https://my.pcloud.com/publink/show?code=XZb0qq7ZtwDqd9xYlwmH3aN0x5NXyf1skyyV

You have a class named Customer and a class named Order.
The customer class has a property named Orders that contains a list of Order objects.
The Order class has a property named OrderDate that contains the date of the Order.
You need to create a LINQ query that returns all of the customers who had at least one order during the year 2005. You write the following code.

```
List<Customer> customersWithOrdersIn2005 =
 customers.Target 1(c => c.Orders.Target 2(
 o Target 3 o.OrderDate.Year Target 4 2005)).ToList();
```

List customersWithOrdersIn2005 = customers.Where(c => c.Orders.Any(o => o.OrderDate.Year == 2005)).ToList();

You are building an application in Microsoft Visual Studio 2013.
You have the following code.

```
#define DEBUG

using System;
using System.Diagnostics;

public class TestClass
{
    [Conditional("DEBUG")]
    public void LogData()
    {
        Trace.Write("LogData1");
    }
    public void RunTestClass()
    {
        this.LogData();

#if (DEBUG)
        Trace.Write("LogData2");
#endif
    }
}
```

Yes, yes, yes

You have a C# application.
The application requires 500 MB of available memory.
You need to identify whether there is enough available memory when the application starts.
Which class should you use? **PerformanceCounter**

You have the following code:

```
[DataContract]
    public class Class1
    {
        string oneValue;
        [DataMember]
        public string OneValue
        {
            get { return oneValue; }
            set { oneValue = value; }
        }
       public Class1(string _oneValue)
       {
           oneValue = _oneValue;
       }
    }
   [DataContract]
    public class Class2
    {
        List<string> values;
       [DataMember]
        public List<string> Values
        {
            get { return values; }
            set { values = value; }
```

Statement	Yes	No
Class1 can be serialized by using the BinaryFormatter class.	○	✓
Class2 can be serialized by using the BinaryFormatter class.	○	✓
Class2 can be serialized by using the DataContractSerializer class.	✓	○

You are developing a function that takes a parameter named aParam as a string input.
You need to convert aParam to a Double. If the conversion cannot be completed, the function should return 0

```
public double convertTheDouble(string aParam)
        {
            Target 1 result;
            if (!Target 2.TryParse(aParam, Target 3 result))
                return 0;
            return result;
        }
```

public double convertTheDouble(string aParam)
{
double result;
if (!double.TryParse(aParam, out result))
return 0;
return result;
}

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. `XmlSerializer serializer = new XmlSerializer();`

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

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

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

You are testing an application. The application includes methods named CalculateInterest and LogLine. The CalculateInterest() method calculates loan interest. The LogLine() method sends diagnostic messages to a console window.
The following code implements the methods. (Line numbers are included for reference only.)

```
01
02  private static decimal CalculateInterest(decimal loanAmount, int loanTerm, decimal loanRate)
03  {
04    decimal interestAmount = loanAmount * loanRate * loanTerm;
05
06    LogLine("Interest Amount : ", interestAmount.ToString("c"));
07
08    return interestAmount;
09  }
10
11  public static void LogLine(string message, string detail)
12  {
13    Console.WriteLine("Log: {0} = {1}", message, detail);
14  }
```

You have the following requirements:
The CalculateInterest() method must run for all build configurations.
The LogLine() method must run only for debug builds.
You need to ensure that the methods run correctly.
What are two possible ways to achieve this goal?
Insert the following code segment at line 10:
[Conditional("DEBUG")]
Insert the following code segment at line 05:
#if DEBUG
Insert the following code segment at line 07:
#endif

You have a class named Customer and a variable named customers.
You need to test whether the customers' variable is a generic list of Customer objects.
Which line of code should you use?

A. `if (customers is List<Customer>)`

B. `if (customers is List<Customer>[])`

C. `if(customers.GetType() is List<Customer>[])`

D. `if(customers.GetType() is List<Customer>)`

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? **Specify the /define compiler option.**

You have the following code.
string MessageString = ?his is the original message!?
You need to store the SHA1 hash value of MessageString in a variable named HashValue.
Which code should you use? Develop the solution by selecting and arranging the required code blocks in the correct order. You may not need all of the code blocks.

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.GetEnumerator();
```

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

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

D.
```
result = ( from  System.Text.RegularExpressions. Match  m  in  myMatches
   where  !m.Success
   select  m.Value).ToList< string >();
```

You are developing an application that implements a set of custom exception types. You declare the custom exception types by using the following code segments:

```
public class ContosoException : System.Exception { ... }
public class ContosoDbException : ContosoException { ... }
public class ContosoValidationException : ContosoException { ... }
```

The application includes a function named DoWork that throws .NET Framework exceptions and custom exceptions. The application contains only the following logging methods:

```
static void Log(Exception ex) { ... }
static void Log(ContosoException ex) { ... }
static void Log(ContosoValidationException ex) { ... }
```

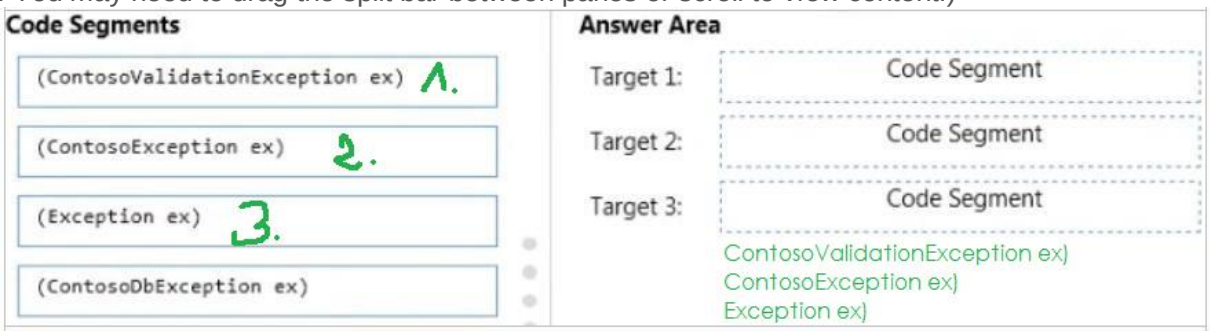
The application must meet the following requirements:
When ContosoValidationException exceptions are caught, log the information by using the static void Log (ContosoValidationException ex) method.
When ContosoDbException or other ContosoException exceptions are caught, log the information by using the static void Log(ContosoException ex) method.
You need to meet the requirements.
You have the following code:

```
try
{
  DoWork();
}
catch Target 1
{
  Log(ex);
}
catch Target 2
{
  Log(ex);
}
catch Target 3
{
  Log(ex);
}
```

Which code segments should you include in Target 1, Target 2 and Target 3 to complete the code? (To answer, drag the appropriate code segments to the correct targets in the answer area. Each code segment 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:



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

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

C.
```
if(System.Reflection.Assembly.GetExecutingAssembly().IsDefined
 (typeof(System.Diagnostics.Debugger), false))
  Console.WriteLine("Entering debug mode");
else
  Console.WriteLine("Entering release mode");
```

X D.
```
#if (DEBUG)
  Console.WriteLine("Entering debug mode");
#elif (RELEASE)
  Console.WriteLine("Entering release mode ");
#endif
```
albo żadne

You write the following code.
```
List<Type> types = (Target 1.CurrentDomain.GetAssemblies()
  .Target 2(t => t.GetTypes())
  .Where(t => t.IsClass && t.Assembly == this.GetType().Target 3)).ToList<Type>();
```

You need to get the list of all the types defined in the assembly that is being executed currently.
List types2 = AppDomain.CurrentDomain.GetAssemblies().
SelectMany(t => t.GetTypes())
.Where(t => t.IsClass && t.Assembly == GetType().Assembly).ToList<>();

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? **Decimal**

X B.
```
private static void ConvertAmount(float amount)
{
  TransferFunds((decimal)amount);
}
private static void TransferFunds(decimal funds)
{
  ...
  Console.WriteLine(funds);
}
```

A developer designs an interface that contains the following code:

```
public class Class1 : Class2
{
}
public interface INewInterface
{
    void Method1();
}
public class Class2 : INewInterface
{
    void INewInterface.Method1()
    {
        throw new NotImplementedException();
    }
}
```

Answer Area

Statement	Yes	No
If you call Method1 from an instance of Class2, an exception will be thrown.	○	○
If you cast an instance of Class1 into INewInterface, an exception will be thrown.	○	○
Class2 uses an implicit implementation of INewInterface.	○	○

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

```
01 public class Connection
02 {
03 public static Connection Create()
04 {
05 return new Connection();
06 }
07
08 }
```

You need to ensure that new instances of Connection can be created only by other classes by calling the Create method.
The solution must allow classes to inherit from Connection.
What should you do?

A. Replace line 01 with the following code:

```
public abstract class Connection
```

B. Replace line 01 with the following code:

```
public static class Connection
```

C. Insert the following code at line 07:

```
private Connection () {}
```

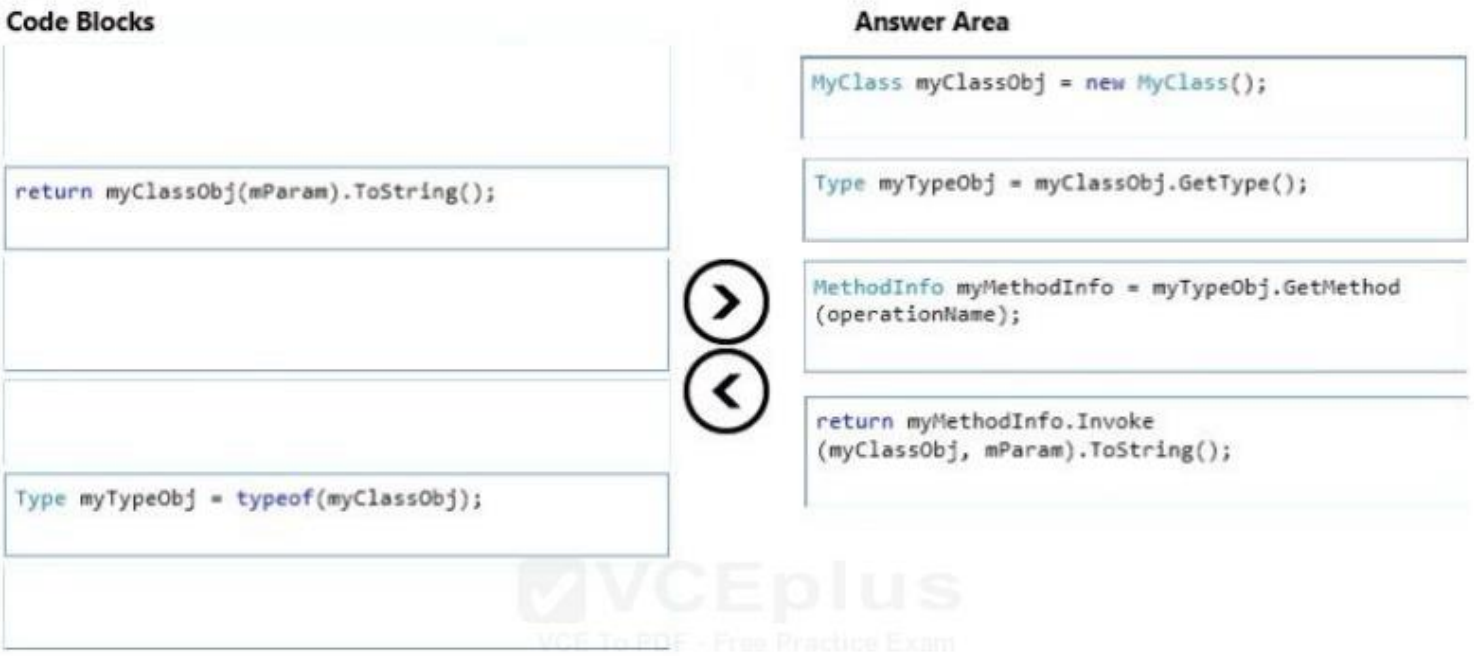
D. Insert the following code at line 07:

```
protected Connection () {}
```

You have the following class. (Line numbers are included for reference only.)

