In our code if 2 class names are same then ambiguity situation occurs in execution time. this can be removed by using different name space.one class name can be used in different namespaces.

Ex:- one add method is used in two different classes

Class A – add

Class B –add this can be used to remove ambiguity situation

Class library :-

When Microsoft .net framework is installed they already written some lacks of methods. these methods are stored in windows assembly folder.

Ex :- using system

This is common. This system namespace is root namespace

System.console.writeline (“helloword”)

Here system is namespace & console is class and writeline is the method.

“.” Is the member operator. In system classes are extracted by using “.”in above example In system class is console and in console method is writeline.

Class library exists in 2 forms :-

1.DLL – It is called as dynamic link layer

It is not run by its own it wants application support.it is dynamically bind with that application.In this program runs on classes & methods.

EXE :- executable file

This doesn’t have any support .it is the application. So it doesn’t want any support.

* DLL is not burden to the operating system because it is dynamically bind with application.
* EXE is burden to o.s . o.s creates process to exe because it is has main entry point.

Class libraries are two types :-

* User defined class library
* Base class library

1.user defined class library:- when we want to create programs for 100 application.here logic is same but he application is different .this logic is created as dll.when second application is used this dll is used in that application.(reusability)

Once dll iscreated we can use it in many application.

2.Base class library :-

This is provided by Microsoft

Ex:-using system.data.sqlclient

Or we can use system.data.sqlclient this is directly connects to sql.

In console application

Using system

Using system.collectin.generic

Using system.linq

Using system.text

Namespace:-

we are using namespace

1.to organize classes

2. control the scope of classes in large projects

3.prevent duplicate class names for using multiple vendor's code

4.c# provides the using directive to help shorten namespace.class.method.

.Net FrameWork class library:- .Net framework class library is a library of classes,interferences and value types that provides access to system functionality.The .net frame work provides a set of base class libraries which provides functions and features which can be used with any programming language which implements .net such as visual basic ,c#,c++.

some class libraries :-

System:(it is a root name space) system namespace contains fundamental classes and base classes that defines commonly used data types ,events and event handlers,interfaces,attributes and processing execptions.

System.collections:- system.collection namespace contains lists,stacks,hashables,dictionaries.

(.NET 4.0 now has a new namespace System.Collections.Concurrent.).

After the introduction of the new System.Collections.Concurrent namespace, developers no longer have to worry about locking and unlocking objects. Concurrent collections are meant for thread safety - all the locking mechanism is handled inside the collections.

Sstem.collection.concurrent:-

Concurrent collections allow us to write thread safe code without actually worrying about the technical handling of synchronization.

Performance effective way of handling thread safety as opposed to the old locking mechanism. Concurrent collections have the edge of performance over locking/unlocking objects

System.collections.Generic:- The System.Collections.Generic namespace contains interfaces and classes that define generic collections, which allow users to create strongly typed collections that provide better type safety and performance than non-generic strongly typed collections.

System.collection.object model:-

The System.Collections.ObjectModel namespace contains classes that can be used as collections in the object model of a reusable library.

system.data:-

System.Data namespace is the core of ADO.NET and it contains classes used by all data providers. ADO.NET(activeX data objects) is designed to be easy to use, and Visual Studio provides several wizards and other features that you can use to generate ADO.NET data access code.

The two key components of ADO.NET are Data Providers and DataSet . The Data Provider classes are meant to work with different kinds of data sources. They are used to perform all data-management operations on specific databases. DataSet class provides mechanisms for managing data when it is disconnected from the data source.

The System.Data namespace provides access to classes that represent the ADO.NET architecture. ADO.NET lets you build components that efficiently manage data from multiple data sources.

System.data.linq:-

namespace contains classes that supports interaction with relational database in linq to sql application

System.data.linq.sqlclient:-

namespace provides classes for comunicating with sql server & classes that contain query helper methods.

system.i/o:-

name space contains types that allows reading and writing to files &datastreams & types that provide basic file and directory support.

system.drawing:-

provide access to gdi+(graphics device interface) basic functionalities more advanced f/n is provided in the system.drawing,system.drawing.image & system.drawing.text.

system.threading :- contains types that enable multi thread programing.a child namespace provides types that simplify the work of writing concurrent & asynchronous code.

system.web:-

name space contains types that enable browser/server communication.child name space includes types that support asp.net form authentication(is the act of confirming the truth of an attribute of a single piece of data or entity.),data caching on server,dynamic data,http handlers.

system.windows:-

namespaces contain types used in Windows Presentation Foundation (WPF) applications, including animation clients, user interface controls, data binding, and type conversion. classes that are used to design windows form are located in namespace system.windows.form

DIFFERENCE BETWEEN SERVER SIDE CONTROLS AND CLIENT SIDE CONTROLS:-

* Server side controls runs on server and client side controls runs on client-browser.
* Server side validation can be done using server controls.
* Client side validation can be done using client controls
* For example,Mandatatory fields checking.It can be done at  
  client browser.No need at server side. But the login and password must be validate at server side.
* Server-side controls like ASP:Calendar, ASP:Textbox and any other ASP-prefixed control execute on ASP platform, on the Server.
* Client-side control are the typical HTML textboxes, textareas, etc. because those controls are rendered (and its Javascript code is executed) in the user's browser.
* The client side validation can be done using the JavaScript  
  or VBScript.
* Controls Having runat="server" attribute are serverside
* Controls doesn’t have runat=”server” attribute are client side controls.
* Eg:   
  Client Side: <div id="div1"></div>   
  Server Side: <div id="div1" runat="server"></div>
* Client Side controls are not "directly" accessible on code behind. You can access them with other methods
* Server Side Controls can be directly accessible from code behind.

ARCHITECTURE OF .NET FRAME WORK :-

Layer1:-

c# ,vb.net ,vc++

Layer2:-  
console/windows/web applications

Layer3:-

Ado.net/XML

Layer4:-

BCL/FCL

Layer5:-

CLR

layer6:-

operating syatem(32or64 bit)

Microsoft visual studio:-

LAYER1:-

all these are supporting languages of.net

layer2:-

These are types of application to develop any of the application we need languages with the help of the languages we have to develop the application.

layer3:-

ado.net(active data object),extentionsable markup language.ado.net acts as amediator between frontend application and back end application by using ado.net we can store data permenantly in data base where as xml is temporarly storage of data in database

layer4:

base class library & fcl stands for frame work class library.In others languages we call it as header files in c and c++ and in java we call it has packets cooming to .net we call it has class libraries.class library will be having a assembly which is developed by a programmer

layer5:-

clr is runtime execution engine of .net

layer6:-

o.s is oeprating system we can install either 32 bit or 64 bit o.s after installing this o.s ide(integrated development environment) IDE of .net is microsoft visual studio where we are developing our .net application i.e microsoft visual studio.visual studio which supports languages (c#,c++,javascript) & we can develop applications in ide.