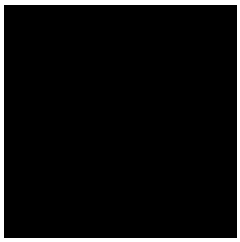
MCSD Programming in C# v1.0 (70-483) - Full Access

Question 101 (Volume B)

You are implementing a method named ProcessReports that performs a long-running task. The ProcessReports() method has the following method signature: public void ProcessReports(List<decimal> values,CancellationTokenSource cts, CancellationToken ct)
If the calling code requests cancellation, the method must perform the following actions:
-> Cancel the long-running task.
Set the task status to TaskStatus.Canceled.



You need to ensure that the ProcessReports() method performs the required actions.
Which code segment should you use in the method body?

A. if (ct.IsCancellationRequested)return;
B. ct.ThrowIfCancellationRequested() ;
C. cts.Cancel();
D. throw new AggregateException();

Answer : B

Next Question

Question 102 (Volume B)

You are developing an application that will be deployed to multiple computers. You set the assembly name.
You need to create a unique identity for the application assembly.
Which two assembly identity attributes should you include in the source code? (Each correct answer presents part of the solution. Choose two.)

A. AssemblyTitleAttribute
B. AssemblyCultureAttribute
C. AssemblyVersionAttribute
D. AssemblyKeyNameAttribute
E. AssemblyFileVersion
F. AssemblyProductAttribute
G. AssemblyDelaySignAttribute
H. AssemblyCompanyAttribute

Answer : BC

Explanation:
The AssemblyName object contains information about an assembly, which you can use to bind to that assembly. An assembly's identity consists of the following:

Simple name -

Version number -

Cryptographic key pair -

Supported culture -

B: AssemblyCultureAttribute -
Specifies which culture the assembly supports.
The attribute is used by compilers to distinguish between a main assembly and a satellite assembly. A main assembly contains code and the neutral culture's resources. A satellite assembly contains only resources for a particular culture, as in [assembly:AssemblyCultureAttribute("de")]

C: AssemblyVersionAttribute -
Specifies the version of the assembly being attributed.
The assembly version number is part of an assembly's identity and plays a key part in binding to the assembly and in version policy.
References:
https://docs.microsoft.com/en-us/dotnet/framework/app-domains/assembly-names

Next Question

Question 103 (Volume B)

You are developing an application.
You need to declare a delegate for a method that accepts an integer as a parameter, and then returns an integer.
Which type of delegate should you use?

A. Action<int>
B. Action<int,int>
C. Func<int,int>
D. Func<int>

Answer : C

Next Question

Question 104 (Volume B)

You are writing the following method (line numbers are included for reference only):

```
01 public T CreateObject<T>()
02
03 {
04    T obj = new T();
05    return obj;
06 }
```

You need to ensure that CreateObject compiles successfully.
What should you do?

A. Insert the following code at line 02: where T : new()
B. Replace line 01 with the following code: public void CreateObject<T>()
C. Replace line 01 with the following code: public Object CreateObject<T>()
D. Insert the following code at line 02: where T : Object

Answer : A

Next Question

Question 105 (Volume B)

You are developing an application that includes the following code segment. (Line numbers are included for reference only.)

```
01 public class ItemBase
02 {
03 }
04 public class Widget : ItemBase
05 {
06 }
07 class Worker
08 {
09   void DoWork(object obj)
10   {
11     Console.WriteLine("In DoWork(object)");
12   }
13   void DoWork(Widget widget)
14   {
15     Console.WriteLine("In DoWork(Widget)");
16   }
17   void DoWork(ItemBase itembase)
18   {
19     Console.WriteLine("In DoWork(ItemBase)");
20   }
21   private void Run()
22   {
23     object o = new Widget();
24     DoWork(o);
25   }
26 }
```

You need to ensure that the DoWork(Widget widget) method runs.
With which code segment should you replace line 24?

A. DoWork((Widget)o);
B. DoWork(new Widget(o));
C. DoWork(o is Widget);

D. DoWork((ItemBase)o);

Answer : A

Next Question

Question 106 (Volume B)

An application uses X509 certificates for data encryption and decryption. The application stores certificates in the Personal certificates collection of the Current
User store. On each computer, each certificate subject is unique.
The application includes a method named LoadCertificate. The LoadCertificate() method includes the following code. (Line numbers are included for reference only.)

```
01 X509Certificate2 LoadCertificate(string searchValue)
02 {
03   var store = new X509Store(StoreName.My, StoreLocation.CurrentUser);
04   store.Open(OpenFlags.ReadOnly | OpenFlags.OpenExistingOnly);
05   var certs = store.Certificates.Find(
06
07    searchValue, false);
08     ...
09 }
```

The LoadCertificate() method must load only certificates for which the subject exactly matches the searchValue parameter value.
You need to ensure that the LoadCertificate() method loads the correct certificates.
Which code segment should you insert at line 06?

A. `X509FindType.FindBySubjectName,`

B. `X509FindType.FindBySubjectKeyIdentifier,`

C. `X509FindType.FindByIssuerName,`

D. `X509FindType.FindBySubjectDistinguishedName,`

A. Option A
B. Option B
C. Option C
D. Option D

Answer : D

Next Question

Question 107 (Volume B)

You are developing a class named Scorecard. The following code implements the Scorecard class. (Line numbers are included for reference only.)

```
01 public class Scorecard
02 {
03   private Dictionary<string, int> players = new Dictionary<string, int>();
04   public void Add(string name, int score)
05   {
06     players.Add(name, score);
07   }
08
09 }
```

You create the following unit test method to test the Scorecard class implementation:

```
[TestMethod]
public void UnitTest1()
{
   Scorecard scorecard = new Scorecard();
   scorecard.Add("Player1", 10);
   scorecard.Add("Player2", 15);
   int expectedScore = 15;
   int actualScore = scorecard["Player2"];
   Assert.AreEqual(expectedScore, actualScore);
}
```

You need to ensure that the unit test will pass.

What should you do?

A. Insert the following code segment at line 08:

```
public int this[string name]
{
  get
  {
    return players[name];
  }
}
```

B. Insert the following code segment at line 08:

```
public Dictionary<string, int> Players
{
  get
  {
    return players;
  }
}
```

C. Replace line 03 with the following code segment:

```
public Dictionary<string, int> Players = new Dictionary<string, int>();
```

D. Insert the following code segment at line 08:

```
public int score(string name)
{
  return players[name];
}
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : A

Next Question

Question 108 (Volume B)

You are developing an application that will parse a large amount of text.
You need to parse the text into separate lines and minimize memory use while processing data.
Which object type should you use?

A. DataContractSerializer
B. StringBuilder
C. StringReader
D. JsonSerializer

Answer : C

Next Question

Question 109 (Volume B)

You are developing code for an application that retrieves information about Microsoft .NET Framework assemblies.
The following code segment is part of the application (line numbers are included for reference only):

```
01 public void ViewMetadata(string filePath)
02 {
03   var bytes = File.ReadAllBytes(filePath);
04
05   ...
06 }
```

You need to insert code at line 04. The code must load the assembly. Once the assembly is loaded, the code must be able to read the assembly metadata, but the code must be denied access from executing code from the assembly.
Which code segment should you insert at line 04?

A. Assembly.ReflectionOnlyLoadFrom(bytes);
B. Assembly.ReflectionOniyLoad(bytes);
C. Assembly.Load(bytes);
D. Assembly.LoadFrom(bytes);

Answer : C

Next Question

Question 110 (Volume B)

You are developing a method named GenerateHash that will create the hash value for a file. The method includes the following code. (Line numbers are included for reference only.)

```
01 public byte[] GenerateHash(string filename, string hashAlgorithm)
02 {
03   var signatureAlgo = HashAlgorithm.Create(hashAlgorithm);
04   var fileBuffer = System.IO.File.ReadAllBytes(filename);
05
06 }
```

You need to return the cryptographic hash of the bytes contained in the fileBuffer variable.

Which code segment should you insert at line 05?

A.
```
var outputBuffer = new byte[fileBuffer.Length];
signatureAlgo.TransformBlock(fileBuffer, 0, fileBuffer.Length, outputBuffer, 0);
signatureAlgo.TransformFinalBlock(fileBuffer, fileBuffer.Length - 1, fileBuffer.Length);
return outputBuffer;
```

B.
```
signatureAlgo.ComputeHash(fileBuffer);
return signatureAlgo.GetHashCode();
```

C.
```
var outputBuffer = new byte[fileBuffer.Length];
signatureAlgo.TransformBlock(fileBuffer, 0, fileBuffer.Length, outputBuffer, 0);
return outputBuffer;
```

D.
```
return signatureAlgo.ComputeHash(fileBuffer);
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : D

Next Question

Question 111 (Volume B)

You are modifying an existing application that manages employee payroll. The application includes a class named PayrollProcessor. The PayrollProcessor class connects to a payroll database and processes batches of paychecks once a week.
You need to ensure that the PayrollProcessor class supports iteration and releases database connections after the batch processing completes.
Which two interfaces should you implement? (Each correct answer presents part of the complete solution. Choose two.)

A. IEquatable
B. IEnumerable
C. IDisposable
D. IComparable

Answer : BC

Explanation:

IEnumerable -

IDisposable Interface -
Exposes an enumerator, which supports a simple iteration over a non-generic collection.
Defines a method to release allocated resources.
The primary use of this interface is to release unmanaged resources.

Next Question

Question 112 (Volume B)

You are developing an application that will read data from a text file and display the file contents.
You need to read data from the file, display it, and correctly release the file resources.
Which code segment should you use?

```
string inputLine;
using (StreamReader reader = new StreamReader("data.txt"))
{
  while ((inputLine = reader.ReadLine()) != null)
  {
    Console.WriteLine(inputLine);
  }
}
```

A.

```
string inputLine;
StreamReader reader = null;
using (reader = new StreamReader("data.txt")) ;
while ((inputLine = reader.ReadLine()) != null)
{
  Console.WriteLine(inputLine);
}
```

B.

```
string inputLine;
StreamReader reader = new StreamReader("data.txt");
while ((inputLine = reader.ReadLine()) != null)
{
  Console.WriteLine(inputLine);
}
```

C.

```
string inputLine;
StreamReader reader = null;
try
{
  reader = new StreamReader("data.txt");
  while ((inputLine = reader.ReadLine()) != null)
  {
    Console.WriteLine(inputLine);
  }
  reader.Close();
  reader.Dispose();
}
finally
{
}
```

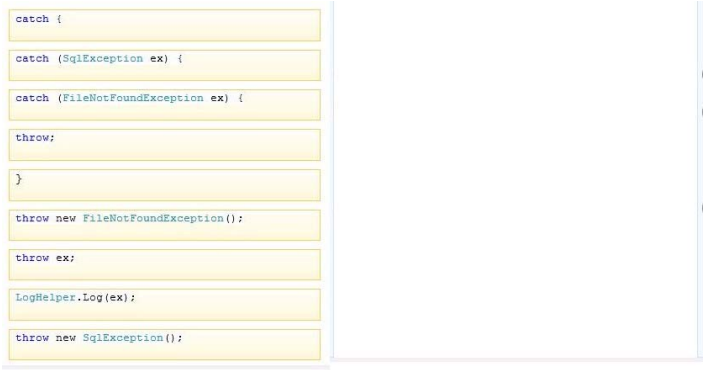
D.

Answer : A

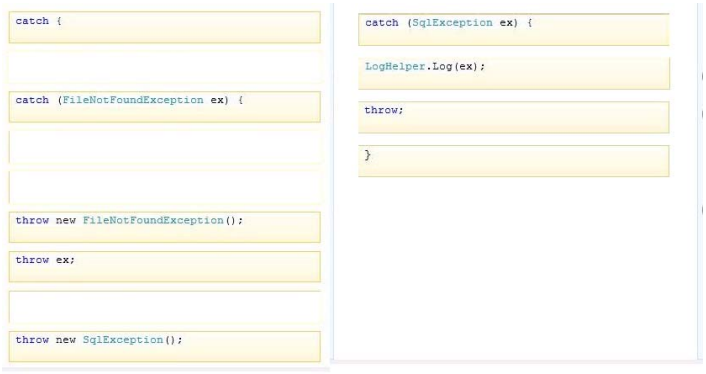
Next Question

Question 113 (Volume B)

DRAG DROP -
You are creating a method that saves information to a database.
You have a static class named LogHelper. LogHelper has a method named Log to log the exception.
You need to use the LogHelper Log method to log the exception raised by the database server. The solution must ensure that the exception can be caught by the calling method, while preserving the original stack trace.
How should you write the catch block? (Develop the solution by selecting and ordering the required code snippets. You may not need all of the code snippets.)
Select and Place:



Answer :



Explanation:
Note:
Catch the database exception, log it, and then rethrow it.
* SQLException
An exception that provides information on a database access error or other errors.

Next Question

Question 114 (Volume B)

HOTSPOT -
You have the following code:

```
public class Alert
{
  public event EventHandler<EventArgs> SendMessage;

  public void Execute()
  {
    SendMessage(this, new EventArgs());
  }
}

public class Subscriber
{
  Alert alert = new Alert();

  public void Subscribe()
  {
    alert.SendMessage += (sender, e) => { Console.WriteLine("First"); };
    alert.SendMessage += (sender, e) => { Console.WriteLine("Second"); };
    alert.SendMessage += (sender, e) => { Console.WriteLine("Third"); };
    alert.SendMessage += (sender, e) => { Console.WriteLine("Third"); };
  }

  public void Execute()
  {
    alert.Execute();
  }

  public static void Main()
  {
    Subscriber subscriber = new Subscriber();
    subscriber.Subscribe();
    subscriber.Execute();
  }
}
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.
Hot Area:

	Yes	No
If there are no subscribers to the SendMessage event, the Execute method on the Alert class will throw an exception.	○	○
When the application runs, "First" will always appear before "Second".	○	○
When the application runs, "Third" will be displayed once.	○	○

Answer :

	Yes	No
If there are no subscribers to the SendMessage event, the Execute method on the Alert class will throw an exception.	●	○
When the application runs, "First" will always appear before "Second".	○	●
When the application runs, "Third" will be displayed once.	○	●

Next Question

Question 115 (Volume B)

HOTSPOT -
You are building a data access layer in an application that contains the following code:

```
public static Object GetTypeDefault(DbType dbDataType)
{
  switch (dbDataType)
  {
    case DbType.Boolean:
      return false;
    case DbType.DateTime:
      return DateTime.MinValue;
    case DbType.Decimal:
      return 0m;
    case DbType.Int32:
      return 0;
    case DbType.String:
      return String.Empty;
    default:
      return null;
  }
}
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

	Yes	No
If dbDataType is DateTime, today's date is returned.	○	○
If dbDatatype is Int64, Null is returned.	○	○
If dbDatatype is Double, 0 is returned.	○	○

Answer :

	Yes	No
If dbDataType is DateTime, today's date is returned.	○	●
If dbDatatype is Int64, Null is returned.	●	○
If dbDatatype is Double, 0 is returned.	○	●

Next Question

Question 116 (Volume B)