```
01 public class MyClass
02 {
03   public int AddNumb(int numb1, int numb2)
04   {
05    int result = numb1 + numb2;
06    return result;
07   }
08   public int SubNumb(int numb1, int numb2)
09   {
10    int result = numb1 - numb2;
11    return result;
12   }
13   public string doOperation(
   string operationName, int numb1, int numb2)
14   {
15    object[] mParam = new object[] { numb1, numb2 };
16
17   }
18 }
```

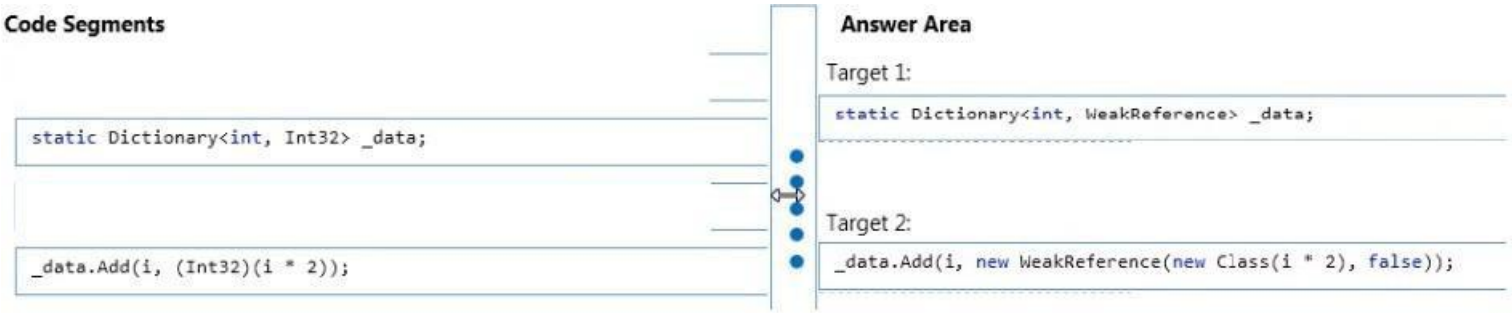
You need to complete the doOperation method to meet the following requirements:
If AddNumb is passed as the operationName parameter, the AddNumb function is called.
If SubNumb is passed as the operationName parameter, the SubNumb function is called.
Which code should you insert at line 16? Develop the solution by selecting and arranging the required code blocks in the correct order. You may not need all of the code blocks.
Select and Place:



You are creating a class named Data that includes a dictionary object named _data.
You need to allow the garbage collection process to collect the references of the _data object.
You have the following code:

```
public class Data
{
  Target 1
  public Data(int count)
  {
    for (int i = 0; i < count; i++)
    {
      Target 2
    }
  }
}
```

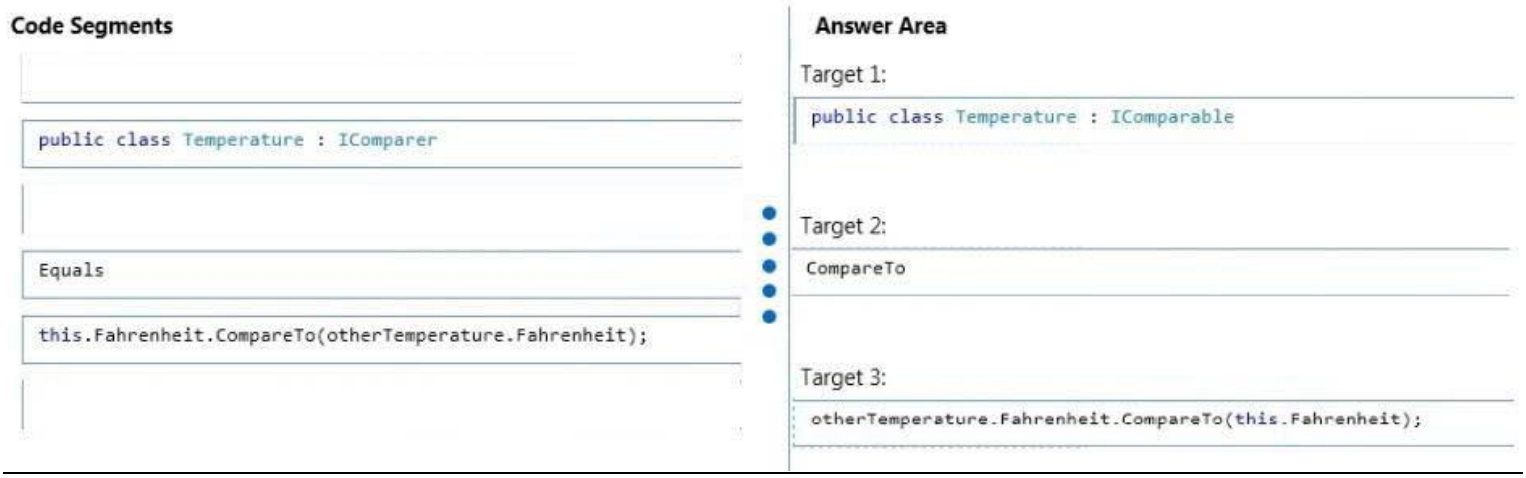
Which code segments should you include in Target 1 and Target 2 to complete the code?



You are developing a class named Temperature.
You need to ensure that collections of Temperature objects are sortable. You have the following code:

```
Target 1
{
  public double Fahrenheit { get; set; }
  public int Target 2
    (object obj)
  {
    if (obj == null) return 1;
    var otherTemperature = obj as Temperature;
    if(otherTemperature != null)
      return Target 3
    throw new ArgumentException("Object is not a Temperature");
  }
}
```


Which code segments should you include in Target 1, Target 2 and Target 3 to complete the code?



You are developing an application that contains a class named TheaterCustomer and a method named ProcessTheaterCustomer. The ProcessTheaterCustomer() method accepts a TheaterCustomer object as the input parameter.
You have the following requirements:
Store the TheaterCustomer objects in a collection.
Ensure that the ProcessTheaterCustomer() method processes the TheaterCustomer objects in the reverse order in which they are placed into the collection.
You need to meet the requirements.
What should you do? **Create a System.Collections.Stack collection. Use the Push() method to add TheaterCustomer objects to the collection. Use the Pop() method to pass the objects to the ProcessTheaterCustomer() method.**

ou have the following code. (Line numbers are included for reference only).

```
01 public async void ProcessWrite()
02 {
03   string filePath = @"temp2.txt";
04   string text = "Hello World\r\n";
05   await WriteTextAsync(filePath, text);
06 }
07 private async Task WriteTextAsync(string filePath, string text)
08 {
09   byte[] encodedText = Encoding.Unicode.GetBytes(text);
10   using (FileStream sourceStream = new FileStream(
·  filePath, FileMode.Append, FileAccess.Write,
·  FileShare.None, bufferSize: 4096, useAsync: true))
11   {
12
13   }
14 }
```

You need to complete the WriteTextAsync method. The solution must ensure that the code is not blocked while the file is being written. Which code should you insert at line 12?

A.
```
async sourceStream.Write(encodedText, 0, encodedText.Length);
```

B.
```
async sourceStream.WriteAsync(encodedText, 0, encodedText.Length);
```

C.
```
await sourceStream.Write(encodedText, 0, encodedText.Length);
```

D.
```
await sourceStream.WriteAsync(encodedText, 0, encodedText.Length);
```

You need to write a method that retrieves data from a Microsoft Access 2013 database. The method must meet the following requirements:
Be read-only.
Be able to use the data before the entire data set is retrieved.
Minimize the amount of system overhead and the amount of memory usage.
Which type of object should you use in the method? **DbDataReader** *class*

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.Skip(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.Take(80);
```

An application serializes and deserializes XML from streams. The XML streams are in the following format:

```
<Name xmlns="http://www.contoso.com/2012/06">
  <LastName>Jones</LastName>
  <FirstName>David</FirstName>
</Name>
```

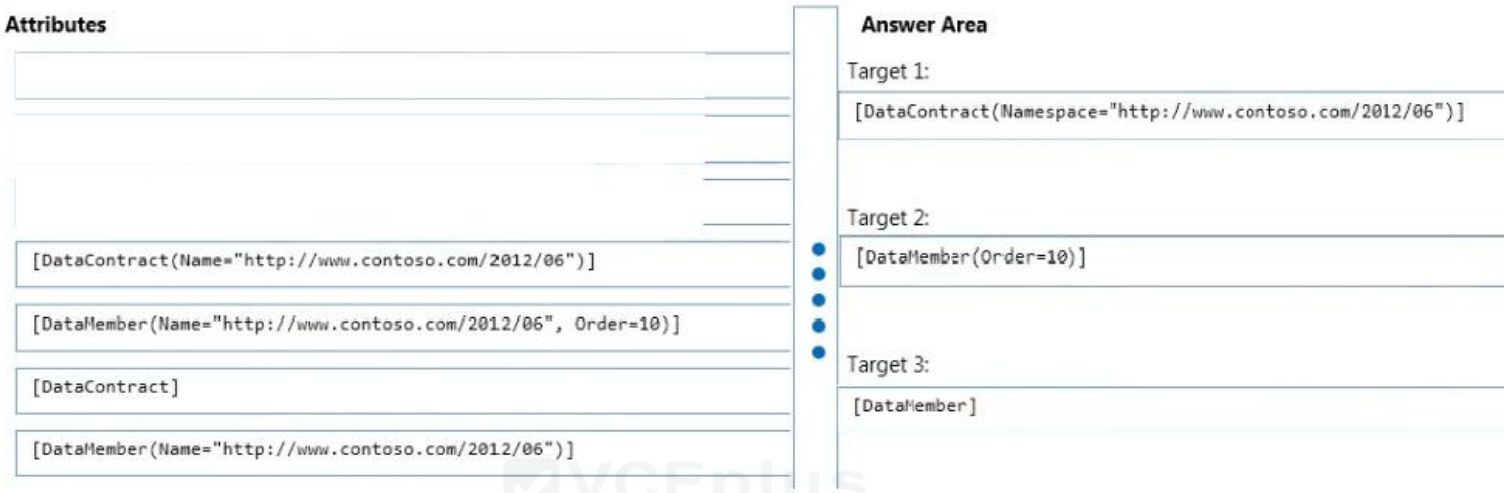
The application reads the XML streams by using a DataContractSerializer object that is declared by the following code segment:

```
var ser = new DataContractSerializer(typeof(Name));
```

You need to ensure that the application preserves the element ordering as provided in the XML stream.
You have the following code:

```
Target 1
class Name
{
  Target 2
  public string FirstName { get; set; }
  Target 3
  public string LastName { get; set; }
}
```

Which attributes should you include in Target 1, Target 2 and Target 3 to complete the code? (To answer, drag the appropriate attributes to the correct targets in the answer area. Each attribute 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:



When you execute the code, you get an exception.

```
01 List<Product> products = new List<Product>()
02 {
03   new Product() { Name = "Strawberry", CategoryID = 1 },
04   new Product() { Name = "Banana", CategoryID = 1 },
05 };
06 List<Product> B_Products = (List<Product>)
07 (
08 from product in products
09   where (product.Name.StartsWith("B"))
10   select new { Name = product.Name }
11 );
```

You need to ensure that B_Products contain all of the products that start with the letter “B”.
What should you do?

