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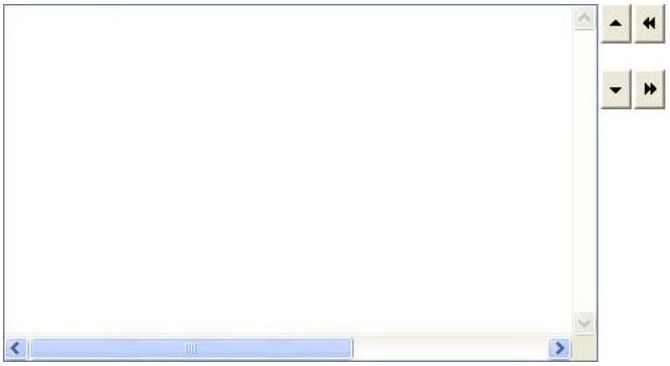
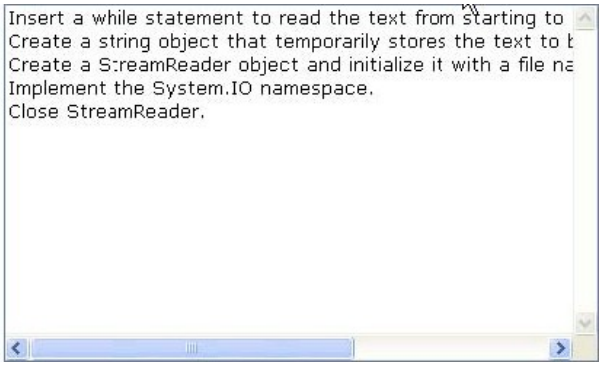
**Exam** : **98-372**

**Title** : Microsoft .NET Fundamentals

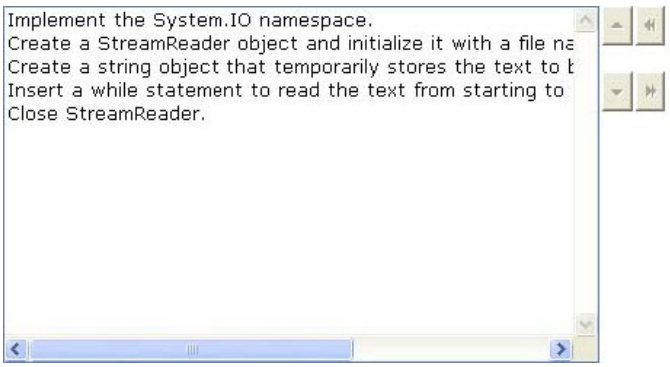
**Version** : Demo

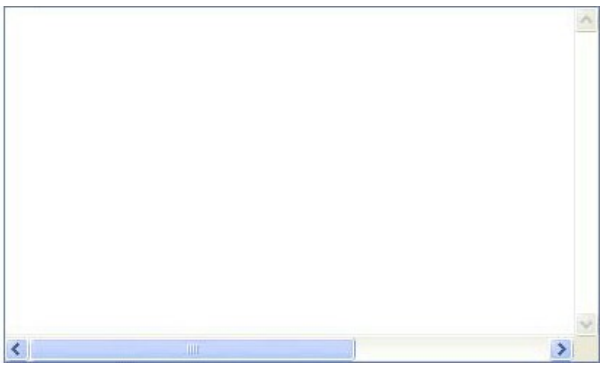
1.What are the steps required to read text from a file?






**Answer:**



**Explanation:**

The steps required to read text from a file are as follows:

1.Implement the System.IO namespace using the following code.

using System.IO;

2.Create a StreamReader class object and initialize it with a file name.

StreamReader sr = new StreamReader("TestFile.txt");

or

StreamReader sr; sr = new StreamReader("TestFile.txt");

3.Create a string object that temporarily stores the text to be read from the file. String line;

4.Insert a while statement to read the text from starting to the end of the file using the ReadLine() method, and display the text.

```
While(line=sr.ReadLine()!=NULL)
{
   Console.WriteLine(line);
}
```

5.Now, close the StreamReader class. sr.Close();

2.Which element is NOT required if you need a custom class to raise an event?