HOTSPOT -
You have the following code:

```
public class Customer
{
    private int CustomerId     { get; set; }
    public string CompanyName { get; set; }
    protected string State       { get; set; }
    public string City        { get; set; }

    public Customer(int customerId, string companyName, string state, string city)
    {
        CustomerId = customerId;
        CompanyName = companyName;
        State = state;
        City = city;
    }
    public  Customer() {}
}
public interface ICustomer
{
    string GetCustomerById(int customerId);
    string GetCustomerByDate(DateTime dateFrom, DateTime dateTo);
}

public class MyCustomerClass : Customer, ICustomer
{
    public string Zip { get; set; }
    public string Phone { get; set; }
    public string GetCustomerById(int customerId)
    {
      ...
    }
    public string GetCustomerByDate(DateTime dateFrom, DateTime dateTo)
    {
      …
    }
}
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.
Hot Area:

	Yes	No
All of the objects derived from MyCustomerClass have CustomerID as a property.	○	○
All of the objects derived from MyCustomerClass have CompanyName as a property.	○	○
All of the objects derived from MyCustomerClass have State as a property.	○	○

Answer :

	Yes	No
All of the objects derived from MyCustomerClass have CustomerID as a property.	○	●
All of the objects derived from MyCustomerClass have CompanyName as a property.	●	○
All of the objects derived from MyCustomerClass have State as a property.	●	○

Explanation:
Note:
CustomerID is declared private.
CompanyName is declted protected.
State is declared protected.
The protected keyword is a member access modifier. A protected member is accessible from within the class in which it is declared, and from within any class derived from the class that declared this member.

Next Question

Question 117 (Volume B)

HOTSPOT -
You have the following code (line numbers are included for reference only):

```
01 DataTable dataTable;
02 string connString = "Data Source=192.168.1.100;Initial Catalog=Database1;User Id=sa;Password=p@ssw0rd";
03 using (SqlConnection sqlConn = new SqlConnection(connString))
04 {
05   sqlConn.Open();
06   using (SqlCommand sqlCmd = new SqlCommand())
07   {
08     sqlCmd.Connection = sqlConn;
09     sqlCmd.CommandType = CommandType.StoredProcedure;
10     sqlCmd.CommandText = "p_Procedure1";
11     using (SqlDataAdapter adapter = new SqlDataAdapter(sqlCmd))
12     {
13       using (dataTable = new DataTable())
14       {
15         adapter.Fill(dataTable);
16       }
17     }
18   }
19 }
```

To answer, complete each statement according to the information presented in the code.
Hot Area:

The database connection gets closed at line... [15 / 16 / 17 / 18 / 19]

The adapter object gets disposed at line.. [15 / 16 / 17 / 18 / 19]

Answer :

The database connection gets closed at line... 19

The adapter object gets disposed at line.. 17

Next Question

Question 118 (Volume B)

You need to create a method that can be called by using a varying number of parameters.
What should you use?

A. Method overloading
B. Derived classes
C. Named parameters
D. Enumeration
E. Interface
F. Lambda expressions

Answer : A

Explanation:
Method overloading means creating two or more methods on the same type that differ only in the number or type of parameters but have the same name.
Overloading is one of the most important techniques for improving usability, productivity, and readability of reusable libraries. Overloading on the number of parameters makes it possible to provide simpler versions of constructors and methods. Overloading on the parameter type makes it possible to use the same member name for members performing identical operations on a selected set of different types.

Next Question

Question 119 (Volume B)

You are developing an application.
The application contains the following code segment (line numbers are included for reference only):

```
01  ArrayList array1 = new ArrayList();
02  int var1 = 10;
03  int var2;
04  array1.Add(var1);
05  var2 = array1[0];
```

When you run the code, you receive the following error message: "Cannot implicitly convert type 'object' to 'int'. An explicit conversion exists (are you missing a cast?)."
You need to ensure that the code can be compiled.
Which code should you use to replace line 05?

A. var2 = ((List<int>) array1) [0];
B. var2 = array1[0].Equals(typeof(int));
C. var2 = Convert.ToInt32(array1[0]);
D. var2 = ((int[])array1)[0];
E. var2 = int.Parse(array1[0]);

Answer : C

Next Question

Question 120 (Volume B)

You have the following code (line numbers are included for reference only):

```
01 public class Program
02 {
03   private static System.Diagnostics.Stopwatch _execTimer =
04    new System.Diagnostics.Stopwatch();
05   public static void Delay(int delay)
06   {
07     Thread.Sleep(delay);
08   }
09   public static void LogLongExec(string msg)
10   {
11     if (_execTimer.Elapsed.Seconds >= 5)
12     throw new Exception(
13      string.Format("Execution is too long > {0} > {1}",
14      msg, _execTimer.Elapsed.TotalMilliseconds));
15   }
16   public static void Main()
17   {
18     _execTimer.Start();
19     try
20     {
21       Delay(10);
22       LogLongExec("Delay(10)");
23       Delay(5000);
24       LogLongExec("Delay(5000)");
25     }
26     catch (Exception ex)
27     {
28
29     }
30   }
31 }
```

You need to ensure that if an exception occurs, the exception will be logged.
Which code should you insert at line 28?

A.
```
System.Diagnostics.TraceSource trace = new TraceSource("./Trace.log");
trace.TraceEvent(TraceEventType.Error, ex.HResult, ex.Message);
```

B.
```
using (System.Diagnostics.XmlWriterTraceListener log1 =
 new XmlWriterTraceListener("./Error.log"))
{
  log1.TraceEvent(
   new TraceEventCache(), ex.Message, TraceEventType.Error, ex.HResult);
  log1.Flush();
}
```

C.
```
System.Diagnostics.EventInstance errorEvent =
 new System.Diagnostics.EventInstance(ex.HResult, 1, EventLogEntryType.Error);
System.Diagnostics.EventLog.WriteEvent("MyAppErrors", errorEvent, ex.Message);
```

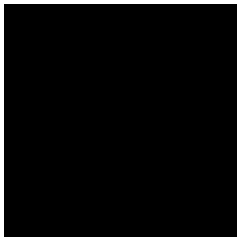
D.
```
EventLog logEntry = new EventLog();
logEntry.Source = "Application";
logEntry.WriteEntry(ex.Message, EventLogEntryType.Error);
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : B

Explanation:

XmlWriterTraceListener -



Directs tracing or debugging output as XML-encoded data to a TextWriter or to a Stream, such as a FileStream.
-> TraceListener.TraceEvent Method (TraceEventCache, String, TraceEventType, Int32)
Writes trace and event information to the listener specific output.
Syntax:
[ComVisibleAttribute(false)]
public virtual void TraceEvent(
TraceEventCache eventCache,
string source,
TraceEventType eventType,
int id
)

Next Question

Question 121 (Volume B)

You write the following method (line numbers are included for reference only):

```
01 public static List<string> TestIfWebSite(string url)
02 {
03   const string pattern = @"http://(www\.)?([^\.]+)\.com";
04   List<string> result = new List<string>();
05
06   MatchCollection myMatches = Regex.Matches(url, pattern);
07 ...
08   return result;
09 }
```

You need to ensure that the method extracts a list of URLs that match the following pattern:
@http://(www\.)?([^\.]+)\.com;
Which code should you insert at line 07?

A
```
result = (List<string>) myMatches.SyncRoot;
```

B.
```
result = (from System.Text.RegularExpressions.Match m in myMatches
  where m.Value.Contains(pattern)
  select m.Value).ToList<string>();
```

C.
```
foreach (Match currentMatch in myMatches)
  result.Add(currentMatch.Groups.ToString());
```

D.
```
foreach (Match currentMatch in myMatches)
  result.Add(currentMatch.Value);
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : D

Explanation:
-> MatchCollection
Represents the set of successful matches found by iteratively applying a regular expression pattern to the input string.
The collection is immutable (read-only) and has no public constructor. The Regex.Matches method returns a MatchCollection object.
-> List<T>.Add Method
Adds an object to the end of the List<T>.

Next Question

Question 122 (Volume B)

You are creating a class library that will be used in a web application.
You need to ensure that the class library assembly is strongly named.
What should you do?

A. Use the gacutil.exe command-line tool.
B. Use the xsd.exe command-line tool.
C. Use the aspnet_regiis.exe command-line tool.
D. Use assembly attributes.

Answer : D

Explanation:
The Windows Software Development Kit (SDK) provides several ways to sign an assembly with a strong name:
-> Using the Assembly Linker (Al.exe) provided by the Windows SDK.
-> Using assembly attributes to insert the strong name information in your code. You can use either the AssemblyKeyFileAttribute or the AssemblyKeyNameAttribute, depending on where the key file to be used is located.
-> Using compiler options such /keyfile or /delaysign in C# and Visual Basic, or the /KEYFILE or /DELAYSIGN linker option in C++. (For information on delay signing, see Delay Signing an Assembly.)
Note:
A strong name consists of the assembly's identityâ€"its simple text name, version number, and culture information (if provided)â€"plus a public key and a digital signature. It is generated from an assembly file (the file that contains the assembly manifest, which in turn contains the names and hashes of all the files that make up the assembly), using the corresponding private key. MicrosoftÂ® Visual StudioÂ® .NET and other development tools provided in the .NET Framework SDK can assign strong names to an assembly. Assemblies with the same strong name are expected to be identical.

Next Question

Question 123 (Volume B)

You need to store the values in a collection.
The solution must meet the following requirements:
-> The values must be stored in the order that they were added to the collection.
-> The values must be accessed in a first-in, first-out order.
Which type of collection should you use?

A. SortedList
B. Queue
C. ArrayList
D. Hashtable

Answer : method.B

Next Question

Question 124 (Volume B)

An application is throwing unhandled NullReferenceException and FormatException errors. The stack trace shows that the exceptions occur in the GetWebResult()
The application includes the following code to parse XML data retrieved from a web service. (Line numbers are included for reference only.)

```
01 int GetWebResult(XElement result)
02 {
03   return int.Parse(result.Element("response").Value);
04 }
```

You need to handle the exceptions without interfering with the existing error-handling infrastructure.
Which two actions should you perform? (Each correct answer presents part of the solution. Choose two.)

A. Replace line 03 with the following code segment:

```
int returnValue;
int.TryParse(result.Element("response").Value, out returnValue);
return returnValue;
```

B. Replace line 03 with the following code segment:

```
return int.ParseOptions.Safe(result.Element("response").Value);
```

C. Register an event handler with AppDomain.CurrentDomain.UnhandledException.

D. Use a **try...catch** statement to handle the exceptions in the **GetWebResult()** method.

A. Option A
B. Option B
C. Option C
D. Option D

Answer : AC

Explanation:
A: The TryParse method is like the Parse method, except the TryParse method does not throw an exception if the conversion fails. It eliminates the need to use exception handling to test for a FormatException in the event that s is invalid and cannot be successfully parsed.

C: UnhandledException event handler
If the UnhandledException event is handled in the default application domain, it is raised there for any unhandled exception in any thread, no matter what application domain the thread started in. If the thread started in an application domain that has an event handler for UnhandledException, the event is raised in that application domain.

Next Question

Question 125 (Volume B)

You are developing an application that retrieves patient data from a web service. The application stores the JSON messages returned from the web service in a string variable named PatientAsJson.
The variable is encoded as UTF-8. The application includes a class named Patient that is defined by the following code:

```
public class Patient
{
  public bool IsActive { get; set; }
  public string Name { get; set; }
  public int Id { get; set; }
}
```

You need to populate the Patient class with the data returned from the web service.
Which code segment should you use?

```
DataContractJsonSerializer jsSerializer = new DataContractJsonSerializer(typeof(Patient));
using (MemoryStream stream = new MemoryStream(Encoding.UTF8.GetBytes(PatientAsJson)))
{
  Patient patientFromJson = (Patient)jsSerializer.ReadObject(stream);
}
```

A.

```
XmlSerializer xmlSerializer = new XmlSerializer(typeof(Patient));
using (MemoryStream stream = new MemoryStream(Encoding.UTF8.GetBytes(PatientAsJson)))
{
  Patient patientFromJson = (Patient)xmlSerializer.Deserialize(stream);
}
```

B.

```
DataContractJsonSerializer jsSerializer = new DataContractJsonSerializer(typeof(Patient));
using (MemoryStream stream = new MemoryStream(Encoding.UTF8.GetBytes(PatientAsJson)))
{
  Patient patientFromJson = new Patient();
  jsSerializer.WriteObject(stream, patientFromJson);
}
```

C.

```
IFormatter formatter = new BinaryFormatter();
Stream stream = new FileStream(PatientAsJson, FileMode.Open, FileAccess.Read, FileShare.Read);
Patient patientFromJson = (Patient)formatter.Deserialize(stream);
stream.Close();
```

D.

Answer : A

Next Question

Question 126 (Volume B)

You are developing a game that allows players to collect from 0 through 1000 coins. You are creating a method that will be used in the game. The method includes the following code. (Line numbers are included for reference only.)

method includes the following code. (Line numbers are included for reference only.)
01 public string FormatCoins(string name, int coins)
02 {
04 }
The method must meet the following requirements:
-> Return a string that includes the player name and the number of coins.
-> Display the number of coins without leading zeros if the number is 1 or greater.
-> Display the number of coins as a single 0 if the number is 0.
You need to ensure that the method meets the requirements.
Which code segment should you insert at line 03?

A.
```
return String.Format("Player {0}, collected {1} coins", name, coins.ToString("###0"));
```

B.
```
return String.Format("Player {0} collected {1:000#} coins.", name, coins);
```

C.
```
return String.Format("Player {name} collected {coins.ToString('000')} coins");
```

D.
```
return String.Format("Player {1} collected {2:D3} coins.", name, coins);
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : D

Next Question

Question 127 (Volume B)

You have an application that will send confidential information to a Web server.
You need to ensure that the data is encrypted when it is sent across the network.
Which class should you use?

A. CryptoStream
B. AuthenticatedStream
C. PipeStream
D. NegotiateStream

Answer : A

Next Question

Question 128 (Volume B)

You are developing a class named EmployeeRoster. The following code implements the EmployeeRoster class. (Line numbers are included for reference only.)

```
01 public class EmployeeRoster
02 {
03   private Dictionary<string, int> employees = new Dictionary<string, int>();
04   public void Add(string name, int salary)
05   {
06     employees.Add(name, salary);
07   }
08
09 }
```

You create the following unit test method to test the EmployeeRoster class implementation:

```
public void UnitTest1()
{
  EmployeeRoster employeeRoster = new EmployeeRoster();
  employeeRoster.Add("David Jones", 50000);
  employeeRoster.Add("Phyllis Harris", 75000);
  int expectedSalary = 75000;
  int actualSalary = employeeRoster["Phyllis Harris"];
  Assert.AreEqual(expectedSalary, actualSalary);
}
```

You need to ensure that the unit test will pass.
What should you do?

Insert the following code segment at line 08:

```
public Dictionary<string, int> Employees
{
  get
  {
    return employees;
  }
}
```

A.

Insert the following code segment at line 08:

```
public int this[string name]
{
  get
  {
    return employees[name];
  }
}
```

B.

Replace line 03 with the following code segment:

```
public Dictionary<string, int> Employees = new Dictionary<string, int>();
```

C.

Insert the following code segment at line 08:

```
public int salary(string name)
{
  return employees[name];
}
```

D.