A. Replace line 06 with the following code.

```
Product[] B_Products = (Product[])
```

B. Replace line 10 with the following code.

```
select product.Name
```

C. Replace line 06 with the following code.

```
Array<Product> B_Products = (Array <Product>)
```

D. Replace line 10 with the following code.

```
select product
```

You are developing a C# application. The application includes a class named Rate. The following code segment implements the Rate class:

```
public class Rate
{
  public string Category { get; set; }
  public DateTime Date { get; set; }
  public decimal Value { get; set; }
}
```

You define a collection of rates named rateCollection by using the following code segment: CollectionrateCollection = new Collection() ;

The application receives an XML file that contains rate information in the following format:

```
<?xml version="1.0" encoding="utf-8" ?>
<RateSheet>
  <rate category="buyout" date="2012-03-22">
    <value>0.0375</value>
  </rate>
  <rate category="fixed" date="2012-03-23">
    <value>0.0475</value>
  </rate>
</RateSheet>
```

You need to parse the XML file and populate the rateCollection collection with Rate objects.

You have the following code:

```
using (XmlReader reader = XmlReader.Create(new StringReader(rateXML)))
{
  Target 1
  {
    Rate rate = new Rate();
    Target 2
    rate.Category = reader.Value;
    Target 3
    DateTime rateDate;
    if (DateTime.TryParse(reader.Value, out rateDate))
    {
      rate.Date = rateDate;
    }
    Target 4
    decimal value;
    if (decimal.TryParse(reader.ReadElementContentAsString(), out value))
    {
      rate.Value = value;
    }
    rateCollection.Add(rate);
  }
}
```

Which code segments should you include in Target 1, Target 2, Target 3 and Target 4 to complete the code?

Code Segments

- `while(reader.ReadToFollowing("RateSheet"))`
- `reader.MoveToContent();`
- `reader.ReadToFollowing("value");`

Answer Area

- Target 1: `while(reader.ReadToFollowing("rate"))`
- Target 2: `reader.MoveToFirstAttribute();`
- Target 3: `reader.MoveToNextAttribute();`
- Target 4: `reader.MoveToElement();`

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

```
class Loan
{
  public Loan(decimal amount, int term, decimal rate)
  {
    Term = term;
    Amount = amount;
    Rate = rate;
  }
  public decimal Amount { get; set; }
  public decimal Rate { get; set; }
  public int Term { get; set; }
}

class Customer
{
  public Customer(string firstName, string lastName, Collection<Loan> loans)
  {
    FirstName = firstName;
    LastName = lastName;
    LoanCollection = loans;
  }
  public string FirstName { get; set; }
  public string LastName { get; set; }
  public Collection<Loan> LoanCollection { get; set; }
}
```


You populate a collection named customer-Collection with Customer and Loan objects by using the following code segment:

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

You create a largeCustomerLoans collection to store the Loan objects by using the following code segment:
Collection largeCustomerLoans = new Collection();
All loans with an Amount value greater than or equal to 4000 must be tracked.
You need to populate the largeCustomerLoans collection with Loan objects.
Which code segment should you use?

A.
```
foreach (Customer customer in customerCollection)
{
  foreach (Loan loan in customer.LoanCollection)
  {
    if (loan.Amount >= 4000m)
    {
      customer.LoanCollection.Add(loan);
    }
  }
}
```

B.
```
foreach (Loan customer in customerCollection)
{
  foreach (Loan loan in largeCustomerLoans)
  {
    if (loan.Amount >= 4000m)
    {
      largeCustomerLoans.Add(loan);
    }
  }
}
```

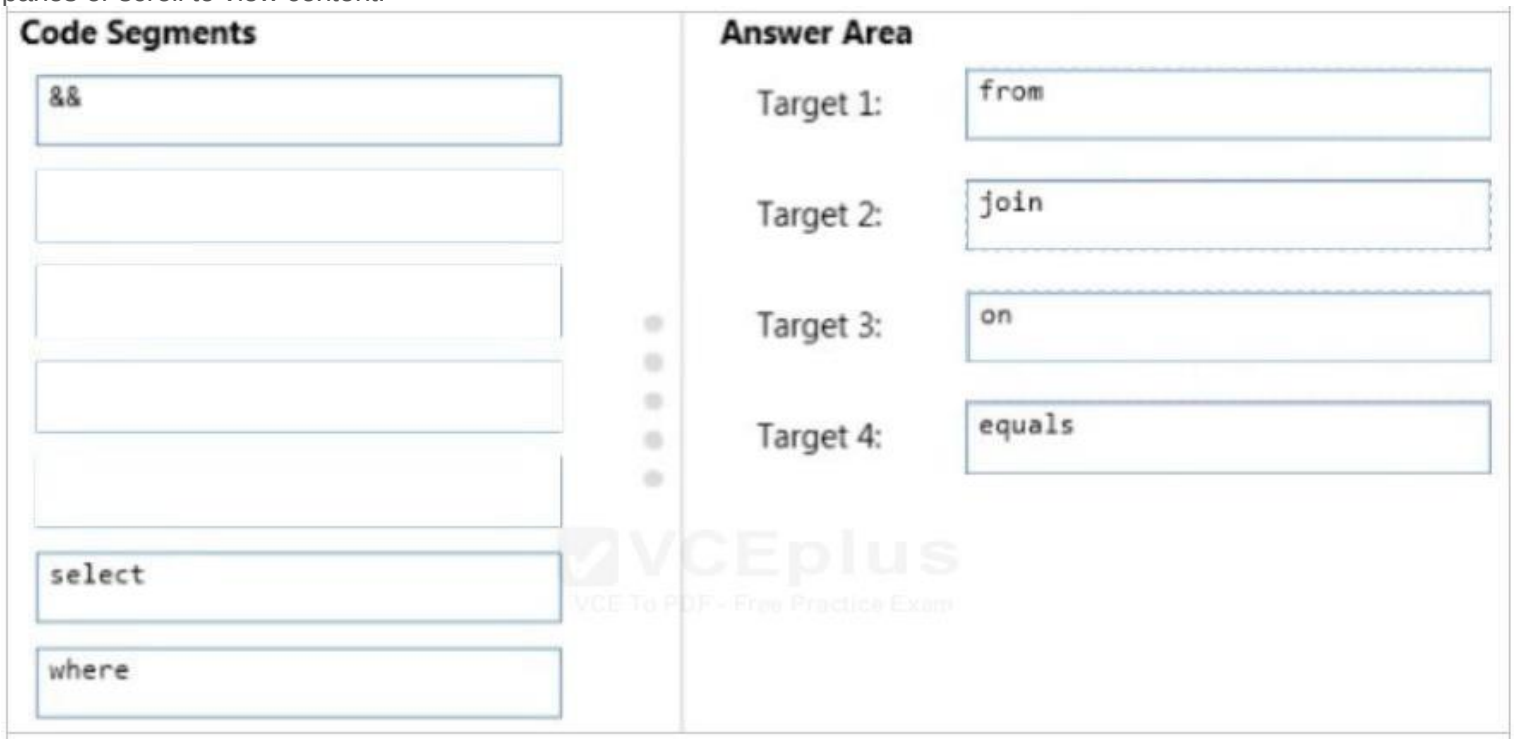
C.
```
foreach (Loan loan in largeCustomerLoans)
{
  foreach (Customer customer in customerCollection)
  {
    if (loan.Amount >= 4000m)
    {
      customer.LoanCollection.Add(loan);
    }
  }
}
```

D.
```
foreach (Customer customer in customerCollection)
{
  foreach (Loan loan in customer.LoanCollection)
  {
    if (loan.Amount >= 4000m)
    {
      largeCustomerLoans.Add(loan);
    }
  }
}
```

You have the following code.

```
public class Product
    {
        public string Name { get; set; }
        public int CategoryID { get; set; }
    }
    public class Category
    {
        public int ID { get; set; }
        public string Name { get; set; }
    }
List<Category> categories = new List<Category>()
{
    new Category() { ID = 1, Name = "Food" },
    new Category() { ID = 2, Name = "Clothing" },
};
List<Product> products = new List<Product>()
{
    new Product() { Name = "Strawberry", CategoryID = 1 },
    new Product() { Name = "Banana", CategoryID = 1 },
    new Product() { Name = "Pants", CategoryID = 2 },
};
    var productsWithCategories =
     Target 1 product in products
     Target 2 category in categories
        Target 3 product.CategoryID Target 4 category.ID
    select new
    {
        Name = product.Name,
        Category = category.Name
    };
```

You need to return all of the products and their associated categories.
How should you complete the code? To answer, drag the appropriate code elements to the correct targets in the answer area. Each code element 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.



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 or customer name. 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. Choose two.)

A.
```
public static Customer FindCustomer(int id)
public static Customer FindCustomer(string id)
public static void FindCustomer(int id)
```

B.
```
public static Customer FindCustomer(int id)
public static Customer FindCustomer(string id)
public static Customer FindCustomer(int id, string name)
```

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

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

You need to write a method that combines an unknown number of strings. The solution must minimize the amount of memory used by the method when the method executes.
What should you include in the code? **The StringBuilder.Append method**

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?