A. A method to add an event handler

B. A class containing event data, derived from EventArgs

C. A delegate for the event

D. A class raising the event

**Answer:** A

**Explanation:**

You do not need a method to add an event handler because that functionality is provided by the .NET Framework.
An event handler is a course of action in program code and it is performed when an event occurs. Therefore, when an event is raised, the code within the event handler is executed. In order to handle an event, the event handler provides two parameters. The first parameter passes a reference to the object that raised the event, and the second parameter passes an object specific to the event that is being handled by the event handler. Event handlers can be created using the Windows Forms Designer as well as during runtime.
**Answer:** C, D, and B are incorrect. If you are required to raise an event in a custom class, you need a class that contains the event data, either EventArgs or a class inheriting from EventArgs, a delegate for the event, and a class raising the event.

3.Which class is used to write primitive types in binary to a stream and supports writing strings in a specific encoding?
A. TextReader class
B. BinaryReader class
C. BinaryWriter class
D. TextWriter class
**Answer:** C
**Explanation:**
The BinaryWriter class is used to write primitive types in binary to a stream and supports writing strings in a specific encoding.
Any derived class can override the methods of the BinaryWriter class to give distinctive character encodings.
**Answer:** A is incorrect. The TextReader class exposes a reader that can read a sequential series of characters.
**Answer:** D is incorrect. The TextWriter class exposes a writer that can write a sequential series of characters.
**Answer:** B is incorrect. The BinaryReader class is used to read primitive data types as binary values in a specific encoding. Characters can be read from the stream using the given encoding system. The default encoding system is equal to New UTF8Encoding.

4.You are creating an application using .NET Framework 4.0. You write the following code segment in the application.

```
class CompGenerate <T>
where T : IComparable
{
   public T t1;
   public T t2;
   public CompGenerate(T _t1, T _t2)
   {
   t1 = _t1;
   t2 = _t2;
   }
```

}
Given the above class declaration, which of the following constructors is correct?
A. CompGenerate<float> gen = new CompGenerate<float>();
B. CompGenerate gen = new CompGenerate(10.125, 2005);
C. CompGenerate<double> gen = new CompGenerate<double>(10.125, 2005);
D. CompGenerate<double, float> gen = new CompGenerate<double, float>(20.125, 10.525);
**Answer:** C
**Explanation:**
The following constructor is correct: CompGenerate<double> gen = new CompGenerate<double>(10.125, 2005); The given class declaration is a generic. Therefore, in order to create a generic, you need to provide a type for each generic type, and that type must meet all constraints.
The .NET Framework version has provided a new feature of generics that introduce to the .NET Framework the concept of type parameters, which make it possible to design classes and methods that postpone the specification of one or more types until the class or method is declared and instantiated by client code. For instance, by using a generic type parameter T, a single class can be written that other client code can exploit without incurring the cost or risk of runtime casts or boxing operations.
The following are the benefits of using generics:
1. Generic types are used to maximize the reusability of code, type safety, and performance of .NET applications.
2. Generics are used to create new generic collection classes contained in the System.Collections.Generic namespace.
3. Custom generics can be created that include generic interfaces, classes, methods, events and delegates.
4. The type information used in a generic data type can be obtained by reflection during runtime.
5. Generics enable the compiler to catch type-casting errors during compilation.
6. Generics do not require casting or boxing, and therefore, it improves runtime performance.
**Answer:** A is incorrect. In order to create an instance of a generic class, you need to provide parameter values. This constructor does not provide parameter values.
**Answer:** D is incorrect. The given class declaration only specifies a single generic type. This constructor provides two generic types.
**Answer:** D is incorrect. The given class declaration only specifies a single generic type. This constructor provides two generic types.
**Answer:** B is incorrect. In order to create an instance of a generic class, you need to provide a type. This constructor does not provide a type.