Answer : B

Next Question

Question 129 (Volume B)

You are developing an application that produces an executable named MyApp.exe and an assembly named MyApp.dll.
The application will be sold to several customers.
You need to ensure that enough debugging information is available for MyApp.exe, so that if the application throws an error in a customer's environment, you can debug the error in your own development environment.
What should you do?

A. Digitally sign MyApp.dll.
B. Produce program database (PDB) information when you compile the code.
C. Compile MyApp.exe by using the /unsafe compiler option.
D. Initializes a new instance of the AssemblyDelaySignAttribute class in the MyApp.dll constructor.

Answer : B

Next Question

Question 130 (Volume B)

You are modifying an existing banking application.
The application includes an Account class and a Customer class. The following code segment defines the classes.

```
class Account
{
  public Account(decimal balance, int term, decimal rate)
  {
    Term = term;
    Balance = balance;
    Rate = rate;
  }
  public decimal Balance { get; set; }
  public decimal Rate { get; set; }
  public int Term { get; set; }
}

class Customer
{
  public Customer(string firstName, string lastName, Collection<Account> accounts)
  {
    FirstName = firstName;
    LastName = lastName;
    AccountCollection = accounts;
  }
  public string FirstName { get; set; }
  public string LastName { get; set; }
  public Collection<Account> AccountCollection { get; set; }
}
```

You populate a collection named customerCollection with Customer and Account objects by using the following code segment:

```
Collection<Customer> customerCollection = new Collection<Customer>();
Collection<Account> customerAccounts = new Collection<Account>();
customerAccounts.Add(new Account(1000m, 2, 0.025m));
customerAccounts.Add(new Account(3000m, 4, 0.045m));
customerAccounts.Add(new Account(5000m, 6, 0.045m));
customerCollection.Add(new Customer("David", "Jones", customerAccounts));
```

You create a largeCustomerAccounts collection to store the Account objects by using the following code segment:
Collection<Account> largeCustomerAccounts = new Collection<Account> ();
All accounts with a Balance value greater than or equal to 1,000,000 must be tracked.
You need to populate the largeCustomerAccounts collection with Account objects.
Which code segment should you use?

A.
```
foreach (Customer customer in customerCollection)
{
  foreach (Account account in customer.AccountCollection)
  {
    if (account.Balance >= 1000000m)
    {
      customer.AccountCollection.Add(account);
    }
  }
}
```

B.
```
foreach (Account customer in customerCollection)
{
  foreach (Account account in largeCustomerAccounts)
  {
    if (account.Balance >= 1000000m)
    {
      largeCustomerAccounts.Add(account);
    }
  }
}
```

C.
```
foreach (Customer customer in customerCollection)
{
  foreach (Account account in customer.AccountCollection)
  {
    if (account.Balance >= 1000000m)
    {
      largeCustomerAccounts.Add(account);
    }
  }
}
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : C

Next Question

Question 131 (Volume B)

You have a C# application named App1 that invokes a method in an external assembly named Assembly1. Assembly1 is written in C++ and is natively compile by using a debug build.
When you debug App1, you do not see any debug information for Assembly1.
You need to ensure that when you debug App1, you see the debug information for Assembly1.
What should you do?

A. On the Debugging page of the configuration properties for the C++ project, set the Debugger Type to Native Only.
B. On the Debugging page of the configuration properties for the C++ project, set the Debugger Type to Mixed.
C. On the Debug page of the project properties for App1, click Enable native code debugging.
D. In the project properties for App1, set the working directory to the same directory as Assembly1.

Answer : B

Reference:
https://msdn.microsoft.com/en-us/library/kcw4dzyf.aspx

Next Question

Question 132 (Volume B)

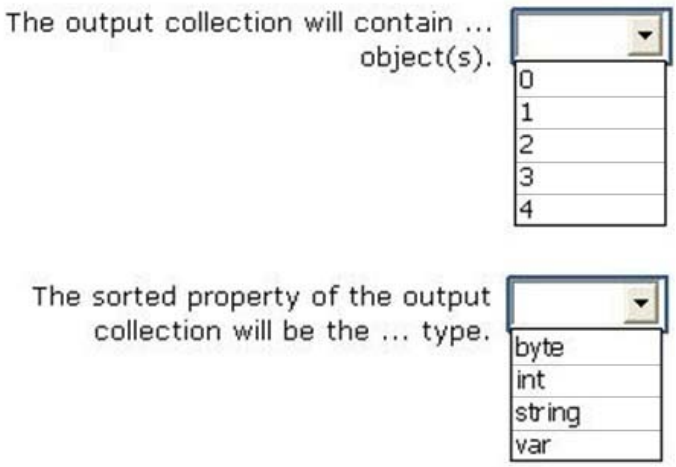
HOTSPOT -
You define a class by using the following code:

```
public class Department
{
  public int Id { get; set; }
  public string Name { get; set; }
  public string Manager { get; set; }
  public int BuildingId { get; set; }
}
```

You create a collection by using the following code:

```
Department[] departments =
{
  new Department
   { Id = 1, Name = "Accounting", Manager = "User1", BuildingId = 15 },
  new Department
   { Id = 2, Name = "Sales", Manager = "User2", BuildingId = 3 },
  new Department
   { Id = 3, Name = "IT", Manager = "User3" , BuildingId = 15},
  new Department
   { Id = 4, Name = "Marketing", Manager = "User4", BuildingId = 3}
};
var output =
  from d in departments
  group d by d.BuildingId into dp
  select new { sorted = dp.Key, Department = dp };
```

To answer, complete each statement according to the information presented in the code.
Hot Area:



Answer :

The output collection will contain ... object(s).

- 0
- 1
- 2
- 3
- 4

The sorted property of the output collection will be the ... type.

- byte
- int
- string
- var

Next Question

Question 133 (Volume B)

DRAG DROP -
You are developing a C# console application that outputs information to the screen. The following code segments implement the two classes responsible for making calls to the Console object:

```
abstract class BaseLogger
{
  public virtual void Log(string message)
  {
    Console.WriteLine("Base: " + message);
  }
  public void LogCompleted()
  {
    Console.WriteLine("Completed");
  }
}

class Logger : BaseLogger
{
  public override void Log(string message)
  {
    Console.WriteLine(message);
  }
  public new void LogCompleted()
  {
    Console.WriteLine("Finished");
  }
}
```

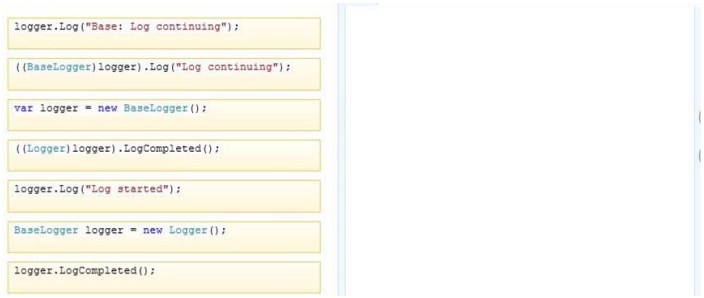
When the application is run, the console output must be the following text:

Log started -

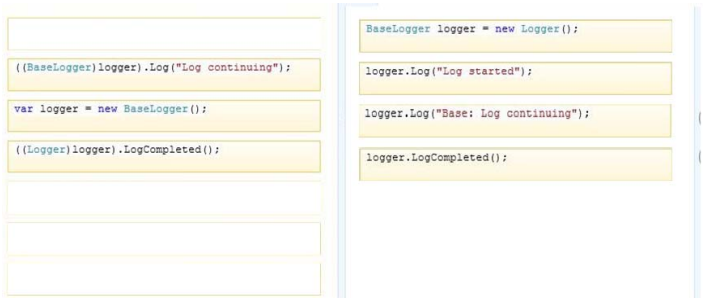
Base: Log continuing -

Finished -
You need to ensure that the application outputs the correct text.
Which four lines of code should you use in sequence? To answer, move the appropriate lines of code from the

list of lines of code to the answer area and arrange them in the correct order.
Select and Place:



Answer :



Explanation:
Note:
-> The abstract keyword enables you to create classes and class members that are incomplete and must be implemented in a derived class.
-> An abstract class cannot be instantiated. The purpose of an abstract class is to provide a common definition of a base class that multiple derived classes can share.

Next Question

Question 134 (Volume B)

You are creating an application that reads from a database.
You need to use different databases during the development phase and the testing phase by using conditional compilation techniques.
What should you do?

A. Configure the assembly metadata to use the pre-existing public key for the assembly identity by using the AssemblySignatureKeyAttribute attribute.
B. Disable the strong-name bypass feature of Microsoft .NET Framework in the registry.
C. Configure the Define DEBUG constant setting in Microsoft Visual Studio.
D. Decorate the code by using the [assembly:AssemblyDelaySignAttribute(true)] attribute.

Answer : C

Explanation:
Use one debug version to connect to the development database, and a standard version to connect to the live database.

Next Question

Question 135 (Volume B)

You are troubleshooting an application that uses a class named FullName. The class is decorated with the DataContractAttribute attribute. The application includes the following code. (Line numbers are included for reference only.)

```
01 class Program
02 {
03   MemoryStream WriteName(Name name)
04   {
05     var ms = new MemoryStream();
06     var binary = XmlDictionaryWriter.CreateBinaryWriter(ms);
07     var ser = new DataContractSerializer(typeof(FullName));
08     ser.WriteObject(binary, name);
09
10     return ms;
11   }
12 }
```

You need to ensure that the entire FullName object is serialized to the memory stream object.
Which code segment should you insert at line 09?

A. binary.WriteEndDocument();
B. binary.WriteEndDocumentAsync();
C. binary.WriteEndElementAsync();
D. binary.Flush();
E. binary.WriteEndElement();
F. ms.Close();
G. ms.Flush();

Answer : D

Explanation:
Flush() flushes whatever is in the buffer to the underlying streams and also flushes the underlying stream.
We should flush the binary stream with the binary.Flush() command.o
Example:
By default, the DataContractSerializer encodes objects into a stream using a textual representation of XML. However, you can influence the encoding of the XML by passing in a different writer. The sample creates a binary writer by calling CreateBinaryWriter. It then passes the writer and the record object to the serializer when it calls WriteObjectContent. Finally, the sample flushes the writer.
MemoryStream stream2 = new MemoryStream();

XmlDictionaryWriter binaryDictionaryWriter = XmlDictionaryWriter.CreateBinaryWriter(stream2); serializer.WriteObject(binaryDictionaryWriter, record1); binaryDictionaryWriter.Flush();
References:
https://docs.microsoft.com/en-us/dotnet/api/system.xml.xmldictionarywriter https://docs.microsoft.com/en-us/dotnet/framework/wcf/samples/datacontractserializer-sample

Next Question

Question 136 (Volume B)

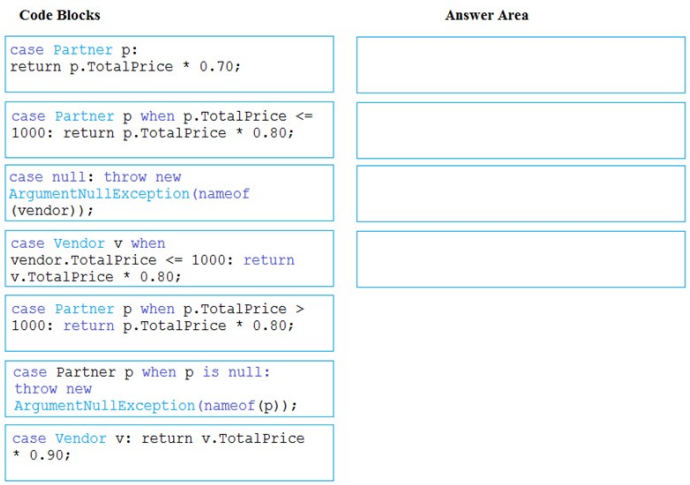
DRAG DROP -
You have the following C# code.

```
public class Vendor
{
public double TotalPrice {get;set;}
}
public class Partner : Vendor{}
```

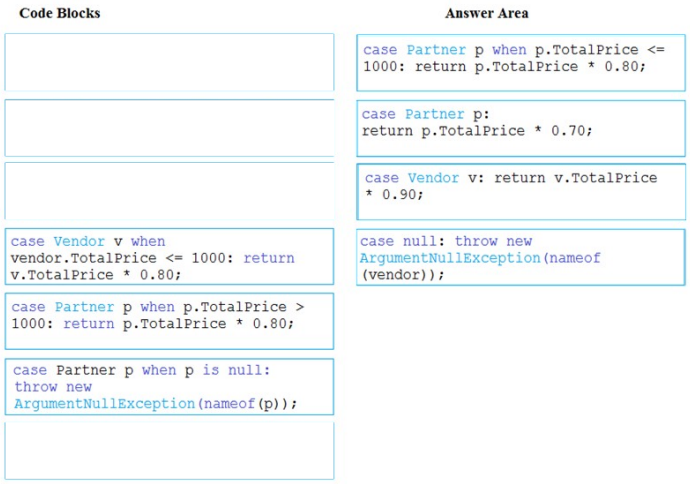
You create a function named getDiscount that has the following method signature. (Line numbers are included for reference only.)