A.
```
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());
}
```

B.
```
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(dataFileId + ".dat"))
{
  writer.Write(reader.ReadToEnd());
}
```

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

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

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? **Use assembly attributes.**

You are developing a C# application. The application includes a class named Rate. The following code segment implements the Rate class:

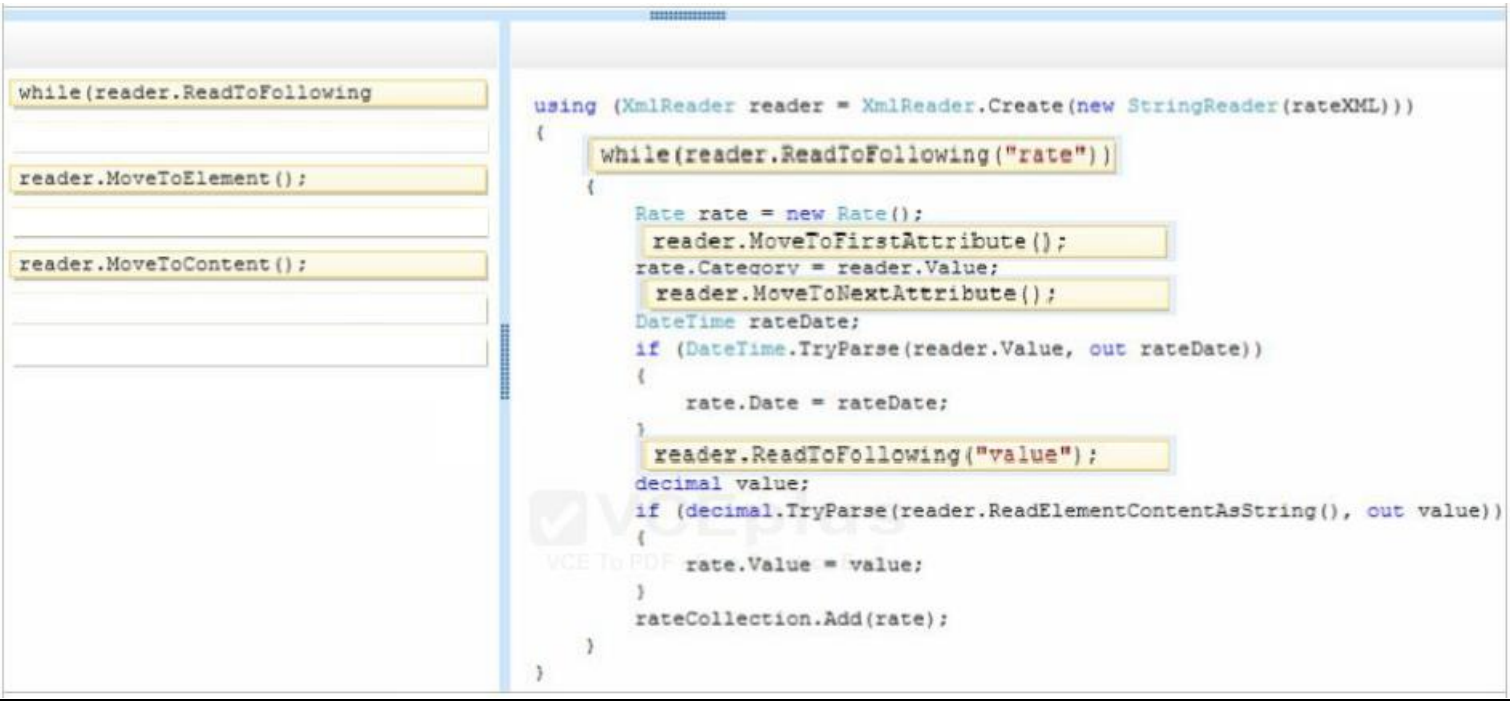
```
public class Rate
{
  public string Category { get; set; }
  public DateTime Date { get; set; }
  public decimal Value { get; set; }
}
```

You define a collection of rates named rateCollection by using the following code segment: CollectionrateCollection = new Collection() ;
The application receives an XML file that contains rate information in the following format:

```
<?xml version="1.0" encoding="utf-8" ?>
<RateSheet>
  <rate category="buyout" date="2012-03-22">
    <value>0.0375</value>
  </rate>
  <rate category="fixed" date="2012-03-23">
    <value>0.0475</value>
  </rate>
</RateSheet>
```

You need to parse the XML file and populate the rateCollection collection with Rate objects.

How should you complete the relevant code? (To answer, drag the appropriate code segments to the correct locations in the answer area. Each code segment 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:



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 {
3
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?
StreamWriter streamWriter = null;
streamWriter = new StreamWriter(path);
streamWriter.Write ("value");
streamWriter.Close();

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.
```
#define DEBUG
  Console.WriteLine("Entering debug mode");
#define RELEASE
  Console.WriteLine("Entering release mode");
```

B.
```
if(System.Reflection.Assembly.GetExecutingAssembly().IsDefined
 (typeof(System.Diagnostics.Debugger), false))
  Console.WriteLine("Entering debug mode");
else
  Console.WriteLine("Entering release mode");
```

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

D.
```
#if (DEBUG)
  Console.WriteLine("Entering debug mode");
#elif (RELEASE)
  Console.WriteLine("Entering release mode ");
#endif
```

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 AppSource and a custom log named AppLog on the server. You need to write events to the custom log.
Which code segment should you use?

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

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

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

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

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))
```

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?

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);
```

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?

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

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

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

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

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

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

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? **Task.WaitAll(tasks);**

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? **Replace line 15 with the following code segment: loanRate = 0.065m;**

You are developing an application that includes a class named Customer and a generic list of customers. The following code segment declares the list of customers:

List customersList = new List () ;

You populate the customersList object with several hundred Customer objects.
The application must display the data for five Customer objects at a time.
You need to create a method that will return the correct number of Customer objects.
Which code segment should you use?

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

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

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

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

public static IEnumerable Page(this IEnumerable source, int page, int pageSize)
{
return source.Skip((page – 1) * pageSize).Take(pageSize);
}

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? **Set the value of the gcAllowVeryLargeObjects property to true in the application configuration file.**

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);
```

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? **AssemblyCultureAttribute AssemblyVersionAttribute**

You are developing an application that contains a class named TheaterCustomer and a method named ProcessTheaterCustomer. The ProcessTheaterCustomer() method accepts a TheaterCustomer object as the input parameter.
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? **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.

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)
{
  ...
}
```

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
  EvaluateLoan();
  ProcessLoan();
#endif
```

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

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();
```

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? **public property**

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? **Use the AL.exe command-line tool**

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);
```

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.)

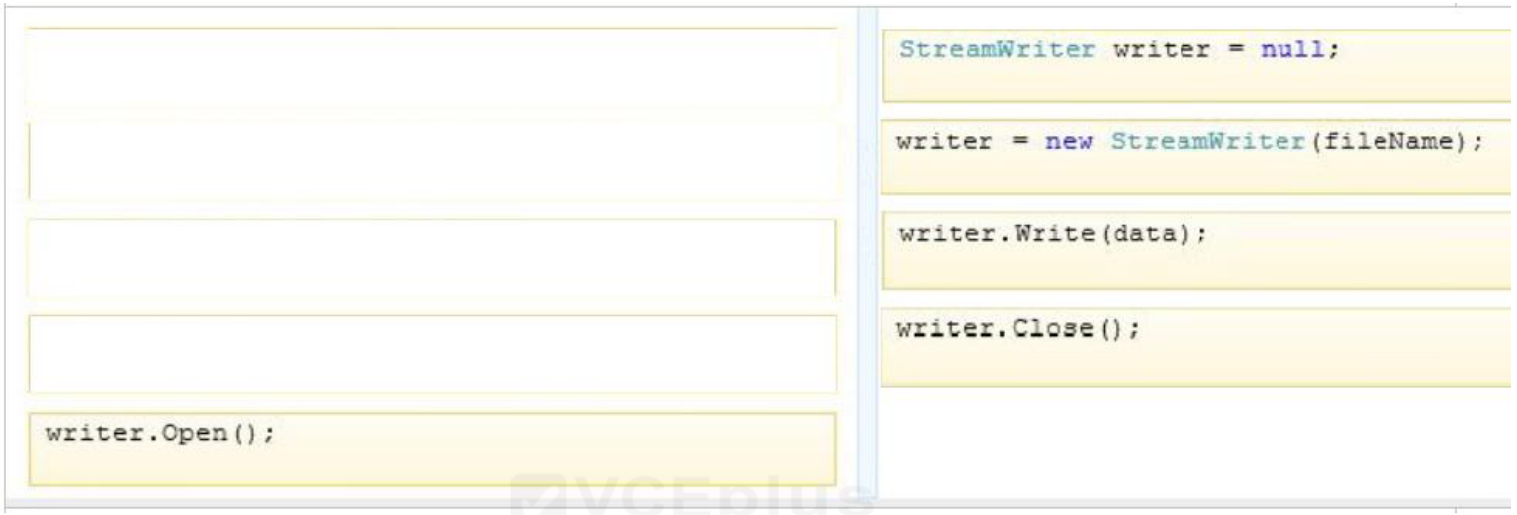
A.
```
private static List<String> GetValidPhoneNumbers(string input, string pattern)
{
  var regex = new Regex(pattern);
  var matches = regex.Matches(input);
  var validPhoneNumbers = new List<String>();
  foreach(Match match in matches)
  {
    if(match.Success)
    {
      validPhoneNumbers.Add(match.Value);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

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.)
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:



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

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? **Configure the Define DEBUG constant setting in Microsoft Visual Studio.**

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? **01**

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 later be 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 = await GetData();
  ...
}
public async Task<string> GetData()
{
  ...
}
```

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

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

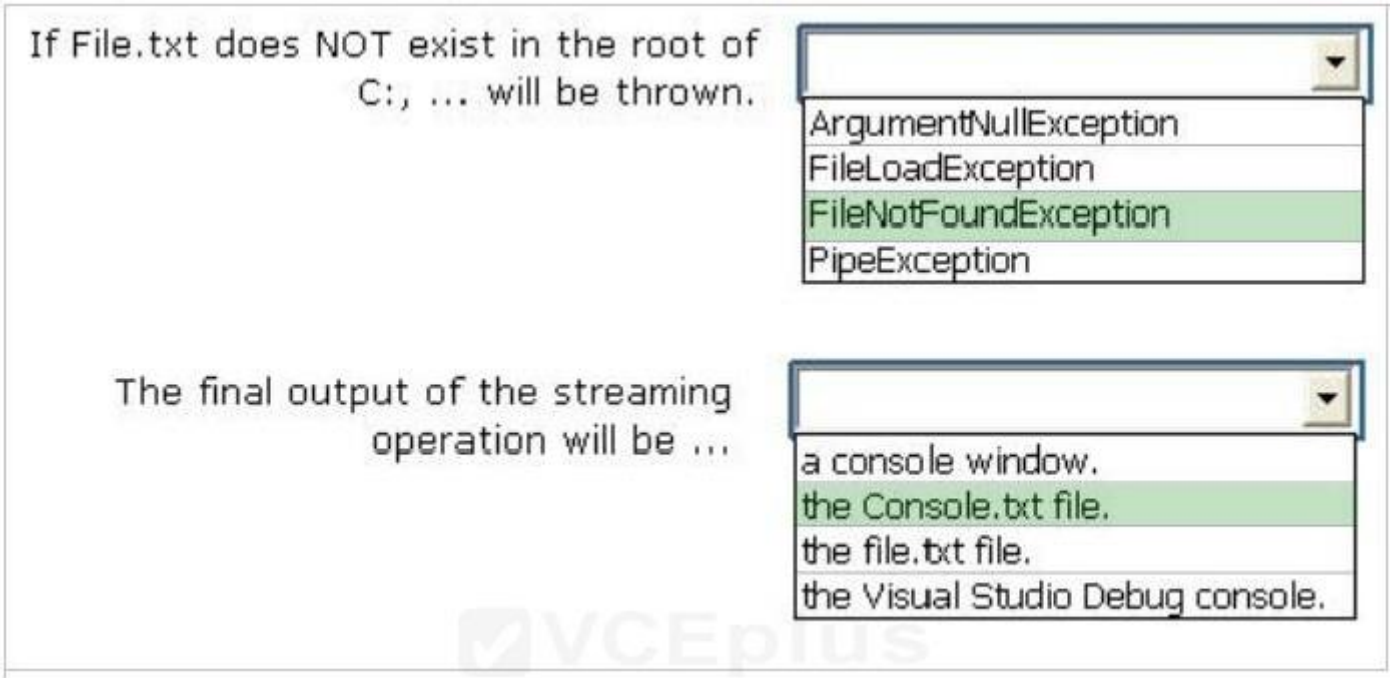
You are implementing a method named ProcessData that performs a long-running task. The ProcessData() method has the following method signature: public void ProcessData(List values, CancellationTokenSource source, CancellationToken token)
If the calling code requests cancellation, the method must perform 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? **token.ThrowIfCancellationRequested();**

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.



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;
```

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 part of the solution. Choose two.)