5.Which class is a byte of data that reads and writes from and to a disk?
A. StringReader class
B. TextReader class
C. XmlTextReader class
D. Stream class
**Answer:** D
**Explanation:**
A stream is a byte of data that reads and writes from and to a disk. The .NET Framework 2.0 provides the System.IO.Stream class as the base class for all the task-related stream data types. To read data in bytes

is to transfer it from a stream into a data structure. To write data in bytes is to transfer it from a data structure into a stream. Streams support seeking, which queries and modifies the current position of data within a stream.
**Answer:** A is incorrect. The StringReader class is used to implement a TextReader that reads from a string. It constructs and initializesa new instance of the StringReader class that reads from the specified string. It consists of the following methods: Close Dispose Peek Read(char[], int, int) Read ReadLine ReadToEnd
**Answer:** C is incorrect. The XmlTextReader class requires fast access to XML data. It does not require reading the entire document into memory via the Document Object Model (DOM). The class is derived from the XmlReader class and implements all the methods defined in the XmlReader class. The following are the functions of the XmlTextReader class: It enforces rules of a well-formed XML document. It does not provide any data validation in a document. It checks the Document Type Definition (DTD) and DocumentType nodes for their well-formed structure, but does not validate these nodes by using the DTD.
**Answer:** B is incorrect. The TextReader class is used to provide a reader that can read a sequential chain of characters. It is the abstract base class of the StreamReader and StringReader classes. These derived classes can be used to open a text file for reading a specified range of characters, or to create a reader based on an existing stream. A derived class must at least implement the Peek and Read methods to make a functional instance of the TextReader class.

6.Namespaces are used a lot in C# programming in two ways.
What are those two ways? Each correct answer represents a part of the solution. Choose two.
A. Use the namespace keyword to declare a namespace
B. Declaring your own namespaces
C. The .NET Framework uses namespaces to organize its many classes
D. Using global namespace
**Answer:** C and B
**Explanation:** First, the .NET Framework uses namespaces to organize its many classes as follows:
System.Console.WriteLine("Hello World!");
Here, System is a namespace and Console is a class in the namespace. The using keyword is used to avoid using the complete name. An example is given below:

```
using System;
//No need to put System before Console
Console.WriteLine("Hello");
Console.WriteLine("World!");
```

Second, declaring your own namespaces can help you to control the scope of class and method names in larger programming projects. The namespace keyword is used to declare a namespace, as in the following example:

```
namespace SampleNamespace
{
   class SampleClass
   {
      public void SampleMethod()
       {
           System.Console.WriteLine("SampleMethod inside SampleNamespace");
```

```
        }
    }
}
```

7.You are creating an application using .NET Framework 4.0. You need to use a last-in, first-out collection in the application.
Which of the following is a last-in, first-out collection?
A. Queue
B. List
C. Stack
D. Hash
**Answer:** C
**Explanation:**
The Stack collection is a last-in, first-out collection. A stack is the Last in First Out (LIFO) abstract data type and data structure. It can have any abstract data type as an element. However, a stack is characterized by only two basic operations: push and pop. The push operation is used to add an item to the top of the stack, hiding any items already on the stack, or initializing the stack if it is empty. The pop operation is used to remove an item from the top of the stack, and returns this value to the caller. A pop either exposes previously hidden items or results in an empty stack. A stack is a restricted data structure, as only a limited number of operations are carried out on it. The nature of the pop and push operations also indicates that the stack elements have a natural order. The elements are removed from the stack in the reverse order to the order of their addition. Consequently, the lower elements are those that have been on the stack the longest.
**Answer:** A is incorrect. The Queue class is a first-in, first-out collection.
**Answer:** B is incorrect. The List class does not support ordered retrieval.
**Answer:** D is incorrect. The Hash class offers evidence about the hash value for an assembly. The hash value signifies a distinct value that corresponds to a specific set of bytes. The hash value designates the assembly without ambiguity, instead of referring to the assembly by name, version, or other designation. Names are subject to collisions in exceptional cases where the identical name is specified to totally different code. Different variations of code can unintentionally be marked with the identical version. However, changing a single bit might result in a very different hash value. The Hash class cannot be inherited.

