



# .Net Framework

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# System Namespace

- ◆ Provides basic services required by most programs.
- ◆ Important Objects:
  - AppDomain, Array, Console, Convert, DateTime, Environment, EventArgs, Exception, MarshalByRefObject, Math, MulticastDelegate, Object, Random, String, Type
- ◆ Important Interfaces:
  - ICloneable, IComparable, IDisposable
- ◆ Example Project:
  - RandomEvents.sln in folder "RandomEvents"

# System.Collections

- ◆ Provides data structures that are typed to hold objects.
- ◆ Important Objects:
  - ArrayList, BitArray, Hashtable, Queue, SortedList, Stack
- ◆ Important Interfaces:
  - ICollection, IComparer, IDictionary, IDictionaryEnumerator, IEnumerable, IEnumerator, IList
- ◆ Example Project:
  - Collections.sln in folder "Collections"

# System.Collections.Specialized

- ◆ Provides specialized containers and containers for specific types.
- ◆ Important objects:
  - HybridDictionary, ListDictionary, KeysCollection, StringCollection, StringDictionary, StringEnumerator

# System.Collections.Generic

- ◆ Provides data structures with Parameterized type.
- ◆ Important Objects:
  - Comparer<T>, Dictionary<TKey,TValue>, List<T>
- ◆ Important Interfaces:
  - ICollection<T>, IComparer<T>, IDictionary<TKey,TValue>, IEnumerable<T>, IEnumerator<T>, IList<T>
- ◆ Example Project:
  - Collections.sln in folder "Collections"

# System.IO

- ◆ Supports use of Directories and Files
- ◆ Important objects:
  - BinaryReader, BinaryWriter, Directory, DirectoryInfo, File, FileInfo, FileStream, FileSystemInfo, FileSystemWatcher, Path, TextReader, TextWriter
- ◆ Example Projects:
  - Navigate.sln in folder "Navigate"
  - NavigateWithDelegates.sln in folder "NavigateWithDelegates"
  - demoArgs.sln in folder "commandLine"

# System.Text

- ◆ Supports building strings and converting blocks of characters to and from blocks of bytes.
- ◆ Important Classes:
  - Decoder, Encoder, StringBuilder

# System.Net

- ◆ Supports web-related network operations
- ◆ Important Classes:
  - Dns, HttpWebRequest, HttpWebResponse, IPAddress, WebClient, WebProxy, WebRequest, WebResponse



# System.Net.Sockets

- ◆ Supports network programming with sockets.
- ◆ Important Classes:
  - Socket, TcpClient, TcpListener, UdpClient
- ◆ We will be covering these later in the course.

# System.Runtime.Remoting

- ◆ Supports the abstraction of calls to a remote object.
- ◆ Important Classes:
  - RemotingServices, WellKnownClientTypeEntry, WellKnownServiceTypeEntry
- ◆ Important Enumeration:
  - WellKnownObjectMode
- ◆ Remoting will be important for Projects #3 and #4.

# System.Windows.Forms

- ◆ Supports Windows GUI programming.
- ◆ Important Objects:
  - Application, Control, Form, Form.ControlCollection, Menu, MenuItem, MessageBox, NativeWindow, Screen, Timer
  - **Dialogs:**
    - ◆ ColorDialog, OpenFileDialog, FolderBrowserDialog, FontDialog, OpenFileDialog, PrintDialog, SaveFileDialog
  - **Controls:**
    - ◆ Button, CheckBox, ComboBox, DataGridView, DateTimePicker, GroupBox, Label, ListBox, ListView, MonthCalendar, Panel, PictureBox, ProgressBar, RadioButton, RichTextBox, ScrollBar, Splitter, StatusBar, TabControl, TabPage, TextBox, ToolBar, ToolTip, TrackBar, TreeView
- ◆ Example Projects:
  - WinFormDemo.sln in folder "Win Form Demo/WinForm Demo"
  - FileDialog.sln in folder "FileDialogDemo"
  - DirMgr.sln in folder "DirMgr"

# System.Xml

- ◆ Provides support for reading, parsing, and writing XML.
- ◆ Important Classes:
  - XmlDocument, XmlElement, XmlNode, XmlNodeList, XmlNodeReader, XmlTextReader, XmlTextWriter
- ◆ Example Projects:
  - xmlNodeReader, xmlTextWriter, xmlTextWriter

# System.Threading

- ◆ Supports the creation and synchronization of threads.
- ◆ Important Classes:
  - Thread, ThreadPool, Timer, WaitHandle
  - Interlocked, Monitor, Mutex, ReaderWriterLock
- ◆ Example Projects:
  - ThreadDemo1.sln in folder "ThreadDemo1"
  - delegateDemo.sln in folder "delegateDemos"
    - ◆ Project threadDemo.csproj in folder "threadDemo"

# System.Runtime.InteropServices

- ◆ Provides access to native APIs and COM objects.
- ◆ Important Objects:
  - DllImportAttribute
- ◆ Example Project:
  - PrototypeTimer.sln in folder "timing, interop"
  - Unmanaged.sln in folder "unmanaged C++"

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