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()
  {
    ...
  }
}
```

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

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

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

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:

213
312
231
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?

A. Insert the following at line 5:
```
Object obj1 = new Object();
```
Insert the following at line 12:
```
Monitor.Enter(obj1);
```

B. Insert the following at line 5:
```
Object obj1 = new Object();
```
Insert the following at line 12:
```
lock (obj1)
```

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

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

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
```

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.

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)
{
  TransferFunds(Double.Parse(amount));
}
private static void TransferFunds(double funds)
{
  ...
  Console.WriteLine(funds);
}
```

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? **Lock**

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);
}
```

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? **SHA-256**

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. Choose two.) **Create a TaskCompletionSource<T> object.** *oraz* **Call the component by using the TaskFactory.FromAsync() method.**

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;
```

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);
```

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;
}
```

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.XmlWriterTraceListener listener =
 new XmlWriterTraceListener("./Error.log");
listener.WriteLine(ex.Message);
listener.Flush();
listener.Close();
```

B.
```
System.Diagnostics.XmlWriterTraceListener loggingListener =
 new XmlWriterTraceListener("./Trace.log");
loggingListener.Flush();
loggingListener.Close();
```

C.
```
System.Diagnostics.Trace.WriteLine(ex.Message, "Error.log");
```

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

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? **binary.Flush();**

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? **Add the AssemblyDelaySignAttribute attribute to the assembly.**

You have an application that accesses a Web server named Server1.
You need to download an image named Image1.jpg from Server1 and store the image locally as File1.jpg.
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();
```

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;
  ...
}
```

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. Choose two.)

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);
}
```

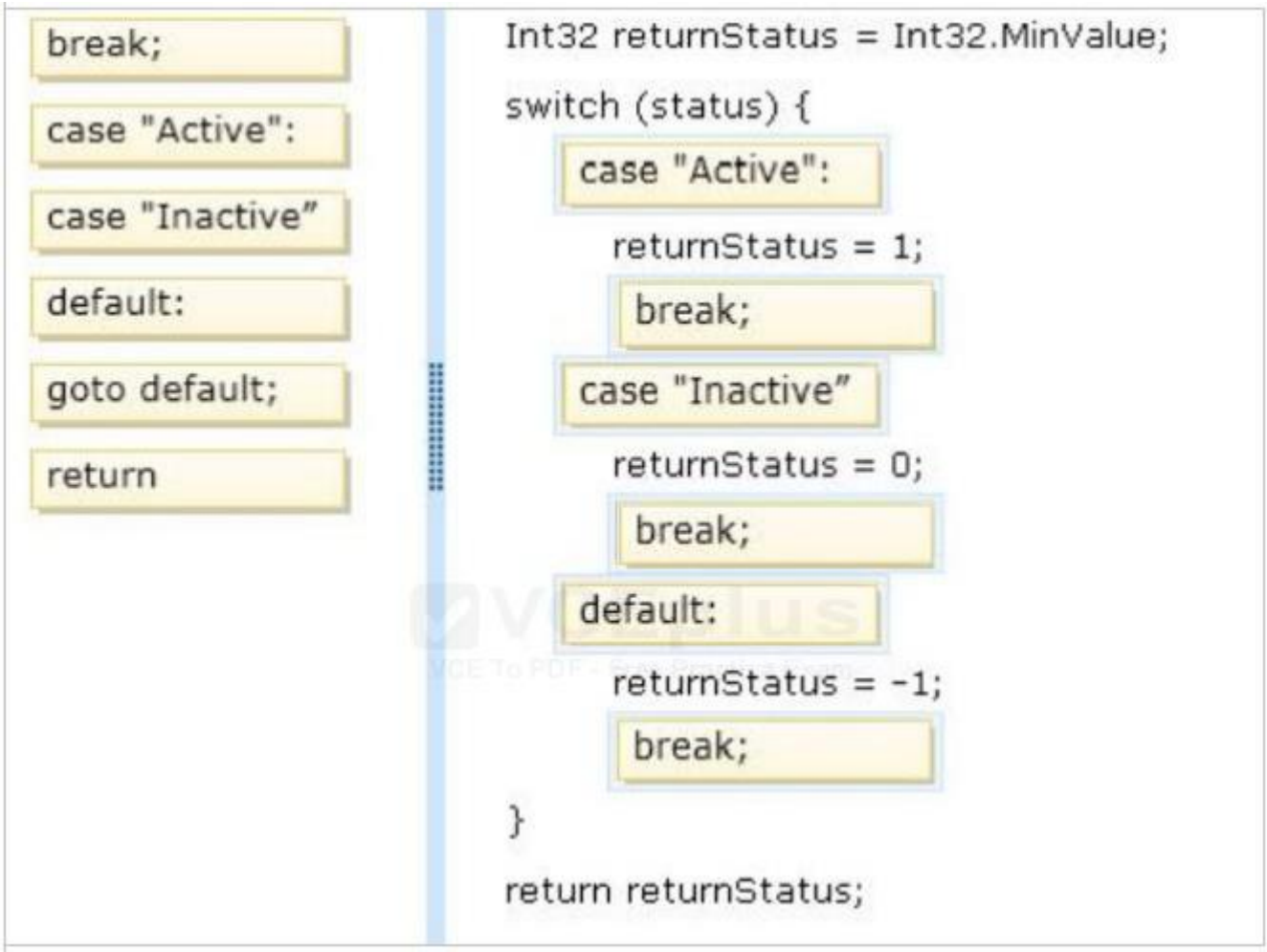
D.
```
static void Main(string[] args)
{
  dynamic message = new ExpandoObject();
  message.From = "Jon Morris";
  message.To = "Mary North";
  message.Content = "Hello World";
  SendMessage(message);
```

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? **Catch the ArgumentNullException exception first.**

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:



You are developing an application that uses multiple asynchronous tasks to optimize performance.
You need to retrieve the result of an asynchronous task.
Which code segment should you use?

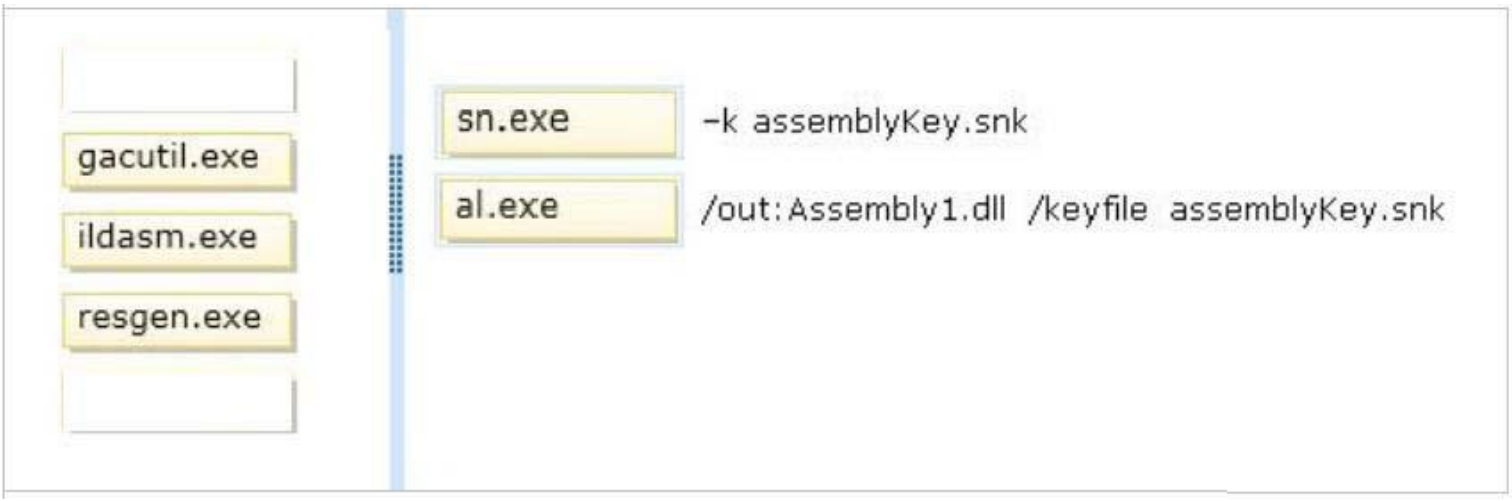
A.
```
protected async void StartTask()
{
  string result = await GetData();
  ...
}
public Task<string> GetData()
{
  ...
}
```

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()
{
  ...
}
```