8.How is an XmlWriter object useful when writing XML data to XML documents? Each correct answer represents a complete solution. Choose all that apply.
A. It ensures that XML data is represented in file format.
B. It ensures that an XML document is well-formed.
C. It allows XML values to be passed as parameters by using CLR types instead of using strings.
D. It ensures that XML characters are legal and contains valid element and attribute names.
**Answer:** B, D, and C
**Explanation:**
The XmlWriter class is used to create streams and write data to XML documents.
An XmlWriter object of the class is useful when writing an XML data to XML documents in the following manner:

An XmlWriter object ensures that XML characters are legal and contains valid element and attribute names.
It ensures that an XML document is well-formed.
It allows encoding of binary data into bytes such as Base64 or BinHex, and writing the resulting data.
It allows XML values to be passed as parameters by using CLR types instead of using strings. This avoids value conversions manually.
It allows multiple XML documents to be written to one output stream.

9.What are the benefits of asymmetric key cryptography? Each correct answer represents a complete solution. Choose all that apply.
A. It is not scalable.
B. Key regeneration is not required when a user's private key is compromised.
C. Asymmetric algorithms provide a key revocation mechanism.
D. The same key pair is required to have effective communication with all the users of the asymmetric cryptosystem.
**Answer:** D and C
**Explanation:**
The benefits of asymmetric key cryptography are as follows:
The benefits of asymmetric key cryptography are as follows:
1. Same key pair is required to have effective communication with all the users of the asymmetric cryptosystem. This makes the algorithm extremely scalable.
2. Asymmetric algorithms provide a key revocation mechanism. This mechanism enables users to be effectively removed from the system by allowing the cancellation of a key.
3. Key regeneration is needed only when a user's private key is compromised. The system administrator invalidates the user's keys if the user leaves the community. During this task, the other keys are not compromised.
4. Asymmetric key encryption provides integrity, authentication, and nonrepudiation. A message signed by the users cannot be repudiated later, if their private key is not shared with the other individuals.
5. Key distribution is a simple process. Users make their public key available to anyone with whom they want to communicate. It is not possible to derive the private key from the public key.

10.You are creating an application using .NET Framework 4.0. You need to provide standard parameters for an event handler delegate.
Which of the following are standard parameters for the event handler delegate? Each correct answer represents a complete solution. Choose all that apply.
A. Event
B. Delegate
C. EventHandler
D. EventArgs
E. Object
**Answer:** E and D
**Explanation:**
The EventHandler delegate exposes a method that will handle an event having no event data. The event model in the .NET Framework is based on having an event delegate that connects an event with its

handler. In order to raise an event, two elements are required, which are as follows: A delegate identifying the method that provides the response to the event A class containing the event data The delegate is a type that defines a signature, i.e., the return value type and parameter list types for a method. The delegate type can be used to declare a variable that can refer to any method with the identical signature as the delegate. The standard signature of an event handler delegate is used to define a method that does not return a value. The first parameter of the method is of type Object and refers to the instance that raises the event, and the second parameter is inherited from type EventArgs and contains the event data. If the event does not generate event data, the second parameter is just an instance of EventArgs. Otherwise, the second parameter is a custom type derived from EventArgs and provides any fields or properties required to contain the event data.
EventHandler is a predefined delegate that purposely represents an event handler method for an event that does not generate data. If the event does generate data, a custom event data type must be supplied, either create a delegate where the type of the second parameter is a custom type, or employ the generic EventHandler<TEventArgs> delegate class and replace the custom type with the generic type parameter. However, in order to associate the event with the method that will handle the event, an instance of the delegate is added to the event. The event handler is invoked whenever the event takes place, unless the delegate is removed. The EventArgs class is the base class for classes that hold event data. The EventArgs class holds no event data. It is used by events that do not pass state information to an event handler whenever an event is raised. If the event handler needs state information, the application must inherit a class from the EventArgs class to hold the data. For instance, the AssemblyLoadEventArgs class holds the data for assembly load events, and holds an Assembly class that describes the loaded assembly.
**Answer:** B is incorrect. The Delegate class is the base class for delegate types. It is not a parameter for event handler delegates.
**Answer:** A is incorrect. The Event class is the base event for event types. It is not a parameter for event handler delegates.