```
01 public state double getDiscount(Vendor vendor)
02 {
03 switch(vendor)
04 {
05
06 }
07 }
```

You need to modify getDiscount to return the amount of the discount. The solution must meet the following requirements:
-> If the vendor object is a type of Partner object and TotalPrice is greater than 1,000, the discount must be 30 percent.
-> If the vendor object is a type of Partner object and TotalPrice is less than or equal to 1,000 the discount must be 20 percent
-> If the vendor object is NOT a type of Partner object, the discount must be 10 percent
-> If the vendor object is null, an exception must be raised
Which four code blocks should you use to complete the switch statement at line 05? To answer, move the appropriate code blocks from the list of code blocks to the answer area and arrange them in the correct order.
NOTE: Each correct selection is worth one point.
Select and Place:



Answer :



References:
https://docs.microsoft.com/en-us/dotnet/csharp/pattern-matching#when-clauses-in-case-expressions

Next Question

Question 137 (Volume B)

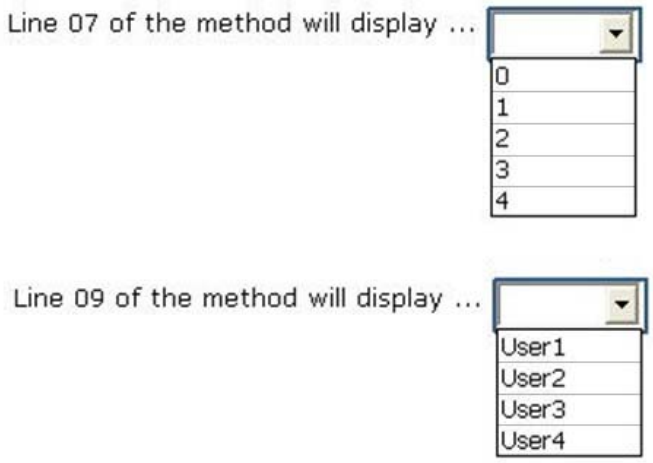
HOTSPOT -
You define a class by using the following code:

```
public class Class1 : IComparable<Class1>
{
  public Int32 ID { get; set; }
  public String Name { get; set; }
  public int CompareTo(Class1 other)
  {
    if(ID == other.ID) return 0;
    else return ID.CompareTo(other.ID);
  }
}
```

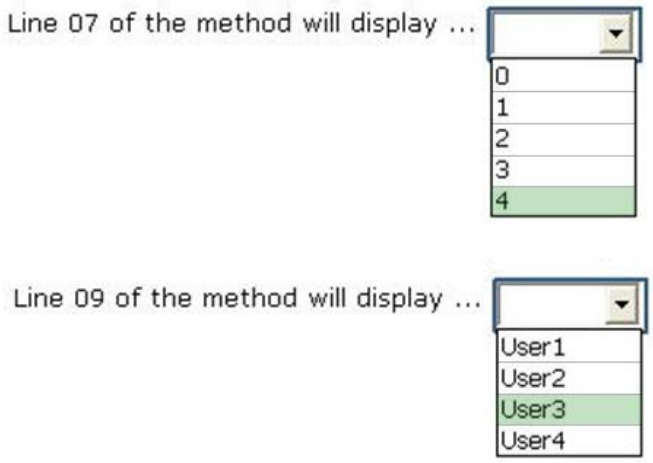
You write the following code for a method (line numbers are included for reference only):

```
01 List<Class1> list = new List<Class1>() {
02   new Class1() { ID = 5, Name = "User1" },
03   new Class1() { ID = 6, Name = "User2" },
04   new Class1() { ID = 3, Name = "User3" },
05   new Class1() { ID = 4, Name = "User4" }
06 };
07 Console.WriteLine(list.Count);
08 list.Sort();
09 Console.WriteLine(list[0].Name);
```

Use the drop-down menus to select the answer choice that completes each statement based on the information presented in the code.
NOTE: Each correct selection is worth one point.
Hot Area:



Answer :



Next Question

Question 138 (Volume B)

You are creating a console application named App1.
App1 will validate user input for order entries.
You are developing the following code segment (line numbers are included for reference only):

```
01 Console.Write("Enter unit price: ");
02 string price = Console.ReadLine();
03
04   Console.WriteLine("Valid price");
05 else
06   Console.WriteLine("Invalid price")
```

You need to complete the code segment.

The solution must ensure that prices are positive and have two decimal places.
Which code should you insert at line 03?

A.
```
if (!Regex.IsMatch(price, @"^(-)?\d+(\.\d\d)?$"))
```

B.
```
if (Regex.IsMatch(price, @"^(-)?\d+(\.\d\d)?$"))
```

C.
```
Regex reg = new Regex(@"^\d+(\.\d\d)?$");
if (reg.IsMatch(price))
```

D.
```
Regex reg = new Regex(@"^(-)?\d+(\.\d\d)?$");
if (reg.IsMatch(price))
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : C

Explanation:
Regex.IsMatch Method (String, String)
Indicates whether the specified regular expression finds a match in the specified input string.
Syntax:
public static bool IsMatch(
string input,
string pattern
)

Next Question

Question 139 (Volume B)

You have the following code:

```
List<Int32> items = new List<int>() {
  100,
  95,
  80,
  75,
  95
};
```

You need to retrieve all of the numbers from the items variable that are greater than 80.
Which code should you use?

A.
```
var result = from i in items
  where i > 80
  select i;
```

B.
```
var result = from i in items
  groupby i into grouped
  where grouped.Key > 80
  select i;
```

C.
```
var result = items.Take(80);
```

D.
```
var result = items.Skip(80);
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : A

Next Question

Question 140 (Volume B)

You are creating a console application named Appl.
App1 retrieves data from the Internet by using JavaScript Object Notation (JSON).
You are developing the following code segment (line numbers are included for reference only):

```
01 public bool ValidateJson(string json, Dictionary<string, object> result)
02 {
03
04   try
05   {
06     result = serializer.Deserialize<Dictionary<string, object>>(json);
07     return true;
08   }
09   catch
10   {
11     return false;
12   }
13 }
```

You need to ensure that the code validates the JSON string.
Which code should you insert at line 03?

A.
```
DataContractSerializer serializer = new DataContractSerializer();
```

B.
```
var serializer = new NetDataContractSerializer();
```

C.
```
NetDataContractSerializer serializer = new NetDataContractSerializer();
```

D.
```
JavaScriptSerializer serializer = new JavaScriptSerializer();
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : D

Explanation:
The JavaScriptSerializer Class Provides serialization and deserialization functionality for AJAX-enabled applications.
The JavaScriptSerializer class is used internally by the asynchronous communication layer to serialize and deserialize the data that is passed between the browser and the Web server. You cannot access that instance of the serializer. However, this class exposes a public API. Therefore, you can use the class when you want to work with JavaScript Object Notation (JSON) in managed code.

Next Question

Question 141 (Volume B)

You are evaluating a method that calculates loan interest. The application includes the following code segment. (Line numbers are included for reference only.)

```
01 private static decimal CalculateInterest(decimal loanAmount, int loanTerm)
02 {
03   decimal interestAmount;
04   decimal loanRate;
05   if (loanTerm > 0 && loanTerm < 5 && loanAmount < 5000m)
06   {
07     loanRate = 0.045m;
08   }
09   else if (loanTerm > 5 && loanAmount > 5000m)
10   {
11     loanRate = 0.085m;
12   }
13   else
14   {
15     loanRate = 0.055m;
16   }
17   interestAmount = loanAmount * loanRate * loanTerm;
18   return interestAmount;
19 }
```

When the loanTerm value is 3 and the loanAmount value is 9750, the loanRate must be set to 8.25 percent.
You need to adjust the loanRate value to meet the requirements.
What should you do?

A. Replace line 04 with the following code segment: decimal loanRate = 0.0325m;
B. Replace line 17 with the following code segment: interestAmount = loanAmount * 0.0825m * loanTerm;
C. Replace line 15 with the following code segment: loanRate = 0.0825m;
D. Replace line 07 with the following code segment: loanRate = 0.0825m;

Answer : C

Next Question

Question 142 (Volume B)

You are implementing a new method named ProcessData. The ProcessData() method calls a third-party component that performs a long-running operation to retrieve stock information from a web service.
The third-party component uses the IAsyncResult pattern to signal completion of the long-running operation so that the UI can be updated with the new values.
You need to ensure that the calling code handles the long-running operation as a System.Threading.Tasks.Task object to avoid blocking the UI thread.
Which two actions should you perform? Each correct answer presents part of the solution.
NOTE: Each correct selection is worth one point.

A. Call the component by using the TaskFactory.FromAsync() method.
B. Create a TaskCompletionSource<T> object.
C. Apply the async modifier to the ProcessData() method signature.
D. Apply the following attribute to the ProcessData() method signature: [MethodImpl(MethodImplOptions.Synchronized)]

Answer : AB

Explanation:

A: TaskFactory.FromAsync Method -
Creates a Task that represents a pair of begin and end methods that conform to the Asynchronous Programming Model pattern. Overloaded.
Example:
TaskFactory.FromAsync Method (IAsyncResult, Action<IAsyncResult>)
Creates a Task that executes an end method action when a specified IAsyncResult completes.
B: In many scenarios, it is useful to enable a Task<TResult> to represent an external asynchronous operation. TaskCompletionSource<TResult> is provided for this purpose. It enables the creation of a task that can be handed out to consumers, and those consumers can use the members of the task as they would any other. However, unlike most tasks, the state of a task created by a TaskCompletionSource is controlled explicitly by the methods on TaskCompletionSource. This enables the completion of the external asynchronous operation to be propagated to the underlying Task. The separation also ensures that consumers are not able to transition the state without access to the corresponding TaskCompletionSource.
Note:

System.Threading.Tasks.Task -
Represents an asynchronous operation.

Next Question

Question 143 (Volume B)

You are developing an application for a bank. The application includes a method named ProcessLoan that processes loan applications. The ProcessLoan() method uses a method named CalculateInterest. The application includes the following code:

```
static decimal CalculateInterest(decimal amount, decimal rate, int term)
{
  return amount * rate * term;
}
static decimal ProcessLoan()
{
  CalculateLoanInterest loanInterestProcessor = CalculateInterest;
  return loanInterestProcessor(4500m, 0.065m, 4);
}
```

You need to declare a delegate to support the ProcessLoan() method.
Which code segment should you use?

A.
```
public delegate decimal LoanProcessor(decimal loanAmount, decimal loanRate, int term);
```

B.
```
public delegate int LoanProcessor(decimal loanAmount, decimal loanRate, int term);
```

C.
```
public delegate decimal CalculateLoanInterest(decimal loanAmount, decimal loanRate, int term);
```

D.
```
public delegate decimal ProcessLoan();
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : C

Next Question

Question 144 (Volume B)

You are modifying an application that processes loans. The following code defines the Loan class. (Line numbers are included for reference only.)

```
01 public class Loan
02 {
03
04   private int _term;
05   private const int MaximumTerm = 10;
06   private const decimal Rate = 0.034m;
07   public int Term
08   {
09     get
10     {
11       return _term;
12     }
13     set
14     {
15       if (value <= MaximumTerm)
16       {
17         _term = value;
18       }
19       else
20       {
21
22       }
23     }
24   }
25 }
26 public delegate void MaximumTermReachedHandler(object source, EventArgs e);
```

Loans are restricted to a maximum term of 10 years. The application must send a notification message if a loan request exceeds 10 years.
You need to implement the notification mechanism.
Which two actions should you perform? (Each correct answer presents part of the solution. Choose two.)

A. Insert the following code segment at line 03:

```
public string MaximumTermReachedEvent { get; set; }
```

B. Insert the following code segment at line 21:

```
if (OnMaximumTermReached != null)
{
  OnMaximumTermReached(this, new EventArgs());
}
```

C. Insert the following code segment at line 03:

```
private string MaximumTermReachedEvent;
```

D. Insert the following code segment at line 03:

```
public event MaximumTermReachedHandler OnMaximumTermReached;
```

E. Insert the following code segment at line 21:

```
value = MaximumTerm;
```

F. Insert the following code segment at line 21:

```
value = 9;
```

A. Option A
B. Option B
C. Option C
D. Option D
E. Option E
F. Option F

Answer : BD

Next Question

Question 145 (Volume B)

An application contains code that measures reaction times. The code runs the timer on a thread separate from the user interface. The application includes the following code. (Line numbers are included for reference only.)

```
01 static int RunTimer(CancellationToken cancellationToken)
02 {
03   var time = 0;
04   while (!cancellationToken.IsCancellationRequested)
05     time++;
06   return time;
07 }
08 static void Main(string[] args)
09 {
10   var tokenSource = new CancellationTokenSource();
11   var task = Task.Factory.StartNew<int>(() => RunTimer(tokenSource.Token));
12   Console.WriteLine("Press [Enter] to stop the timer.");
13   Console.ReadLine();
14
15   Console.WriteLine("Timer stopped at {0}", task.GetAwaiter().GetResult());
16   Console.ReadLine();
17 }
```

You need to ensure that the application cancels the timer when the user presses the Enter key.
Which code segment should you insert at line 14?

A. tokenSource.Token.Register(() => tokenSource.Cancel());
B. tokenSource.Cancel();
C. tokenSource.IsCancellationRequested = true;
D. tokenSource.Dispose();

Answer : B

Next Question

Question 146 (Volume B)

You are developing an application that generates code. The application includes the following code segment. (Line numbers are included for reference only.)

```
01 public string GenerateCode(string className,string methodName)
02 {
03   ...
04   var ct = new CodeTypeDeclaration(className);
05
06   ...
07 }
```

You need to ensure that code generated by the GenerateCode() method represents a class that can be accessed by all objects in its application domain.
Which two code segments can you insert at line 05 to achieve the goal? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

A.
```
ct.Attributes = MemberAttributes.Public;
```

B.
```
ct.IsStruct = true;
ct.Attributes = MemberAttributes.Public;
```

C.
```
ct.IsClass = true;
ct.Attributes = MemberAttributes.Public;
```

D.
```
ct.IsClass = true;
ct.Attributes = MemberAttributes.Private;
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : AC

Next Question

Question 147 (Volume B)

You are developing an application that will process personnel records.
The application must encrypt highly sensitive data.
You need to ensure that the application uses the strongest available encryption.
Which class should you use?

A. System.Security.Cryptography.DES
B. System.Security.Cryptography.Aes
C. System.Security.Cryptography.TripleDES
D. System.Security.Cryptography.RC2

Answer : B

Next Question

Question 148 (Volume B)

You develop a class named MyClass. MyClass has a method that uses a COM object.
You need to ensure that when MyClass is instantiated by using the using keyword, the COM object is released at the end of the using scope.
Which interface should you implement?

A. ISerializable
B. IDisposable
C. ICloneable
D. IFormattable

Answer : B

Reference:
https://msdn.microsoft.com/en-us/library/system.idisposable(v=vs.110).aspx

Next Question

Question 149 (Volume B)

You are developing an application that includes a class named Employee and a generic list of employees. The following code segment declares the list of employees:
List<Employee> employeesList = new List<Employee>();
You populate the employeesList object with several hundred Employee objects.
The application must display the data for five Employee objects at a time.
You need to create a method that will return the correct number of Employee objects.
Which code segment should you use?

A.
```
public static IEnumerable<int> Page(IEnumerable<int> source, int page, int pageSize)
{
  return source.Take((pageSize - 1) * page).Skip(pageSize);
}
```

B.
```
public static IEnumerable<TSource> Page<TSource>(this IEnumerable<TSource> source, int page, int pageSize)
{
  return source.Skip((page - 1) * pageSize).Take(pageSize);
}
```

C.
```
public static IEnumerable<int> Page(IEnumerable<int> source, int page, int pageSize)
{
  return source.Skip((pageSize - 1) * page).Take(pageSize);
}
```

D.
```
public static IEnumerable<TSource> Page<TSource>(this IEnumerable<TSource> source, int page, int pageSize)
{
  return source.Take((page - 1) * pageSize).Skip(pageSize);
}
```

A. Option A
B. Option B

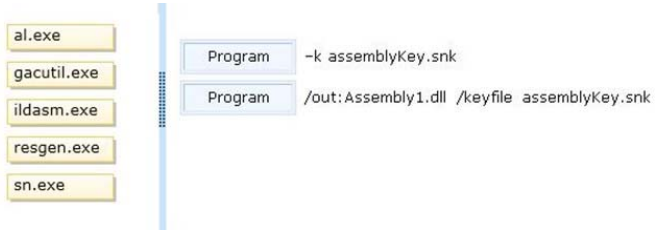
C. Option C
D. Option D

Answer : B

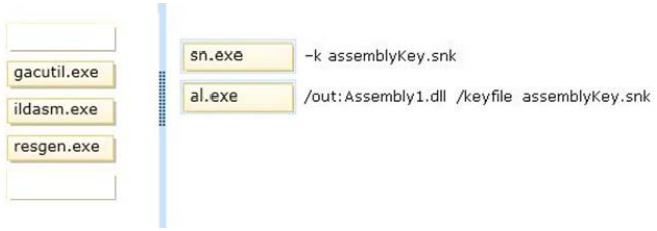
Next Question

Question 150 (Volume B)

DRAG DROP -
You create an assembly named Assembly1.dll.
You need to ensure that Assembly1.dll can be deployed to the global assembly cache (GAC).
Which commands should you run? (To answer, drag the appropriate programs to the correct locations. Each program may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)
Select and Place:



Answer :



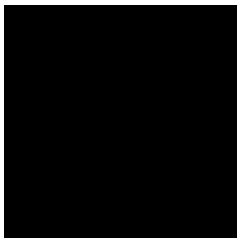
Next Question

Question 151 (Volume B)

DRAG DROP -
You have an application that accesses a Microsoft SQL Server database.
The database contains a stored procedure named Proc1. Proc1 accesses several rows of data across multiple tables.
You need to ensure that after Proc1 executes, the database is left in a consistent state. While Proc1 executes, no other operation can modify data already read or changed by Proc1. (Develop the solution by selecting and ordering the required code snippets.
You may not need all of the code snippets.)
Select and Place:

Answer :

Explanation:
Note:
Box 1: Start with the sqlconnection
Box 2: Open the SQL transaction (RepeatableRead)
-> IsolationLevel - Specifies the isolation level of a transaction.
-> RepeatableRead - Volatile data can be read but not modified during the transaction. New data can be added during the transaction.
ReadCommitted - Volatile data cannot be read during the transaction, but can be modified.