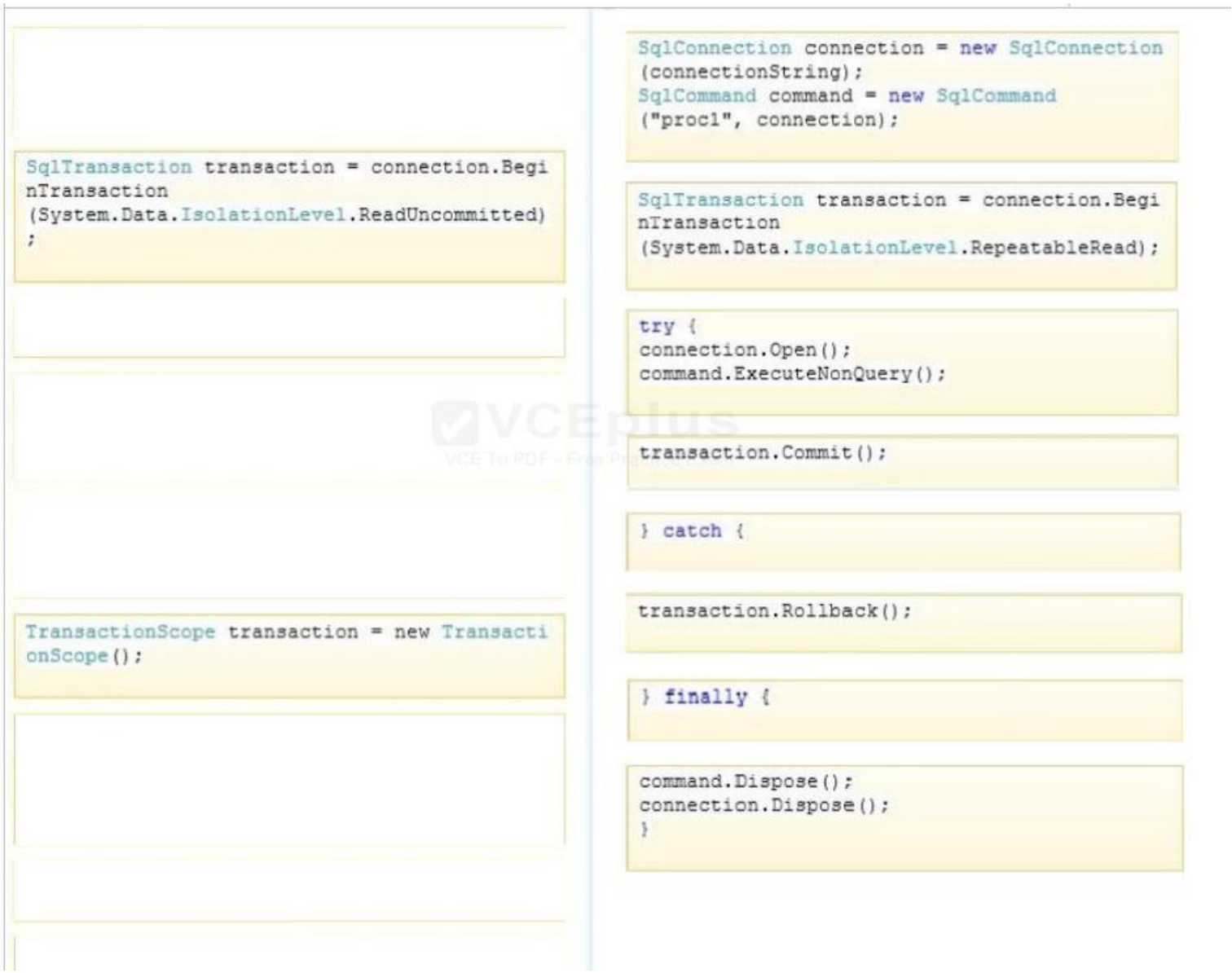
D.
```
protected async void StartTask()
{
  string result = async GetData();
  ...
}
public await Task<string> GetData()
{
  ...
}
```

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:

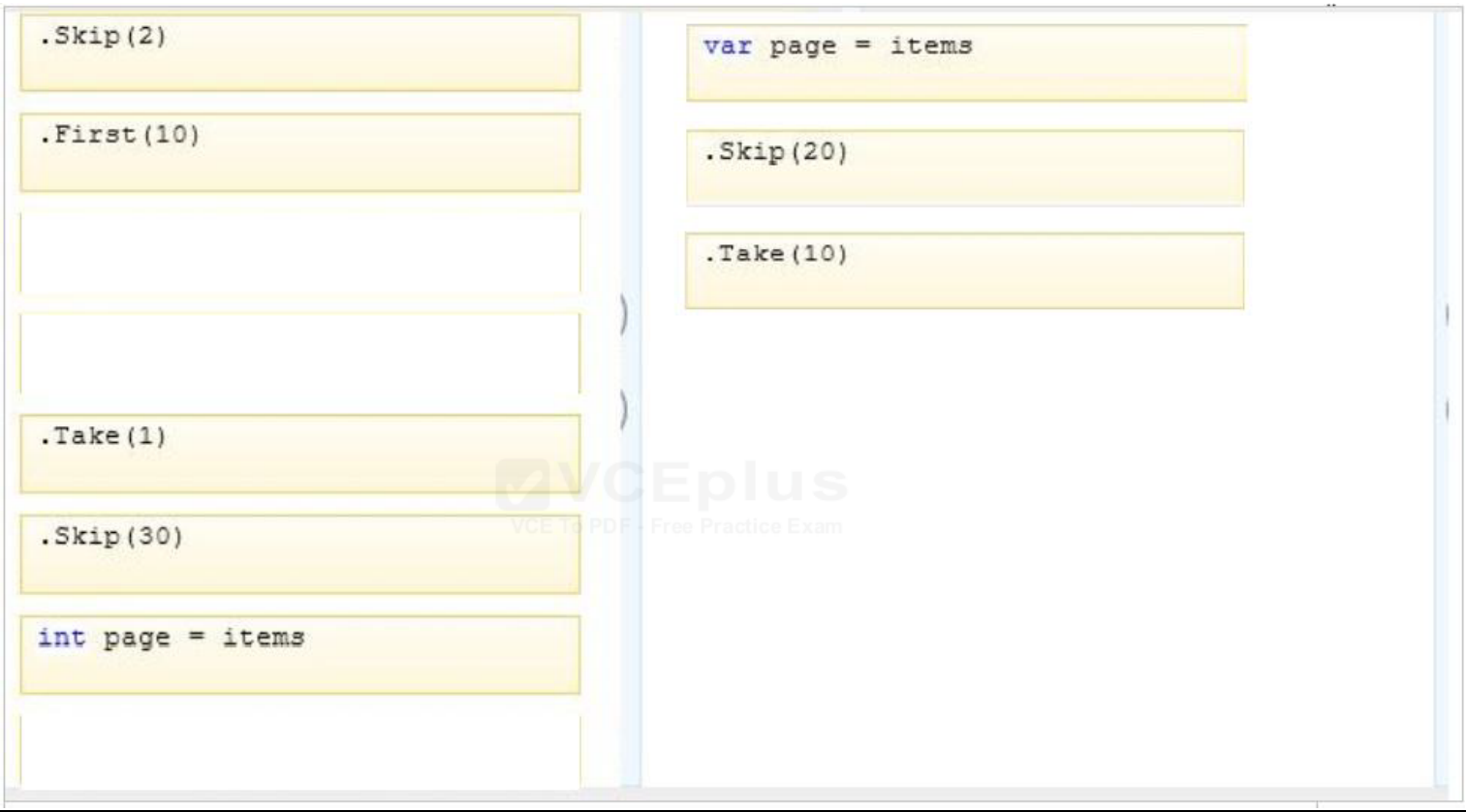


You have an application that accesses a Microsoft SQL Server database.
The database contains a stored procedure named Proc1. Proc1 accesses several rows of data across multiple tables.
You need to ensure that after Proc1 executes, the database is left in a consistent state. While Proc1 executes, no other

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:



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:



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 this goal? (Each correct answer presents a complete solution. Choose two.)

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;
```

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? **System.Security.Cryptography.TripleDES**

You are developing an application that uses a .config file.
The relevant portion of the .config file is shown as follows:

```
<system.diagnostics>
  <trace autoflush="false" indentsize="0">
    <listeners>
      <add name="appListener"
        type="System.Diagnostics.EventLogTraceListener"
        initializeData="TraceListenerLog" />
    </listeners>
  </trace>
</system.diagnostics>
```

You need to ensure that diagnostic data for the application writes to the event log by using the configuration specified in the .config file.
What should you include in the application code?

A.
```
Debug.WriteLine("Trace data...");
```

B.
```
Console.SetOut(new StreamWriter("System.Diagnostics.EventLogTraceListener"));
Console.WriteLine("Trace data...");
```

C.
```
Trace.WriteLine("Trace data...");
```

D.
```
EventLog log = new EventLog();
log.WriteEntry("Trace data...");
```

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 employeesList = new List();
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);
}
```

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? **tokenSource.Cancel();**

You are implementing a new method named ProcessData. The ProcessData() method calls a third-party component that performs a long-running operation.
The third-party component uses the IAsyncResult pattern to signal completion of the long- running operation.
You need to ensure that the calling code handles the long-running operation as a System.Threading.Tasks.Task object.
Which two actions should you perform? (Each correct answer presents part of the solution. Choose two.) **Call the component by using the TaskFactory.FromAsync() method.***oraz* **Create a TaskCompletionSource<T> object.**

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();
```

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;
```

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? **Replace line 15 with the following code segment: loanRate = 0.0825m;**

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();`

You need to write a method that retrieves data from a Microsoft Access 2013 database. The method must meet the following requirements:
Be read-only.
Be able to use the data before the entire data set is retrieved.
Minimize the amount of system overhead and the amount of memory usage.
Which type of object should you use in the method? **DbDataReader**

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.
```
#if ERROR
  System.Diagnostics.Trace.TraceError(ex.Message, "ApplicationLog");
#endif
```

B.
```
System.Diagnostics.XmlWriterTraceListener listener =
 new XmlWriterTraceListener("./Error.log");
listener.WriteLine(ex.Message);
listener.Flush();
listener.Close();
```

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

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

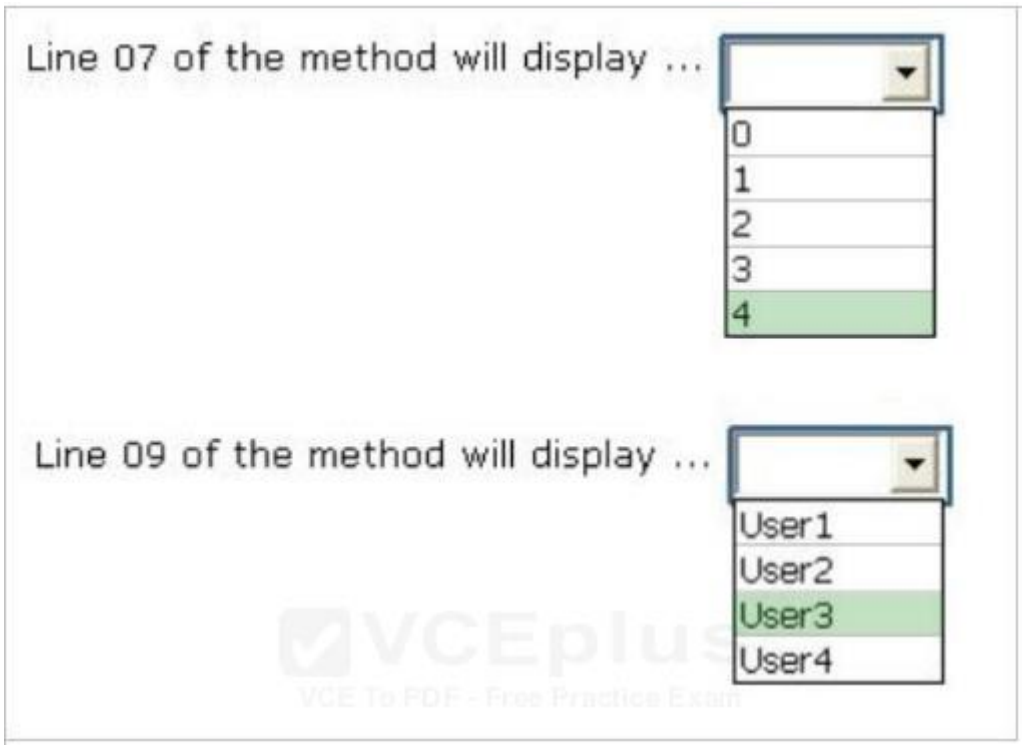
You define a class by using the following code:

```
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);
```