11.How will you define a default value, Yellow, for a simple element of the XML schema?
A. <xs:element name="ColorName" type="xs:string" default="Yellow"/>
B. <xs:element name='ColorName' default='Yellow'/>
C. <xs:element ID='ColorName' default='Yellow'/>
D. <xs:element ID="ColorName" name="Color" type="xs:string" default="Yellow"/>
**Answer:** A
**Explanation:**
In XML schema, a default value is automatically assigned to the element when no other value is specified. The following is the syntax for the default value for a simple element: <xs:element name="element_name" type="data_type" default="value"/> For example: <xs:element name="ColorName" type="xs:string" default="Yellow"/> Here, the default value is "Yellow".
**Answer:** D, B, and C are incorrect. The values should be in double quote (") instead of a single quote (').

12.Consider the following scenario.
Allen has created a Windows Presentation Foundation (WPF) database application using .NET Framework 4.0. The application helps users keep track of their e-Book collection. He identifies that some computers might have many users, such as two roommates might share a computer, with both individuals

using the same application on the same computer to manage their e-Book collections. Allen sets up a database to handle many users without mixing up the collections. Allen has implemented a very trendy system that allows users to alter the colors, fonts, and graphics in the application, giving it a personalized look and feel.
What is the file name of the configuration file created by Visual Studio for Allen's application?
A. Machine.config
B. Setting.config
C. App.config
D. Web.config
**Answer:** C
**Explanation:**
App.config is the file name of the configuration file created by Visual Studio for Allen's application. Since Allen's project is a Windows application, Windows Presentation Foundation (WPF) in this case, Visual Studio will name the file app.config by default. However, a Web application will use web.config. The App.config (Application configuration) file is a .NET configuration file that consists of a chain of settings specific to a Windows application. This file is usually located in the root directory of the application that is being configured according to a particular computer. Generally, the application configuration files override the configuration settings in the Machine.config (Machine configuration) file.
**Answer:** B is incorrect. There is no such .config file as setting.config.
**Answer:** D is incorrect. Web.config is the main settings and configuration file for an ASP.NET Web application. The file is an XML document that defines configuration information regarding the Web application. It contains information that control module loading, security configuration, session state configuration, and application language and compilation settings. Web.config files can also contain application specific items, such as database connection strings. The example of Web.config is as follows: <configuration> <system.web> <customErrors mode="off" defaultRedirect="mycustompage1.htm"/> </system.web> </configuration>
**Answer:** A is incorrect. The Machine.config file controls the configuration settings for the entire computer. It includes settings specific to a computer, such as built-in remoting channels, machine-wide assembly binding, and ASP .NET configuration settings. The configuration system first searches for APIs and ASP .NET settings in the machine.config file. The default configuration of the .NET Framework is declared in the Machine.config file.