-> ReadUncommitted - Volatile data can be read and modified during the transaction.

Box 3: Try the query -

Box 4: commit the transaction -
Box 5: Catch the exception (a failed transaction)

Box 6: Rollback the transaction -

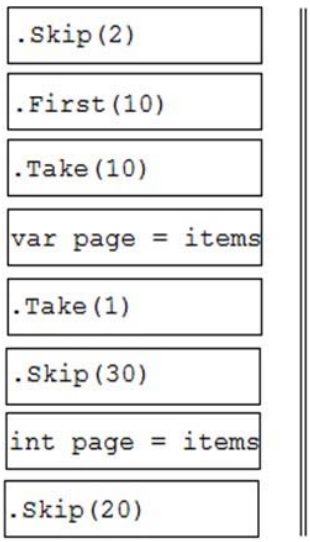
Box 7: Final cleanup -
Box 8: Clean up (close command and connection).
References:
https://docs.microsoft.com/en-us/dotnet/api/system.data.sqlclient.sqlconnection.begintransaction?view=netframework-4.7.2

Next Question

Question 152 (Volume B)

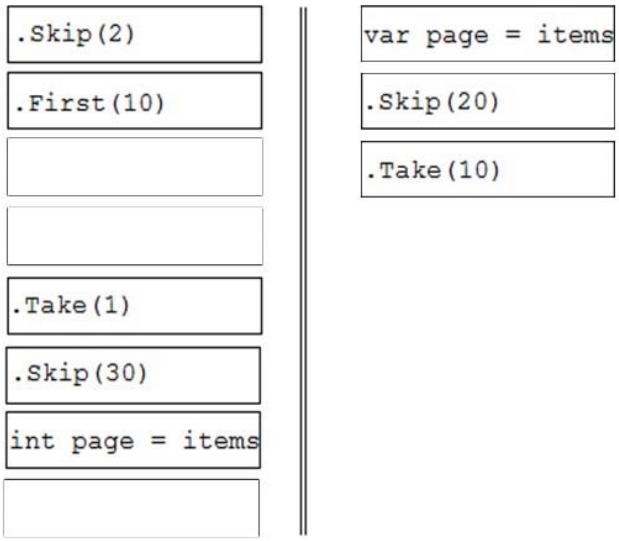
DRAG DROP -
You have an application that uses paging. Each page displays 10 items from a list.
You need to display the third page. (Develop the solution by selecting and ordering the required code snippets. You may not need all of the code snippets.)
Select and Place:

Answer Area



Answer :

Answer Area

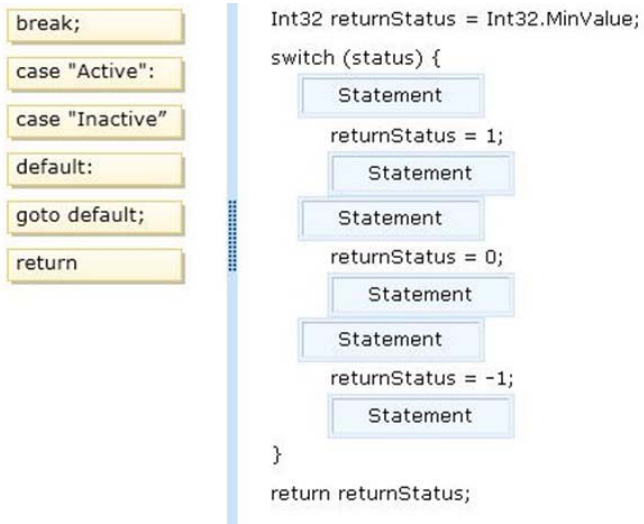


Explanation:
Note:
Skip the first two page (first 20 items) then select the next page (next 10 items),
Use the Take operator to return a given number of elements in a sequence and then skip over the remainder.
Use the Skip operator to skip over a given number of elements in a sequence and then return the remainder.

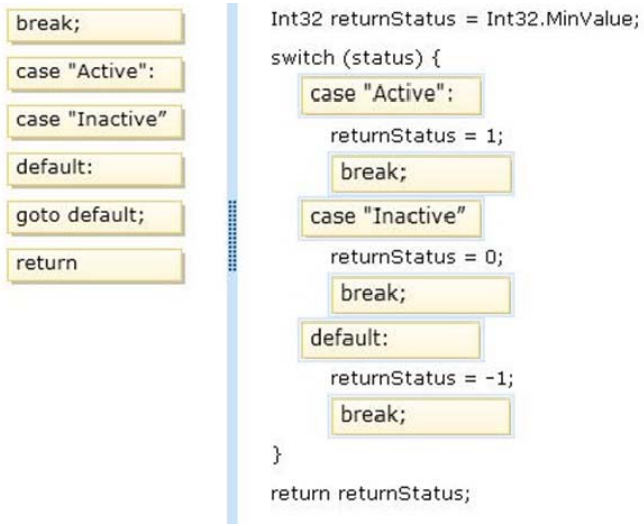
Next Question

Question 153 (Volume B)

DRAG DROP -
You have a method that will evaluate a parameter of type Int32 named Status.
You need to ensure that the method meets the following requirements:
-> If Status is set to Active, the method must return 1.
-> If Status is set to Inactive, the method must return 0.
-> If Status is any other value, the method must return -1.
What should you do? (To answer, drag the appropriate statement to the correct location in the answer area. Each statement may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)
Select and Place:



Answer :



Next Question

Question 154 (Volume B)

You are developing an application that uses multiple asynchronous tasks to optimize performance. The application will be deployed in a distributed environment.
You need to retrieve the result of an asynchronous task that retrieves data from a web service. The data will be later being parsed by a separate task.
Which code segment should you use?

A.
```
protected async void StartTask()
{
  string result = await GetData();
  ...
}
public Task<string> GetData()
{
  ...
}
```

B.
```
protected async void StartTask()
{
  string result = GetData();
  ...
}
public Task<string> GetData()
{
  ...
}
```

C.
```
protected async void StartTask()
{
  string result = await GetData();
  ...
}
public async Task<string> GetData()
{
  ...
}
```

D.
```
protected async void StartTask()
{
  string result = async GetData();
  ...
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : C

Next Question

Question 155 (Volume B)

You are developing an application.
The application contains the following code:

```
class Program
{
  static void ProcessOrders (string orderRefNumber)
  {
    if (orderRefNumber == null)
    {
      throw new ArgumentNullException();
    }
    ...
  }

  static void Main()
  {
    try
    {
      string orderRefNumber = null;
      ProcessOrders(orderRefNumber);
    }
    catch (ArgumentNullException e)
    {
      Console.WriteLine("{0} An exception caught.", e);
    }

    catch (Exception e)
    {
      Console.WriteLine("{0} An exception caught.", e);
    }
  }
}
```

When you compile the code, you receive the following syntax error message: "A previous catch clause already catches all exceptions of this or a super type ('System.Exception')."
You need to ensure that the code can be compiled. What should you do?

A. Catch the ArgumentException exception instead of the ArgumentNullException exception.
B. Throw a new exception in the second catch block.
C. Catch the ArgumentNullException exception first.
D. Re-throw the exception caught by the second catch block.

Answer : A

Next Question

Question 156 (Volume B)

You are developing an application that includes a method named SendMessage.
You need to ensure that the SendMessage() method is called with the required parameters.
Which two code segments can you use to achieve this goal? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

A.
```
static void Main(string[] args)
{
  dynamic message = new { From = "Jon Morris", To = "Mary North", Content = "Hello World" };
  SendMessage(message);
}
private static void SendMessage(Object msg)
{
  Console.WriteLine(msg.From);
  Console.WriteLine(msg.To);
  Console.WriteLine(msg.Content);
}
```

B.
```
static void Main(string[] args)
{
  var message = new Object();
  message.From = "Jon Morris";
  message.To = "Mary North";
  message.Content = "Hello World";
  SendMessage(message);
}
private static void SendMessage(dynamic msg)
{
  Console.WriteLine(msg.From);
  Console.WriteLine(msg.To);
  Console.WriteLine(msg.Content);
}
```

C.
```
static void Main(string[] args)
{
  var message = new { From = "Jon Morris", To = "Mary North", Content = "Hello World" };
  SendMessage(message);
}
private static void SendMessage(dynamic msg)
{
  Console.WriteLine(msg.From);
  Console.WriteLine(msg.To);
  Console.WriteLine(msg.Content);
}
```

D.
```
static void Main(string[] args)
{
  dynamic message = new ExpandoObject();
  message.From = "Jon Morris";
  message.To = "Mary North";
  message.Content = "Hello World";
  SendMessage(message);
}
private static void SendMessage(dynamic msg)
{
  Console.WriteLine(msg.From);
  Console.WriteLine(msg.To);
  Console.WriteLine(msg.Content);
}
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : CD

Explanation:

D: ExpandoObject -
Represents an object whose members can be dynamically added and removed at run time.
-> The ExpandoObject class enables you to add and delete members of its instances at run time and also to set and get values of these members. This class supports dynamic binding, which enables you to use standard syntax like sampleObject.sampleMember instead of more complex syntax like sampleObject.GetAttribute("sampleMember").
-> You can pass instances of the ExpandoObject class as parameters. Note that these instances are treated as dynamic objects in C# and late-bound objects in
Visual Basic. This means that you do not have IntelliSense for object members and you do not receive compiler errors when you call non-existent members. If you call a member that does not exist, an exception occurs.
Note:
Visual C# 2010 introduces a new type, dynamic. The type is a static type, but an object of type dynamic bypasses static type checking. In most cases, it functions like it has type object. At compile time, an element that is typed as dynamic is assumed to support any operation. Therefore, you do not have to be concerned about whether the object gets its value from a COM API, from a dynamic language such as IronPython, from the HTML Document Object Model (DOM), from reflection, or from somewhere else in the program. However, if the code is not valid, errors are caught at run time.

Next Question

Question 157 (Volume B)

You have an application that accesses a Web server named Server1.
[1]
Which code should you use?

A.
```
WebRequest request = HttpWebRequest.Create("http://server1/image1.jpg");
StreamWriter writer = new StreamWriter(request.GetResponse().GetResponseStream());
writer.WriteLine("C:\\file1.jpg");
writer.Dispose();
```

B.
```
WebClient client = new WebClient();
StreamWriter writer = new StreamWriter("C:\\file1.jpg");
writer.Write(client.DownloadData("http://server1/image1.jpg"));
writer.Dispose();
client.Dispose();
```

C.
```
WebClient client = new WebClient();
client.DownloadFile("http://server1/image1.jpg", "C:\\file1.jpg");
client.Dispose();
```

D.
```
WebRequest request = HttpWebRequest.Create("http://server1/image1.jpg");
StreamWriter writer = new StreamWriter(request.GetResponse().GetResponseStream());
writer.Write("C:\\file1.jpg");
writer.Dispose();
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : C

Next Question

Question 158 (Volume B)

You are developing a C# application. The application references and calls a RESTful web service named EmployeeService. The EmployeeService web service includes a method named GetEmployee, which accepts an employee ID as a parameter. The web service returns the following JSON data from the method.
{"Id":1,"Name":"David Jones"}
The following code segment invokes the service and stores the result:

```
WebClient client = new WebClient();
byte[] employeeData = client.DownloadData("http://localhost:2588/EmployeeService.svc/GetEmployee/1");
```

You need to convert the returned JSON data to an Employee object for use in the application.
Which code segment should you use?

A.
```
using (Stream stream = new MemoryStream(employeeData))
{
  XmlSerializer xmlSerializer = new XmlSerializer(typeof(Employee));
  Employee retrievedEmployee = xmlSerializer.Deserialize(stream) as Employee;
  ...
}
```

B.
```
using (Stream stream = new MemoryStream(employeeData))
{
  DataContractSerializer dataContractSerializer = new DataContractSerializer(typeof(Employee));
  Employee retrievedEmployee = dataContractSerializer.ReadObject(stream) as Employee;
  ...
}
```

C.
```
using (Stream stream = new MemoryStream(employeeData))
{
  DataContractJsonSerializer dataContractJsonSerializer = new DataContractJsonSerializer(typeof(Employee));
  Employee retrievedEmployee = dataContractJsonSerializer.ReadObject(stream) as Employee;
  ...
}
```

D.
```
using (Stream stream = new MemoryStream(employeeData))
{
  NetDataContractSerializer netDataContractSerializer = new NetDataContractSerializer();
  Employee retrievedEmployee = netDataContractSerializer.ReadObject(stream) as Employee;
  ...
}
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : C

Next Question

Question 159 (Volume B)

You are developing an assembly.
You plan to sign the assembly when the assembly is developed.
You need to reserve space in the assembly for the signature.
What should you do?

A. Run the Assembly Linker tool from the Windows Software Development Kit (Windows SDK).
B. Run the Strong Name tool from the Windows Software Development Kit (Windows SDK).
C. Add the AssemblySignatureKeyAttribute attribute the assembly.
D. Add the AssemblyDelaySignAttribute attribute to the assembly.

Answer : D

Next Question

Question 160 (Volume B)

You are creating a class by using C#. The class will manage writing log entries to a file.
You have the following code. (Line numbers are included for reference only.)

```
c01 using System;
c02 using System.IO;
c03
c04 public class LogWriter : IDisposable
c05 {
c06
c07 StreamWriter log;
c08 public LogWriter(string filepath)
c09 {
c10 log = File.AppendText(filepath);
c11 }
c12 public void Log(string logEntry)
c13 {
c14 await log.WriteLineAsync(logEntry);
c15 }
c16 protected virtual void Dispose(bool disposing)
c17 {
c18
```

c19 if (disposing) c20 { c21 log.Flush(); c22 log.Dispose(); c23 } c24 c25 } c26 public void Dispose() c27 { c28 Dispose(true); c29 GC.SupressFinalize(this); c30 } c31 }

You test the class by using the following code.

```
t01 static void Main(string[] args)
t02 {
t03 using(LogWriter lw = new LogWriter("logfile.txt")) {
t04 lw.Log("new log entry");
t05 lw.Dispose();
t06 }
t07 }
```

When you run the text, you receive the following error message: "System.ObjectDisposedException: â€˜Cannot write to a closed TextWritter."
You need to ensure that LogWriter closes the log file properly without raising an exception.
Which three actions should you perform? Each correct answer presents part of the solution.
NOTE: Each correct selection is worth one point.