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



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))
```

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);
```

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? **binary.Flush();**

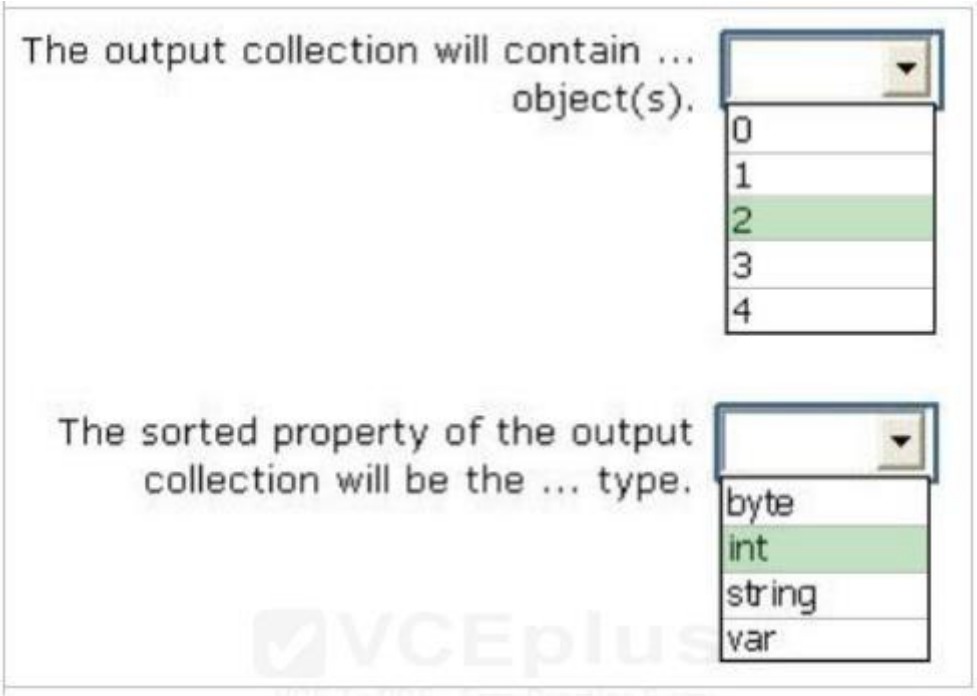
You define a class by using the following code:

```
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:



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 classes from the list of classes to the answer area and arrange them in the correct order.)
Select and Place:

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? **Configure the Define DEBUG constant setting in Microsoft Visual Studio.**

You are implementing a method named GetValidEmailAddresses. The GetValidEmailAddresses() method processes a list of string values that represent email addresses.
The GetValidEmailAddresses() method must return only email addresses that are in a valid format. You need to implement the GetValidEmailAddresses() 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> GetValidEmailAddresses(string input, string pattern)
{
  var regex = new Regex(pattern);
  var matches = regex.Matches(input);
  var validEmailAddresses = new List<String>();
  foreach(Match match in matches)
  {
    if(!match.Success)
    {
      validEmailAddresses.Add(match.Value);
    }
  }
  return validEmailAddresses;
}
```

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

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 largeCustomerAccounts = new Collection ();
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);
    }
  }
}
```

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

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?

A. Insert the following code segment at line 08:

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

B. Insert the following code segment at line 08:

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

C. Replace line 03 with the following code segment:

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

D. Insert the following code segment at line 08:

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

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? **CryptoStream**

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? **Produce program database (PDB) information when you compile the code.**

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?

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

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

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

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

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.)
01 public string FormatCoins(string name, int coins) 02 {
3
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);
```

An application is throwing unhandled NullReferenceException and FormatException errors. The stack trace shows that the exceptions occur in the GetWebResult() method.
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.

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? **Queue**

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? **Use assembly attributes.**

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);
```

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);
```

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

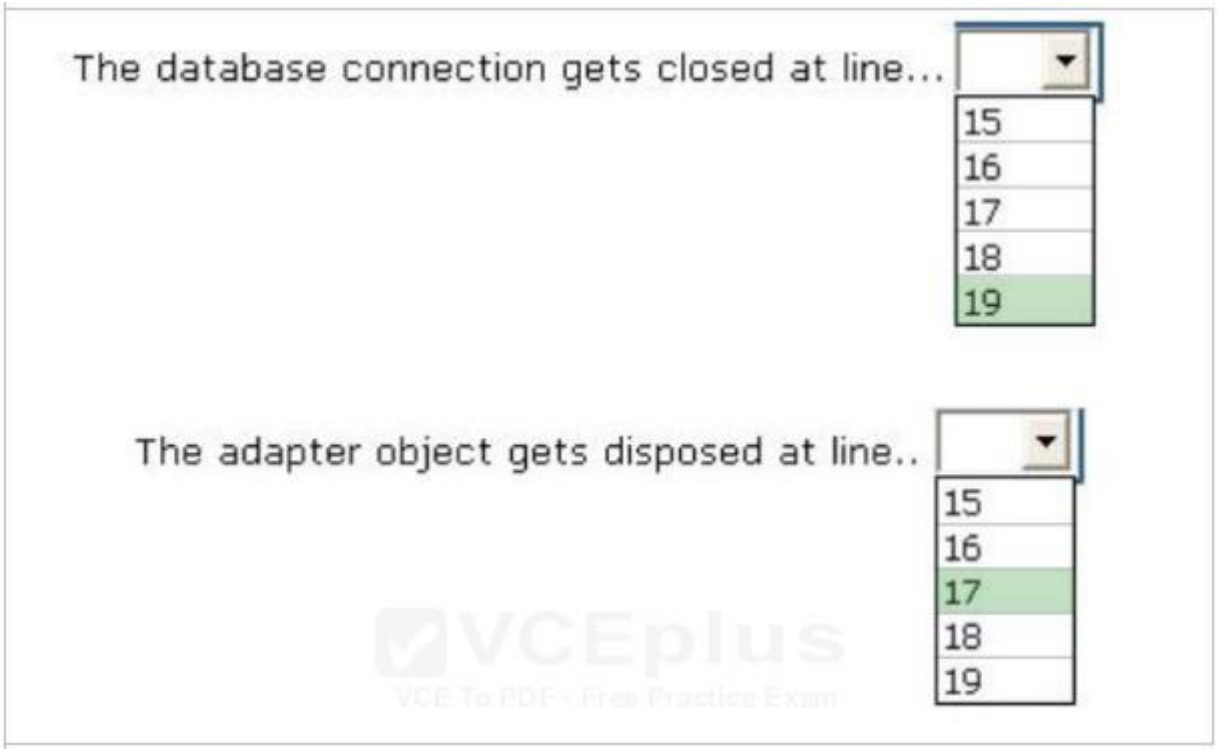
```
01  ArrayList array1 = new ArrayList();
02  int var1 = 10;
03  int var2;
04  array1.Add(var1);
05  var2 = array1[0];
```

When you run the code, you receive the following error message: “Cannot implicitly convert type ‘object” to ‘inf. 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? **var2 = Convert.ToInt32(array1[0]);**

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:



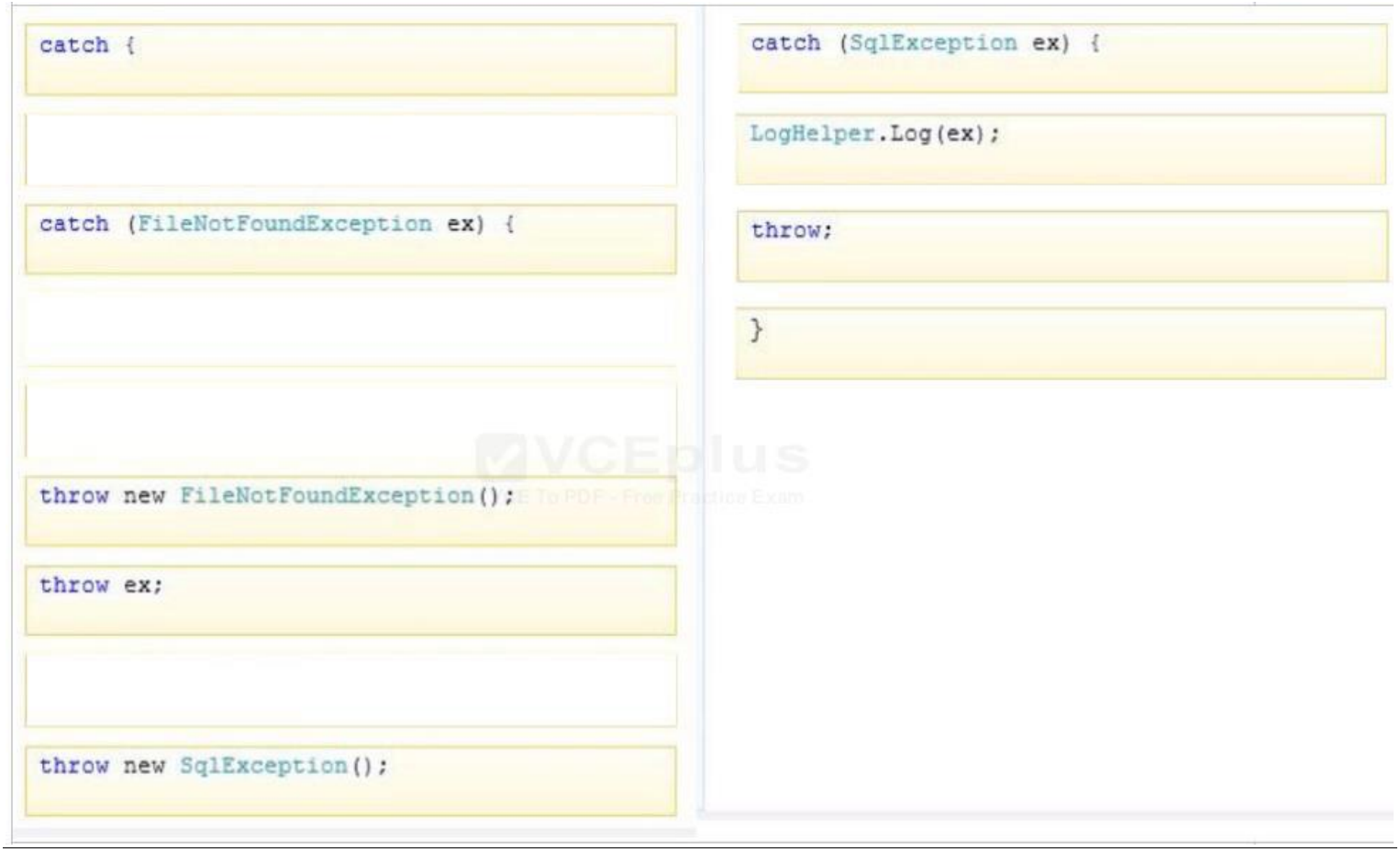
You need to create a method that can be called by using a varying number of parameters.
What should you use? **Method overloading**