13.What is the major advantage of using class libraries?
A. They secure code with a basic encryption system.
B. They deploy quicker than full applications.
C. Easy to organize and maintain your project.
D. They provide easy access to classes, interfaces, and value types.
**Answer:** C
**Explanation:**
Easy to organize and maintain your project. Application extensions can be re-used for numerous projects. A program with a class library will run much faster than one with all the code in the main executable.
The .NET Framework class library is prepared of namespaces. Each namespace holds types that can be used in classes, structures, enumerations, delegates, and interfaces. When a Visual Basic or Visual C# project is created in Visual Studio, the most common base class DLLs (assemblies) are already

referenced. However, if a type has been used that is in a DLL not already referenced, it will be required to add a reference to the DLL. In other words, the .NET Framework class library is a library of classes, interfaces, and value types that offers access to system functionality and is intended to be the base on which .NET Framework applications, components, and controls are built.

14.You are creating an application using .NET Framework 4.0. You need to run numerous lines of code after the application runs, regardless of whether or not an exception occurred.
Which type of block can you use to implement this?
A. Try
B. Catch
C. Managed handler
D. Finally
**Answer:** D
**Explanation:**
You will implement the finally block to implement this. A block of code that appears just after the finally statement is called a finally block. The statements in a finally block are executed immediately after execution of the try/catch block. The finally block is optional. However, each try statement must have at least one catch block or a finally block. When a finally block is defined in a source code, it is guaranteed to execute, regardless of whether or not an exception is thrown.
**Answer:** B and A are incorrect. The try...catch block is used to handle runtime errors. In an event procedure, the try statement is placed just before the statements that might cause an error. The catch statement is placed just before the list of statements that are to be run if a runtime error occurs. For example: try {//Statements that might cause a runtime error. }  catch {//Statements to be run if a runtime error occurs. }
**Answer:** C is incorrect. A managed handler enables a user to call a .NET library to process a request. When a managed handler is added for a specific application, it works properly using .NET Libraries. For security reasons, it should always be kept in mind to make this handler available only to the Web application that requires it. This reduces the possibility of any unauthorized access or other types of attacks.

15.Which method is used to initiate a cleanup of a heap?
A. Collect
B. GCCollectionMode
C. KeepAlive
D. WaitForPendingFinalizers
**Answer:** A
**Explanation:**
The Collect method is used to initiate a cleanup of a heap. This method is part of the GC (garbage collector) class. Garbage collection is a process of reclaiming the memory resources used by an object. An object not referenced by any variable becomes eligible for garbage collection.
**Answer:** D is incorrect. The WaitForPendingFinalizers method is used to suspend the current thread until the thread that is processing the queue of finalizers has emptied that queue.
**Answer:** B is incorrect. GCCollectionMode is an enumeration that is used to indicate the behavior for a forced garbage collection.

**Answer:** C is incorrect. The KeepAlive method is used to ensure that the existence of a reference to an object that is at risk of being prematurely reclaimed by the garbage collector.

16.How is an XmlWriter object useful when writing an XML data to XML documents? Each correct answer represents a complete solution. Choose all that apply.
A. It ensures that an XML document is well-formed.
B. It allows multiple XML documents to be written to one output stream.
C. It allows XML values to be passed as reference by using CLR.
D. It avoids value conversions automatically.
**Answer:** A and B
**Explanation:**
The XmlWriter class is used to create streams and write data to XML documents. An XmlWriter object of the class is useful when writing an XML data to XML documents in the following manner: An XmlWriter object ensures that XML characters are legal and contains valid element and attribute names. It ensures that an XML document is well-formed. It allows encoding of binary data into bytes such as Base64 or BinHex, and writing the resulting data. It allows XML values to be passed as parameters by using CLR types instead of using strings. This avoids value conversions manually. It allows multiple XML documents to be written to one output stream.