A. Add bool disposed=false; at line c06.
B. Change line c19 to if(disposed).
C. Add if (disposed) return; at line c18.
D. Remove line t05.
E. Add disposed=true; at line c24.
F. Remove line c21.

Answer : ACE

References:
https://docs.microsoft.com/en-us/dotnet/standard/design-guidelines/dispose-pattern

Next Question

Question 161 (Volume B)

You write the following method (line numbers are included for reference only):

```
01 public static List<string> TestIfWebSite(string url)
02 {
03   const string pattern = @"http://(www\.)?([^\.]+)\.com";
04   List<string> result = new List<string>();
05
06   MatchCollection myMatches = Regex.Matches(url, pattern);
07 ...
08   return result;
09 }
```

You need to ensure that the method extracts a list of URLs that match the following pattern:
@http://(www\.)?([^\.]+)\.com;
Which code should you insert at line 07?

A.
```
foreach (Match currentMatch in myMatches)
  result.Add(currentMatch.Groups.ToString());
```

B.
```
result = (List<string>) myMatches.GetEnumerator();
```

C.
```
foreach (Match currentMatch in myMatches)
  result.Add(currentMatch.Value);
```

D
```
result = (List<string>) myMatches.SyncRoot;
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : C

Explanation:
-> MatchCollection
Represents the set of successful matches found by iteratively applying a regular expression pattern to the input string.
The collection is immutable (read-only) and has no public constructor. The Regex.Matches method returns a MatchCollection object.
-> List<T>.Add Method
Adds an object to the end of the List<T>.
Incorrect Answers:
B: The MatchCollection.GetEnumerator method returns an enumerator that iterates through a collection. However, To iterate through the members of the collection, you should use the collection iteration (foreach) instead of retrieving the enumerator that is returned by the GetEnumerator method.
References:
https://msdn.microsoft.com/en-us/library/system.text.regularexpressions.matchcollection(v=vs.110).aspx

Next Question

Question 162 (Volume B)

You have the following code:

```
List<Int32> items = new List<int>() {
  100,
  95,
  80,
  75,
  95
};
```

You need to retrieve all of the numbers from the items variable that are greater than 80.
Which code should you use?

A.
```
var result = items.First(i => i > 80);
```

B.
```
var result = items.Where(i => i > 80);
```

C.
```
var result = from i in items
  groupby i into grouped
  where grouped.Key > 80
  select i;
```

D.
```
var result = items.Any(i => i > 80);
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : B

Explanation:
Enumerable.Where<TSource> Method (IEnumerable<TSource>, Func<TSource, Boolean>)
Filters a sequence of values based on a predicate.
Example:
List<string> fruits =
new List<string> { "apple", "passionfruit", "banana", "mango",
"orange", "blueberry", "grape", "strawberry" };
IEnumerable<string> query = fruits.Where(fruit => fruit.Length < 6); foreach (string fruit in query)
{
Console.WriteLine(fruit);
}
/*
This code produces the following output:
apple
mango
grape
*/

Next Question

Question 163 (Volume B)

You are developing an application that uses several objects. The application includes the following code segment. (Line numbers are included for reference only.)

```
01 private bool IsNull(object obj)
02 {
03
04   return false;
05 }
```

You need to evaluate whether an object is null.
Which code segment should you insert at line 03?

A.
```
if (null = obj)
{
  return true;
}
```

B.
```
if (null == obj)
{
  return true;
}
```

C.
```
if (null)
{
  return true;
}
```

D.
```
if (!obj)
{
  return true;
}
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : B

Explanation:
Use the == operator to compare values and in this case also use the null literal.

Next Question

Question 164 (Volume B)

You are developing a class named Account that will be used by several applications.
The applications that will consume the Account class will make asynchronous calls to the Account class to execute several different methods.
You need to ensure that only one call to the methods is executed at a time.
Which keyword should you use?

A. sealed
B. protected
C. checked
D. lock

Answer : D

Next Question

Question 165 (Volume B)

You are developing an application by using C#. The application will write events to an event log. You plan to deploy the application to a server.
You create an event source named MySource and a custom log named MyLog on the server.
You need to write events to the custom log.
Which code segment should you use?

A.
```
public void WriteToEventLog(string message)
{
  EventLog eventLog = new EventLog() { Source = "Application" };
  eventLog.WriteEntry(message);
}
```

B.
```
public void WriteToEventLog(string message)
{
  EventLog eventLog = new EventLog() { Source = "MyLog", EnableRaisingEvents = true };
  EventInstance eventInstance = new EventInstance(0, 1);
  eventLog.WriteEvent(eventInstance, message);
}
```

C.
```
public void WriteToEventLog(string message, EventLogEntryType eventLogEntryType)
{
  EventLog eventLog = new EventLog() { Source = "MyLog" };
  eventLog.WriteEntry(message, eventLogEntryType);
}
```

D.
```
public void WriteToEventLog(string message, EventLogEntryType eventLogEntryType)
{
  EventLog eventLog = new EventLog() { Source = "MySource", EnableRaisingEvents = true };
  eventLog.WriteEntry(message, eventLogEntryType);
}
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : D

Next Question

Question 166 (Volume B)

You plan to store passwords in a Windows Azure SQL Database database.
You need to ensure that the passwords are stored in the database by using a hash algorithm,

Which cryptographic algorithm should you use?

A. ECDSA
B. RSA-768
C. AES-256
D. SHA-256

Answer : D

Next Question

Question 167 (Volume B)

HOTSPOT -
You have an existing order processing system that accepts .xml files,
The following code shows an example of a properly formatted order in XML:

```
<Order OrderID="42">
  <Customer>Ben Smith</Customer>
  <CustomerID>206</CustomerID>
  <OrderDate>2013-04-19T09:13:14.7265994-05:00</OrderDate>
</Order>
```

You create the following class that will be serialized:

```
[DataContract()]
public class Order
{
  [DataMember()]
  public Int32 OrderID { get; set; }

  [DataMember(Name = "Customer")]
  public String CustomerName { get; set; }

  [DataMember()]
  private Int32 CustomerID { get; set; }

  public DateTime OrderDate { get; set; }
}
```

For each of the following properties, select Yes if the property is serialized according to the defined schema. Otherwise, select No.
Hot Area:

Answer :

Next Question

Question 168 (Volume B)

You are developing an application that includes methods named ConvertAmount and TransferFunds.
You need to ensure that the precision and range of the value in the amount variable is not lost when the TransferFunds() method is called.
Which code segment should you use?

A.
```
private static void ConvertAmount(float amount)
{
  TransferFunds(amount);
}
private static void TransferFunds(int funds)
{
  ...
  Console.WriteLine(funds);
}
```

B.
```
private static void ConvertAmount(float amount)
{
  TransferFunds((int)funds);
}
private static void TransferFunds(float funds)
{
  ...
}
```

C.
```
private static void ConvertAmount(float amount)
{
  TransferFunds(amount);
}
private static void TransferFunds(float funds)
{
  ...
}
```

D.
```
private static void ConvertAmount(float amount)
{
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : C

Explanation:
Simply use float for the TransferFunds parameter.
Note:
-> The float keyword signifies a simple type that stores 32-bit floating-point values.
-> The double keyword signifies a simple type that stores 64-bit floating-point values

Next Question

Question 169 (Volume B)

You need to write a console application that meets the following requirements:
-> If the application is compiled in Debug mode, the console output must display Entering debug mode.
-> If the application is compiled in Release mode, the console output must display Entering release mode.
Which code should you use?

A.
```
#if (TRACE)
  Console.WriteLine("Entering debug mode");
#else
  Console.WriteLine("Entering release mode");
#endif
```

B.
```
#if (DEBUG)
  Console.WriteLine("Entering debug mode");
#else
  Console.WriteLine("Entering release mode");
#endif
```

C.
```
if(System.Diagnostics.Debugger.IsAttached)
  Console.WriteLine("Entering debug mode");
else
  Console.WriteLine("Entering release mode");
```

D.
```
#region DEBUG
  Console.WriteLine("Entering debug mode");
#endregion
#region RELEASE
  Console.WriteLine("Entering release mode");
#endregion
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : B

Explanation:
When the C# compiler encounters an #if directive, followed eventually by an #endif directive, it will compile the code between the directives only if the specified symbol is defined. Unlike C and C++, you cannot assign a numeric value to a symbol; the #if statement in C# is Boolean and only tests whether the symbol has been defined or not. For example,
#define DEBUG
// ...
#if DEBUG
Console.WriteLine("Debug version");
#endif

Next Question

Question 170 (Volume B)

DRAG DROP -
You are adding a method to an existing application. The method uses an integer named statusCode as an input parameter and returns the status code as a string.
The method must meet the following requirements:
-> Return "Error" if the statusCode is 0.
-> Return "Success" if the statusCode is 1.
-> Return "Unauthorized" if the statusCode is any value other than 0 or l.
You need to implement the method to meet the requirements.
How should you complete the relevant code? (To answer, drag the appropriate statements to the correct locations in the answer area. Each statement may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)
Select and Place:

default
switch
break
case

```
string statusText;
        (statusCode)
{
        0:
            statusText = "Error";
            ;
        1:
            statusText = "Success";
            ;
          :
            statusText = "Unauthorized";
            ;
}
return statusText;
```

Answer :

default
switch
break
case

```
string statusText;
switch  (statusCode)
{
 case   0:
            statusText = "Error";
        break   ;
 case   1:
            statusText = "Success";
        break   ;
   default  :
            statusText = "Unauthorized";
        break   ;
}
return statusText;
```

Next Question

Question 171 (Volume B)

You have the following class (line numbers are included for reference only):

```
01 public class Class1
02 {
03   private String value = String.Empty;
04   private ServiceProxy proxy = new ServiceProxy();
05
06   public String Value
07   {
08     get {return value;}
09   }
10   public void Modify(Object newValue)
11   {
12
13     value += proxy.Update(newValue.ToString());
14   }
15 }
16 public class Test
17 {
18   public void Execute()
19   {
20     Class1 class1 = new Class1();
21     (new ParameterizedThreadStart(class1.Modify)).Invoke(1);
22     (new ParameterizedThreadStart(class1.Modify)).Invoke(2);
23     (new ParameterizedThreadStart(class1.Modify)).Invoke(3);
24     Console.WriteLine(class1.Value);
25   }
26 }
```

ServiceProxy is a proxy for a web service. Calls to the Update method can take up to five seconds. The Test class is the only class the uses Class1.
You run the Execute method three times, and you receive the following results:
You need to ensure that each value is appended to the Value property in the order that the Modify methods are invoked.
What should you do?

Insert the following at line 5:
```
Object obj1 = new Object();
```

Insert the following at line 12:
```
Monitor.Enter(obj1);
```

A.

Insert the following at line 5:
```
Object obj1 = new Object();
```

Insert the following at line 12:
```
lock (obj1)
```

B.

Insert the following at line 12:
```
Monitor.Enter(this);
```

C.

Insert the following at line 12:
```
lock (value)
```

D.

Answer : B

Next Question

Question 172 (Volume B)

You are developing a method named GetHash that will return a hash value for a file. The method includes the following code. (Line numbers are included for reference only.)

```
01 public byte[] GetHash(string filename, string algorithmType)
02 {
03   var hasher = HashAlgorithm.Create(algorithmType);
04   var fileBytes = System.IO.File.ReadAllBytes(filename);
05
06 }
```

You need to return the cryptographic hash of the bytes contained in the fileBytes variable.
Which code segment should you insert at line 05?

A.
```
var outputBuffer = new byte[fileBytes.Length];
hasher.TransformBlock(fileBytes, 0, fileBytes.Length, outputBuffer, 0);
hasher.TransformFinalBlock(fileBytes, fileBytes.Length - 1, fileBytes.Length);
return outputBuffer;
```

B.
```
hasher.ComputeHash(fileBytes);
return hasher.GetHashCode();
```

C.
```
var outputBuffer = new byte[fileBytes.Length];
hasher.TransformBlock(fileBytes, 0, fileBytes.Length, outputBuffer, 0);
return outputBuffer;
```

D.
```
hasher.ComputeHash(fileBytes);
return hasher.Hash;
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : A

Next Question

Question 173 (Volume B)

You are developing an application that includes the following code segment:

```
interface IFile
{
  void Open();
}
interface IDbConnection
{
  void Open();
}
```

You need to implement the Open() method of each interface in a derived class named UseResources and call the Open() method of each interface.
Which two code segments should you use? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

A.
```
class UseResources : IFile, IDbConnection
{
  void IFile.Open()
  {
    ...
  }
  void IDbConnection.Open()
  {
    ...
  }
}
```

B.
```
var manager = new UseResources ();
manager.Open();
```

C.
```
var manager = new UseResources ();
((IFile)manager).Open();
((IDbConnection)manager).Open();
```

D.
```
class UseResources : IFile, IDbConnection
{
  public void IFile.Open()
  {
    ...
  }
  public void IDbConnection.Open()
  {
    ...
  }
}
```

A. Option A
B. Option B
C. Option C
D. Option D
E. Option E
F. Option F

Answer : AC

Explanation:
An interface contains only the signatures of methods, properties, events or indexers. A class or struct that implements the interface must implement the members of the interface that are specified in the interface definition.
Example:
interface ISampleInterface
{
void SampleMethod();
}
class ImplementationClass : ISampleInterface
{
// Explicit interface member implementation:
void ISampleInterface.SampleMethod()
{
// Method implementation.
}
static void Main()
{
// Declare an interface instance.
ISampleInterface obj = new ImplementationClass();
// Call the member.
obj.SampleMethod();
}
}

Next Question

Question 174 (Volume B)

You are implementing a method named ProcessData that performs a long-running task. The ProcessData() method has the following method signature: public void ProcessData(List<decimal> values, CancellationTokenSource source, CancellationToken token)
If the calling code requests cancellation, the method must perform the following actions:
-> Cancel the long-running task.
-> Set the task status to TaskStatus.Canceled.
You need to ensure that the ProcessData() method performs the required actions.
Which code segment should you use in the method body?

A. if (token.IsCancellationRequested)return;
B. throw new AggregateException();
C. token.ThrowIfCancellationRequested();
D. source.Cancel();

Answer : C

Next Question

Question 175 (Volume B)

HOTSPOT -
You have the following code (line numbers are included for reference only):

```
01 using (StreamWriter writer = new StreamWriter(@"C:\console.txt"))
02 {
03   Console.SetOut(writer);
04   using (FileStream stream = new FileStream(@"C:\file.txt", FileMode.Open))
05   {
06     using (StreamReader reader = new StreamReader(stream))
07     {
08       while (!reader.EndOfStream) Console.WriteLine(reader.ReadLine());
09     }
010   }
011 }
```

To answer, complete each statement according to the information presented in the code.

Hot Area:

If File.txt does NOT exist in the root of C:, ... will be thrown.

- ArgumentNullException
- FileLoadException
- FileNotFoundException
- PipeException

The final output of the streaming operation will be ...

- a console window.
- the Console.txt file.
- the file.txt file.
- the Visual Studio Debug console.

Answer :

If File.txt does NOT exist in the root of C:, ... will be thrown.

- ArgumentNullException
- FileLoadException
- **FileNotFoundException**
- PipeException

The final output of the streaming operation will be ...

- a console window.
- **the Console.txt file.**
- the file.txt file.
- the Visual Studio Debug console.

References:
https://www.returngis.net/en/2014/12/save-console-writeline-output-to-a-file-with-c/

Next Question

Question 176 (Volume B)

You are developing an application in C#.
The application uses exception handling on a method that is used to execute mathematical calculations by using integer numbers.
You write the following catch blocks for the method (line numbers are included for reference only):

```
01
02 catch(ArithmeticException e) {Console.WriteLine("Arithmetic error");}
03
04 catch(ArgumentException e) {Console.WriteLine("Bad Argument");}
05
06 catch(Exception e) {Console.WriteLine("General error");}
07
```

You need to add the following code to the method:

```
catch(DivideByZeroException e) {Console.WriteLine("Divide by zero");}
```

At which line should you insert the code?

A. 01
B. 03
C. 05
D. 07

Answer : A

Next Question

Question 177 (Volume B)

You are developing an application that will manage the inventory of a warehouse. The application includes a method named FindItem.
Users must be able to locate item records by using the item identifier, item name, or a combination of the two values.
You need to implement the FindItem() method to meet the requirement.
Which two sets of method signatures can you use to achieve this goal? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point

```
public static Item FindItem(int id)
public static Item FindItem(string name)
public static Item FindItem(Int32 id)
```

A.

