

'Dim x As Integer 🡪 if Option Explicit On then we must have to declare it

x = 100 ‘if Option Explicit Off then we can directly declare variable like this

Console.WriteLine("Hello World" & x)

End Sub

End Module

**Option Strict Statement** If Option Strict Statement is set to ON, Visual Basic prevents (disallows) implicit narrowing data type conversion.

Option Strict On

Module VBModule

Sub Main()

Dim x As Double

Dim y As Integer

y = 651.72

‘ x = y ‘🡪 throw complete time error if Option Strict On

x = CDbl(y) ' Explicitly converting y to Double

Console.WriteLine("Hello World" & x)

End Sub

End Module