17.Which of the following is a means of keeping information a secret and thus protecting the confidentiality, authenticity, and integrity of information?
A. Authentication
B. Authorization
C. Access control
D. Cryptography
**Answer:** D
**Explanation:**
Cryptography is a combination of two Greek words, i.e., kryptos (hidden) and grafo (writing). Research in the field of cryptographic algorithms is referred to as crypto analysis and used to develop algorithms and crack the algorithms of enemies. Cryptography is a means of keeping information secret, and thus, protecting the confidentiality, authenticity, and integrity of information.
**Answer:** A is incorrect. Authentication is a process of verifying the identity of a person, network host, or system process. The authentication process compares the provided credentials with the credentials stored in the database of an authentication server.
**Answer:** B is incorrect. Authorization is the function of specifying access rights to resources, which is related to information security and computer security in general and to access control in particular.
**Answer:** C is incorrect. An access control is a system, which enables an authority to control access to areas and resources in a given physical facility, or computer-based information system. Access control system, within the field of physical security, is generally seen as the second layer in the security of a physical structure. It refers to all mechanisms that control visibility of screens, views, and data within Siebel Business Applications.

18.What are the steps required to use the BufferedStream class?

**Answer:**

**Explanation:**

The steps required to use the BufferedStream class are as follows:

1.Create a FileStream class object as follows: FileStream fs = File.Create(@"d:\temp\test.doc");

2.Create a BufferedStream class object and pass the FileStream object as follows: BufferedStream bs= new BufferedStream(fs);

3.Create a StreamWriter class objects and pass the BufferedStream object as follows: StreamWriter sw = new StreamWriter(bs);

4.Write data to the BufferedStream object as follows: sw.WriteLine("Hello Everybody");

19.Consider the following scenario. Allen has created a Windows Presentation Foundation (WPF) database application using .NET Framework 4.0. The application helps users keep track of their e-Book collection. He identifies that some computers might have many users, such as two roommates might share a computer, with both individuals using the same application on the same computer to manage their e-Book collections. Allen sets up a database to handle many users without mixing up the collections. Allen has implemented a very trendy system that allows users to alter the colors, fonts, and graphics in the application, giving it a personalized look and feel.

How will Allen's WPF database application store the users' color choices?

A. As a setting with user scope

B. As a string in the source code

C. As a setting with machine scope

D. As a setting with application scope

**Answer:** A

**Explanation:**

Allen's WPF database application will store the users' color choices as a setting with user scope. Indicating the scope as "user scope" allows the application to store different settings for each user of the

program. Application settings provide a simple means to store application-scoped and user-scoped settings on a client computer. Using Visual Studio, a setting is defined for a specified property by providing its name, data type, and application/user scope. Related settings can also be placed into named groups for easy use and readability. Once defined, these settings are persisted and read back into memory automatically at runtime. A pluggable architecture makes possible the persistence mechanism to be altered, but by default, the local file system is used. Application settings work by persisting data as XML to different configuration files (.config) related to whether the setting is application/user scoped. In most cases, the application-scoped settings are read-only, as they are program information that need not be overwritten. By contrast, user-scoped settings can be read and written safely at runtime, even if the application runs under partial trust. Settings are stored as XML fragments in configuration files. Application-scoped settings are represented by the <application.Settings> element, and are located in app.exe.config, where app is the name of the main executable file. User-scoped settings are represented by the <userSettings> element and are located in user.config, where user is the username of the person presently running the application. The app.exe.config file must be deployed with the application. The settings architecture will create the user.config files on demand when the first time the application saves settings for that user. A <userSettings> block is defined inside app.exe.config to supply default values for user-scoped settings.

20.Which of the following terms are used in cryptography? Each correct answer represents a complete solution. Choose all that apply.
A. Ciphertext
B. Value
C. Plaintext
D. Cipher
E. Key
**Answer:** C, D, E, and A
**Explanation:**
Cryptography is a technique of encrypting and decrypting messages. When the text is encrypted, it is unreadable by humans but when it is decrypted, it is readable.
The terms used in cryptography are as follows:
Plaintext: This text can be read by a user.
Ciphertext: This text can be converted to a non-readable format.
Encryption: It is the process of creating ciphertext from plaintext.
Decryption: It is the process of converting ciphertext to plaintext.
Cipher: It is an algorithm that is used to encrypt and decrypt the text.
Key: Keys are the elements used in the technology of encrypting and decrypting the text.