```
public static Item FindItem(int id)
public static Item FindItem(string name)
public static Item FindItem(int? id)
```

B.

```
public static Item FindItem(int id)
public static Item FindItem(string name)
public static Item FindItem(int id, String name)
```

C.

```
public static Item FindItem(int id)
public static Item FindItem(string name)
public static void FindItem(int id)
```

D.

Answer : BC

Next Question

Question 178 (Volume B)

You are implementing a method named GetValidPhoneNumbers. The GetValidPhoneNumbers() method processes a list of string values that represent phone numbers.
The GetValidPhoneNumbers() method must return only phone numbers that are in a valid format.
You need to implement the GetValidPhoneNumbers() method.
Which two code segments can you use to achieve this goal? (Each correct answer presents a complete solution. Choose two.)

A.
```
private static List<String> GetValidPhoneNumbers(string input, string pattern)
{
  var regex = new Regex(pattern);
  var matches = regex.Matches(input);
  var validPhoneNumbers = new List<String>();
  foreach(Match match in matches)
  {
    if(match.Success)
    {
      validPhoneNumbers.Add(match.Value);
    }
  }
  return validPhoneNumbers;
}
```

B.
```
private static List<String> GetValidPhoneNumbers(string input, string pattern)
{
  var regex = new Regex(pattern);
  var matches = regex.Matches(input);
  return (from Match match in matches where match.Success select match.Value).ToList();
}
```

C.
```
private static List<String> GetValidPhoneNumbers(string input, string pattern)
{
  var regex = new Regex(pattern);
  var matches = regex.Matches(input);
  return (from Match match in matches where match.Success select match.Success.ToString()).ToList();
}
```

D.
```
private static List<String> GetValidPhoneNumbers(string input, string pattern)
{
  var regex = new Regex(pattern);
  var matches = regex.Matches(input);
  var validPhoneNumbers = new List<String>();
  foreach(Match match in matches)
  {
    if(!match.Success)
    {
      validPhoneNumbers.Add(match.Value);
    }
  }
  return validPhoneNumbers;
}
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : AB

Explanation:
-> Regex.Matches
Searches an input string for all occurrences of a regular expression and returns all the matches.
-> MatchCollection
Represents the set of successful matches found by iteratively applying a regular expression pattern to the input string.
The collection is immutable (read-only) and has no public constructor. The Regex.Matches method returns a MatchCollection object.
-> List<T>.Add Method
Adds an object to the end of the List<T>.

Next Question

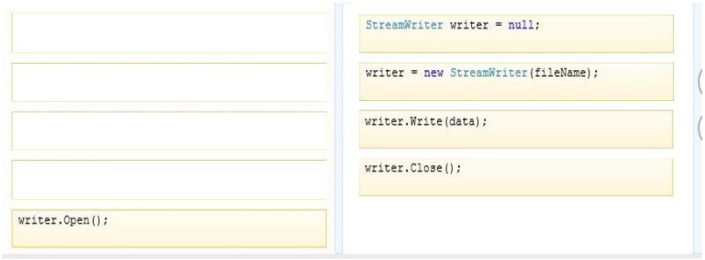
Question 179 (Volume B)

DRAG DROP -
You are developing an application that will write data to a file. The application includes the following code segment. (Line numbers are included for reference only.)

```
01 protected void WriteData(string filename, string data)
02 {
03
04 }
```

You need to ensure that the WriteData() method will write data to a file.
Which four code segments should you insert in sequence at line 03? To answer, move the appropriate code segments from the list of code segments to the answer area and arrange them in the correct order.
Select and Place:

Answer :



Explanation:
Note:
StreamWriter Constructor (String)
Initializes a new instance of the StreamWriter class for the specified file by using the default encoding and buffer size.

Next Question

Question 180 (Volume B)

You are creating a class library that will be used in a web application.
You need to ensure that the class library assembly is strongly named.
What should you do?

A. Use assembly attributes.
B. Use the EdmGen.exe command-line tool.
C. Set the configuration mode to Release when building the application.
D. Use the gacutil.exe command-line tool.

Answer : A

Next Question

Question 181 (Volume B)

You are creating an application that reads from a database.
You need to use different databases during the development phase and the testing phase by using conditional compilation techniques.
What should you do?

A. Configure the Define TRACE constant setting in Microsoft Visual Studio.
B. Decorate the code by using the [DebuggerDisplay("Mydebug")] attribute.
C. Configure the Define DEBUG constant setting in Microsoft Visual Studio.
D. Disable the strong-name bypass feature of Microsoft .NET Framework in the registry.

Answer : C

Explanation:
Use one debug version to connect to the development database, and a standard version to connect to the live database.

Next Question

Question 182 (Volume B)

You are creating a class named Loan.
The Loan class must meet the following requirements:
-> Include a member that represents the rate for a Loan instance.
-> Allow external code to assign a value to the rate member.
-> Restrict the range of values that can be assigned to the rate member.
You need to implement the rate member to meet the requirements.
In which form should you implement the rate member?

A. public static property
B. public property
C. public static field
D. protected field

Answer : B

Next Question

Question 183 (Volume B)

You are creating a class library that will be used in a web application.
You need to ensure that the class library assembly is strongly named.
What should you do?

A. Use the csc.exe /target:Library option when building the application.
B. Use the AL.exe command-line tool.
C. Use the aspnet_regiis.exe command-line tool.
D. Use the EdmGen.exe command-line tool.

Answer : B

Explanation:
The Windows Software Development Kit (SDK) provides several ways to sign an assembly with a strong name:
-> Using the Assembly Linker (Al.exe) provided by the Windows SDK.
-> Using assembly attributes to insert the strong name information in your code. You can use either the AssemblyKeyFileAttribute or the AssemblyKeyNameAttribute, depending on where the key file to be used is located.
-> Using compiler options such /keyfile or /delaysign in C# and Visual Basic, or the /KEYFILE or /DELAYSIGN linker option in C++. (For information on delay signing, see Delay Signing an Assembly.)
Note:
A strong name consists of the assembly's identityâ€"itâ€™s simple text name, version number, and culture information (if provided)â€"plus a public key and a digital signature. It is generated from an assembly file (the file that contains the assembly manifest, which in turn contains the names and hashes of all the files that make up the assembly), using the corresponding private key. MicrosoftÂ® Visual StudioÂ® .NET and other development tools provided in the .NET Framework SDK can assign strong names to an assembly. Assemblies with the same strong name are expected to be identical.

Next Question

Question 184 (Volume B)

You are creating a console application named App1.
App1 retrieves data from the Internet by using JavaScript Object Notation (JSON).
You are developing the following code segment (line numbers are included for reference only):

```
01 public bool ValidateJson(string json, Dictionary<string, object> result)
02 {
03
04   try
05   {
06     result = serializer.Deserialize<Dictionary<string, object>>(json);
07     return true;
08   }
09   catch
10   {
11     return false;
12   }
13 }
```

You need to ensure that the code validates the JSON string.
Which code should you insert at line 03?

A.
```
var serializer = new DataContractSerializer();
```

B.
```
DataContractSerializer serializer = new DataContractSerializer();
```

C.
```
var serializer = new XmlSerializer();
```

D.
```
var serializer = new JavaScriptSerializer();
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : D

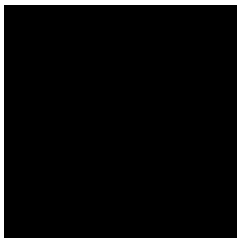
Explanation:
The JavaScriptSerializer Class Provides serialization and deserialization functionality for AJAX-enabled applications.
The JavaScriptSerializer class is used internally by the asynchronous communication layer to serialize and deserialize the data that is passed between

the browser and the Web server. You cannot access that instance of the serializer. However, this class exposes a public API. Therefore, you can use the class when you want to work with JavaScript Object Notation (JSON) in managed code.

Next Question

Question 185 (Volume B)

You are developing an application that includes methods named EvaluateLoan, ProcessLoan, and FundLoan. The application defines build configurations named
TRIAL, BASIC, and ADVANCED.
You have the following requirements:
The TRIAL build configuration must run only the EvaluateLoan() method.



-> The BASIC build configuration must run all three methods.
-> The ADVANCED build configuration must run only the EvaluateLoan() and ProcessLoan() methods.
You need to meet the requirements.
Which code segment should you use?

A.
```
#if TRIAL
#warning EvaluateLoan();
#error ProcessLoan();
#error FundLoan();
#elif ADVANCED
#warning EvaluateLoan();
#warning ProcessLoan();
#warning FundLoan();
#else
#warning EvaluateLoan();
#warning ProcessLoan();
#error FundLoan();
#endif
```

B.
```
#if TRIAL
  EvaluateLoan();
#elif ADVANCED
  EvaluateLoan();
  ProcessLoan();
  FundLoan();
#else
  EvaluateLoan();
  ProcessLoan();
#endif
```

C.
```
#if TRIAL
  EvaluateLoan();
#elif BASIC
  EvaluateLoan();
  ProcessLoan();
  FundLoan();
#else
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : C

Next Question

Question 186 (Volume B)

You are creating an application that processes a list of numbers.
The application must define a method that queries the list and displays a subset of the numbers to the user. The method must not update the list.
You need to create an extendable query by using LINQ.
What should you do?

A. Create an in-memory array of numbers. Process the numbers in the array by using the following code segment:

```
int[] numbersList = new int[8] { 1, 3, 5, 7, 11, 13, 17, 19 };
var numbers = from p in numbersList where p > 10;
foreach (int p in numbers)
{
  ...
}
```

B. Create an in-memory array of numbers. Process the numbers in the array by using the following code segment:

```
int[] numbersList = new int[8] { 1, 3, 5, 7, 11, 13, 17, 19 };
var numbers = new Query<int>(from p in numbersList where p > 10 select p);
foreach (int p in numbers)
{
  ...
}
```

C. Create an in-memory array of numbers. Process the numbers in the array by using the following code segment:

```
int[] numbersList = new int[8] { 1, 3, 5, 7, 11, 13, 17, 19 };
var numbers = from p in numbersList where p > 10 select p;
foreach (int p in numbers)
{
  ...
}
```

D. Create a query to return data from a SQL database table named **Numbers**. Process the returned data by using the following code segment:

```
var numbers = "select p from Numbers where p > 10";
foreach (int p in numbers)
{
  ...
}
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : C

Next Question

Question 187 (Volume B)

You have an assembly named Assembly named Assembly1 that is written in C#.
Your company plans to sell Assembly =1 to customers. The customers might debug Assembly1.
You need to minimize the amount of information contained within the debug symbols that are shipped with Assembly1.
How should you create the debug symbols for Assembly1?

A. Create a new PDB file by running pdbcopy.exe.
B. Build Assembly1 by using a Debug configuration.
C. On the Build page of the project properties for Assembly1, click Define TRACE constant and clear Define DEBUG constant.
D. Build Assembly1 by using a Release configuration.

Answer : C

Reference:
https://docs.microsoft.com/en-us/dotnet/csharp/language-reference/preprocessor-directives/preprocessor-define

Next Question

Question 188 (Volume B)

You are developing an application that contains a class named TheaterCustomer and a method named ProcessTheaterCustomer. The method accepts a TheaterCustomer object as the input parameter.
ProcessTheaterCustomer()
You have the following requirements:
-> Store the TheaterCustomer objects in a collection.
-> Ensure that the ProcessTheaterCustomer() method processes the TheaterCustomer objects in the order in which they are placed into the collection.
You need to meet the requirements.
What should you do?

A. Create a System.Collections.Stack collection. Use the Push() method to add TheaterCustomer objects to the collection. Use the Peek() method to pass the objects to the ProcessTheaterCustomer() method.
B. Create a System.Collections.Queue collection. Use the Enqueue() method to add TheaterCustomer objects to the collection. Use the Dequeue() method to pass the objects to the ProcessTheaterCustomer() method.
C. Create a System.Collections.SortedList collection. Use the Add() method to add TheaterCustomer objects to the collection. Use the Remove() method to pass the objects to the ProcessTheaterCustomer() method.
D. Create a System.Collections.ArrayList collection. Use the Insert() method to add TheaterCustomer objects to the collection. Use the Remove() method to pass the objects to the ProcessTheaterCustomer() method.

Answer : B

Next Question

Question 189 (Volume B)

You are debugging a 64-bit C# application.
Users report System.OutOfMemoryException exceptions. The system is attempting to use arrays larger than 2 GB in size.
You need to ensure that the application can use arrays larger than 2 GB.
What should you do?

A. Add the /3GB switch to the boot.ini file for the operating system.
B. Set the IMAGE_FILE_LARGE_ADDRESS_AWARE flag in the image header for the application executable file.
C. Set the value of the gcAllowVeryLargeObjects property to true in the application configuration file.
D. Set the value of the user-mode virtual address space setting for the operating system to MAX.

Answer : C

Next Question

Question 190 (Volume B)

You develop an application by using C#. The application counts the number of times a specific word appears within a set of text files. The application includes the following code. (Line numbers are included for reference only.)

```
01 class Counter
02 {
03   System.Collections.Concurrent.ConcurrentDictionary<string, int> _wordCounts =
04     new System.Collections.Concurrent.ConcurrentDictionary<string, int>();
05   public Action<DirectoryInfo> ProcessDirectory()
06   {
07     return (dirInfo =>
08     {
09       var files = dirInfo.GetFiles("*.cs").AsParallel<FileInfo>();
10       files.ForAll<FileInfo>(
11        fileInfo =>
12        {
13          var fileContent = File.ReadAllText(fileInfo.FullName);
14          var sb = new StringBuilder();
15          foreach (var val in fileContent)
16          {
17            sb.Append(char.IsLetter(val) ? val.ToString().ToLowerInvariant() : " ");
18          }
19          string[] wordsInFile = sb.ToString().Split(new []{' '},
20           StringSplitOptions.RemoveEmptyEntries);
21          foreach (var word in wordsInFile)
22          {
23
24          }
25        });
26       var directories = dirInfo.GetDirectories().AsParallel<DirectoryInfo>();
27       directories.ForAll<DirectoryInfo>(ProcessDirectory());
28     });
29   }
30 }
```

You have the following requirements:

-> Populate the _wordCounts object with a list of words and the number of occurrences of each word.

-> Ensure that updates to the ConcurrentDictionary object can happen in parallel.

You need to complete the relevant code.

Which code segment should you insert at line 23?

A.
```
_wordCounts.AddOrUpdate(word, 1, (s, n) => n + 1);
```

B.
```
int value;
if (_wordCounts.TryGetValue(word, out value))
{
  _wordCounts[word] = value++;
}
else
{
  _wordCounts[word] = 1;
}
```

C.
```
var value = _wordCounts.GetOrAdd(word, 0);
_wordCounts[word] = value++;
```

D.
```
var value = _wordCounts.GetOrAdd(word, 0);
_wordCounts.TryUpdate(word, value + 1, value);
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : A

Next Question

Question 191 (Volume B)

You are evaluating a method that calculates loan interest. The application includes the following code segment. (Line numbers are included for reference only.)

```
01 private static decimal CalculateInterest(decimal loanAmount, int loanTerm)
02 {
03   decimal interestAmount;
04   decimal loanRate;
05   if (loanTerm > 0 && loanTerm < 5 && loanAmount < 5000m)
06   {
07     loanRate = 0.045m;
08   }
09   else if (loanTerm > 5 && loanAmount > 5000m)
10   {
11     loanRate = 0.085m;
12   }
13   else
14   {
15     loanRate = 0.055m;
16   }
17   interestAmount = loanAmount * loanRate * loanTerm;
18   return interestAmount;
19 }
```

When the loanTerm value is 5 and the loanAmount value is 4500, the loanRate must be set to 6.5 percent.
You need to adjust the loanRate value to meet the requirements.
What should you do?

A. Replace line 15 with the following code segment: loanRate = 0.065m;
B. Replace line 07 with the following code segment: loanRate = 0.065m;
C. Replace line 17 with the following code segment: interestAmount = loanAmount * 0.065m * loanTerm;
D. Replace line 04 with the following code segment: decimal loanRate = 0.065m;

Answer : A

Next Question

Question 192 (Volume B)

You are developing an application that will manage customer records. The application includes a method named FindCustomer.
Users must be able to locate customer records by using the customer identifier, customer name, or a combination of the two values.
You need to implement the FindCustomer() method to meet the requirement.
Which two sets of method signatures can you use to achieve this goal? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

```
A   public static Customer FindCustomer(int id)
    public static Customer FindCustomer(string name)
    public static Customer FindCustomer(int id, String name)

B   public static Customer FindCustomer(int id)
    public static Customer FindCustomer(string name)
    public static void FindCustomer(int id)

C.  public static Customer FindCustomer(int id)
    public static Customer FindCustomer(string name)
    public static Customer FindCustomer(Int32 id)

D.  public static Customer FindCustomer(int id)
    public static Customer FindCustomer(string name)
    public static Customer FindCustomer(int? id)
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : AB

Explanation:
Incorrect Answers:
D: int? means it is a "boxed" integer value. The integer can have null value.
References:
https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/classes-and-structs/static-classes-and-static-class-members

Next Question

Question 193 (Volume B)

You are developing an application that will use multiple asynchronous tasks to optimize performance.
You create three tasks by using the following code segment. (Line numbers are included for reference only.)

```
01 protected void ProcessTasks()
02 {
03   Task[] tasks = new Task[3]
04   {
05     Task.Factory.StartNew(() => MethodA()),
06     Task.Factory.StartNew(() => MethodB()),
07     Task.Factory.StartNew(() => MethodC())
08   };
09
10   ...
11 }
```

You need to ensure that the ProcessTasks() method waits until all three tasks complete before continuing.
Which code segment should you insert at line 09?

A. Task.WaitFor(3);
B. tasks.Yield();
C. tasks.WaitForCompletion();
D. Task.WaitAll(tasks);

Answer : D

Next Question

Question 194 (Volume B)

You are developing a C# application. The application includes the following code segment. (Line numbers are included for reference only.)

```
01 class Beam
02 {
03   public string Description { get; set; }
04   public int Weight { get; set; }
05   public int Id { get; set; }
06   public decimal Length { get; set; }
07 }
08 Dictionary<int, Beam> beams = new Dictionary<int, Beam>
09 {
10   { 111, new Beam { Description = "Iron", Weight = 4297, Id = 211, Length = 22.23m } },
11   { 112, new Beam { Description = "Copper", Weight = 6822, Id = 317, Length = 11.13m } },
12   { 113, new Beam { Description = "Steel", Weight = 88021, Id = 198, Length = 7.91m } },
13   { 114, new Beam { Description = "Titanium", Weight = 14014, Id = 192, Length = 17.13m } },
14   { 115, new Beam { Description = "Aluminum", Weight = 3263, Id = 196, Length = 8.45m } }
15 };
16
17 beams.Add(115, new Beam { Description = "Brass", Weight = 24331, Id = 214, Length = 28.15m });
18
```

The application fails at line 17 with the following error message: "An item with the same key has already been added."

You need to resolve the error.

Which code segment should you insert at line 16?

A.
```
if (!beams.ContainsKey(115))
```

B.
```
foreach (Beam beam in beams.Values.Where(t => t.Id != 115))
```

C.
```
foreach (KeyValuePair<int, Beam> key in beams.Where(t => t.Key != 115))
```

D.
```
foreach (int key in beams.Keys.Where(k => k != 115))
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : A

Next Question

Question 195 (Volume B)

You are developing an application by using C#. The application includes a method named SendMessage. The SendMessage() method requires a string input.
You need to replace "Hello" with "Goodbye" in the parameter that is passed to the SendMessage() method.
Which two code segments can you use to achieve this goal? (Each correct answer presents a complete solution. Choose two.)

A.
```
var message = "Hello World";
SendMessage(message.Replace("Goodbye", "Hello"));
```

B.
```
var message = "Hello World";
SendMessage(message.Replace("Hello", "Goodbye"));
```

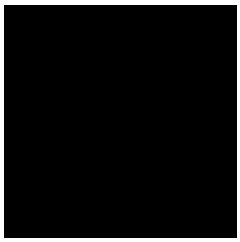
C.
```
var message = "Hello World";
message = message.Replace("Hello", "Goodbye");
SendMessage(message);
```

D.
```
var message = "Hello World";
message.Replace("Goodbye", "Hello");
SendMessage(message);
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer : BC

Explanation:
The first parameter should be Hello.



-> String.Replace Method (String, String)
Returns a new string in which all occurrences of a specified string in the current instance are replaced with another specified string.
This method does not modify the value of the current instance. Instead, it returns a new string in which all occurrences of oldValue are replaced by newValue.

Next Question

Question 196 (Volume B)

You are developing an application that includes the following code segment:

```
interface IHome
{
 void Start();
}
interface IOffice
{
 void Start();
}
```

You need to implement both Start() methods in a derived class named UseStart that uses the Start() method of each interface.
Which two code segments should you use? (Each correct answer presents part of the solution. Choose two.)

```
var starter = new UseStart();
((IHome, IOffice)starter).Start();
```

A.

```
class UseStart : IHome, IOffice
{
  public void IHome.Start()
  {
    ...
  }
  public void IOffice.Start()
  {
    ...
  }
}
```

B.

```
class UseStart : IHome, IOffice
{
  void IHome.Start()
  {
    ...
  }
  void IOffice.Start()
  {
    ...
  }
}
```

C.

```
var starter = new UseStart();
((IHome)starter).Start();
((IOffice)starter).Start();
```

D.

```
var starter = new UseStart();
starter.Start(IHome);
starter.Start(IOffice);
```

E.

```
var starter = new UseStart();
starter.Start();
```

F.

Answer : CD

Explanation:
C:
Implementing Multiple Interfaces
A class can implement multiple interfaces using the following syntax:
C#
public class CDAndDVDComboPlayer : ICDPlayer, IDVDPlayer
If a class implements more than one interface where there is ambiguity in the names of members, it is resolved using the full qualifier for the property or method name. In other words, the derived class can resolve the conflict by using the fully qualified name for the method to indicate to which interface it belongs
In C#, both inheritance and interface implementation are defined by the : operator, equivalent to extends and implements in Java. The base class should always be leftmost in the class declaration.

Next Question

Question 197 (Volume B)

HOTSPOT -
You are creating a method named getThankYou that accepts four parameters and returns a formatted string.
The getThanksYou method has the following signature.

```
public string getThankYou(string firstName,
                          string lastName,
                          int orderNymber,
                          float price)
{

}
```

The method needs to return a formatted string as shown in the following example.
Thank you Ben Smith for order 1234. The total price is $321.05.
The current culture when the method executes is en-US.
How should you complete the code? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

```
public string getThankYou(string firstName,
                          string lastName,
                          int orderNumber,
                          decimal price)
{
    return $"Thank you [ {0:firstname} {1:lastName} | {0} {1} | {firstName} {lastname} ] for" +
           $''order [ {2} | {2:orderNumber} | {orderNumber} ] . ''+
           $''The total price is [ {3:C2} | {3:D2} | {3:price:C2} | {3:price:D2} | {price:C2} | {price:D2} ] '';
}
```

Answer :

Answer Area

```
public string getThankYou(string firstName,
                          string lastName,
                          int orderNumber,
                          decimal price)
{
    return $"Thank you [ {0:firstname} {1:lastName} | {0} {1} | {firstName} {lastname} ] for" +
           $''order [ {2} | {2:orderNumber} | {orderNumber} ] . ''+
           $''The total price is [ {3:C2} | {3:D2} | {3:price:C2} | {3:price:D2} | {price:C2} | {price:D2} ] '';
}
```

Next Question

Question 198 (Volume B)

You have the following class definition.

```
public class ProcessManagement
{
    public int DegreeOfParallelism;
    private int NumberOfTasks = 0;
    public void SpawnTasks()
    {
        if (DegreeOfParallelism>20) { DegreeOfParallelism = 20};
        while (NumberOfTasks != DegreeOfParallelism)
        {
            CreateNewTask();
            NumberOfTasks++;
        }
    }
}
```

You discover that when you execute the following code, the SpawnTasks method enters an infinite loop.

```
ProcessManagement pm = new ProcessManagement();
pm.DegreeOfParallelism = -1;
pm.SpawnTasks();
```

You need to prevent the SpawnTasks method from entering an infinite loop.
Which two changes should you make to the code? Each correct answer presents part of the solution.
NOTE: Each correct selection is worth one point.

A. Add a property to the ProcessManagement class. Modify the property to allow only positive values to be stored in the DegreeOfParallelism member variable.
B. Add a property to the ProcessManagement class. Modify the property to allow only positive values to be stored in the NumberOfTasks member variable.
C. Change the accessor of the ProcessManagement class to internal.
D. Change the accessor of the DegreeOfParallelism member variable to private.
E. Change the accessor of the SpawnTasks method to private.

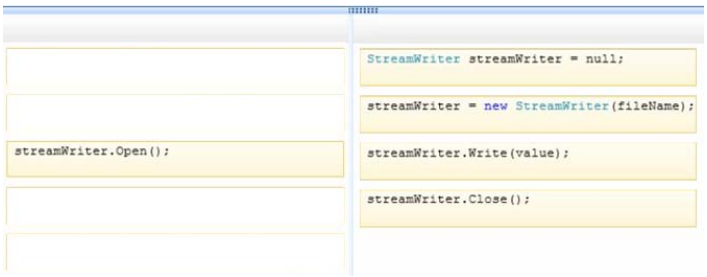
Answer : AB

Next Question

Question 199 (Volume B)

DRAG DROP -
You are developing an application that will write string values to a file. The application includes the following code segment. (Line numbers are included for reference only.)
01 protected void ProcessFile(string fileName, string value)
02 {
04 }
You need to ensure that the ProcessFile() method will write string values to a file.
Which four code segments should you insert in sequence at line 03? (To answer, move the appropriate code segments from the list of code segments to the answer area and arrange them in the correct order.)
Select and Place:

Answer :



Explanation:
Note:

StreamWriter.Null Field -
Provides a StreamWriter with no backing store that can be written to, but not read from.
Incorrect Answers:
Not StreamWrite.Open();
The StreamWriter Class does not have any method named Open.

Next Question

Question 200 (Volume B)

You are implementing a method named ProcessFile that retrieves data files from web servers and FTP servers. The ProcessFile() method has the following method signature:
Public void ProcessFile(Guid dataFileId, string dataFileUri)
Each time the ProcessFile() method is called, it must retrieve a unique data file and then save the data file to disk.
You need to complete the implementation of the ProcessFile() method. Which code segment should you use?

```
WebResponse response;
StreamReader reader;
WebRequest request = WebRequest.Create(dataFileUri);
using(response = request.GetResponse())
{
 reader = new StreamReader(response.GetResponseStream());
 response.Close();
}
using (StreamWriter writer = new StreamWriter (dataFileId + ".dat"))
{
 writer.Write(reader.ReadToEnd());
}
```

A.

```
FileWebRequest request = FileWebRequest.Create(dataFileUri) as FileWebRequest;
using (FileWebResponse response = request.GetResponse() as FileWebResponse)
using (StreamReader reader = new StreamReader(response.GetResponseStream()))
using (StreamWriter writer = new StreamWriter(dataField + ".dat"))
{
 writer.Write(reader.ReadToEnd());
}
```

B.

```
WebRequest request = WebRequest.Create(dataFileUri)
using (WebResponse response = request.GetResponse
using (Stream responseStream = response.GetResponseStream())
{
 StreamWriter writer = new StreamWriter (responseStream);
 writer.Write(dataFileId + ".dat");
}
```

C.

```
WebRequest request = WebRequest.Create(dataFileUri)
using (WebResponse response = request.GetResponse
using (StreamReader reader = new StreamReader(response.GetResponseStream()))
using (StreamWriter writer = new StreamWriter(dataField + ".dat"))
{
 writer.Write(reader.ReadToEnd()));
}
```

D.

Answer : D

Explanation:
WebRequest.Create Method (Uri)
Initializes a new WebRequest instance for the specified URI scheme.
Example:
1. To request data from a host server
Create a WebRequest instance by calling Create with the URI of the resource.
C#
WebRequest request = WebRequest.Create("http://www.contoso.com/");
2. Set any property values that you need in the WebRequest. For example, to enable authentication, set the Credentials property to an instance of the NetworkCredential class.
C#
request.Credentials = CredentialCache.DefaultCredentials;
3. To send the request to the server, call GetResponse. The actual type of the returned WebResponse object is determined by the scheme of the requested URI.
C#
WebResponse response = request.GetResponse();
4. To get the stream containing response data sent by the server, use the GetResponseStream method of the WebResponse.
C#
Stream dataStream = response.GetResponseStream ();

Next Question