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:

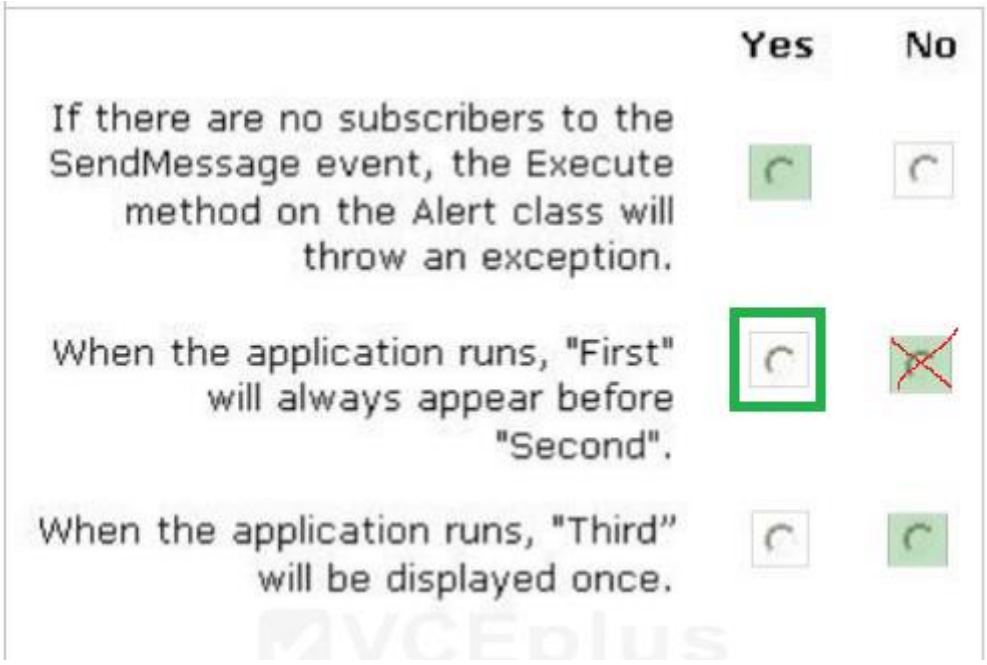
You are creating a method that saves information to a database.
You have a static class named LogHelper. LogHelper has a method named Log to log the exception.
You need to use the LogHelper Log method to log the exception raised by the database server. The solution must ensure that the exception can 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:



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:



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? **Assembly.ReflectionOniyLoad(bytes);**

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);
```

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.) **IEnumerable** *oraz* **IDisposable**

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?

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

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

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

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

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? **StringReader**

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? **DoWork((Widget)o);**

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.
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.	○	●

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,`

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];
}
```

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? **Insert the following code at line 02: here T : new()**

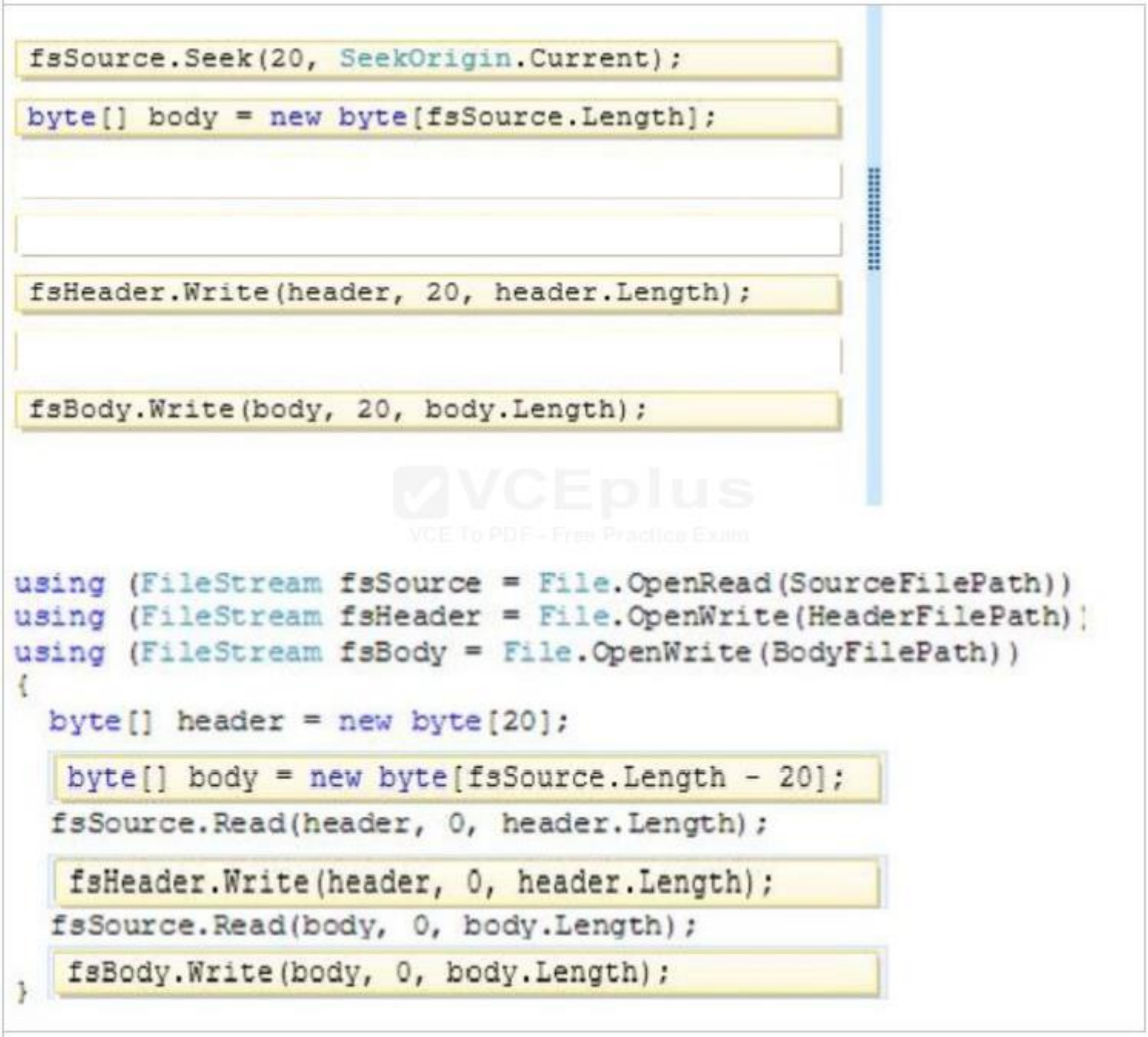
You are implementing a method named ProcessReports that performs a long-running task. The ProcessReports() method has the following method signature:
public void ProcessReports(List values,CancellationTokenSource cts, CancellationToken ct)
If the calling code requests cancellation, the method must perform 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? **cts.Cancel();**

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.) **AssemblyCultureAttribute** *oraz* **AssemblyVersionAttribute**

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? **Func**

You are creating a method that will split a single input file into two smaller output files.
The method must perform the following actions:

Create a file named header.dat that contains the first 20 bytes of the input file.
Create a file named body.dat that contains the remainder of the input file.
You need to create the method.
How should you complete the relevant code? (To answer, drag the appropriate code segments to the correct locations in the answer area. Each code segment 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:



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 = items.Take(80);
```

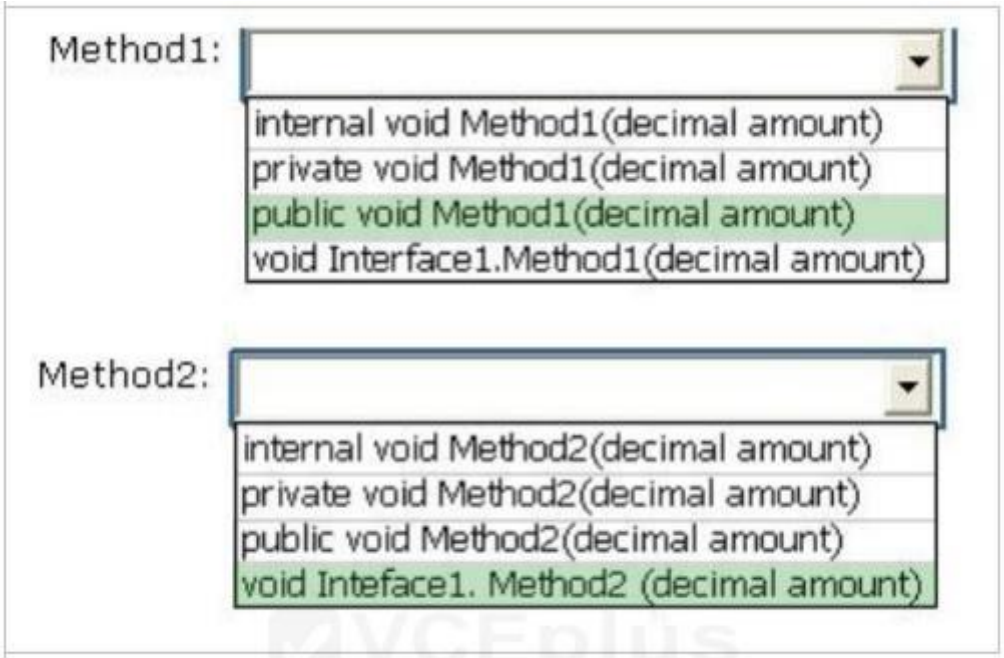
C.
```
var result = items.First(i => i > 80);
```

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

You are developing the following classes named:
Class1
Class2
Class3
All of the classes will be part of a single assembly named Assembly.dll. Assembly.dll will be used by multiple applications.
All of the classes will implement the following interface, which is also part ofAssembly.dll:

```
public interface Interface1
{
void Method1(decimal amount);
void Method2(decimal amount);
}
```

You need to ensure that the Method2 method for the Class3 class can be executed only when instances of the class are accessed through the Interface1 interface. The solution must ensure that calls to the Method1 method can be made either through the interface or through an instance of the class.
Which signature should you use for each method? (To answer, select the appropriate signature for each method in the answer area.)
Hot Area:



You are adding a function to a membership tracking application. The function uses an integer named memberCode as an input parameter and returns the membership type as a string.
The function must meet the following requirements:
Return “Non-Member” if the memberCode is 0.
Return “Member” if the memberCode is 1.
Return “Invalid” if the memberCode is any value other than 0 or 1.
You need to implement the function 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

```
private string GetMemberType(int memberCode)
{
    string memberType;
    switch (memberCode)
    {
        case 0:
            memberType = "Non-Member";
            break;
        case 1:
            memberType = "Member";
            break;
        default:
            memberType = "Invalid";
            break;
    }
    return memberType;
}
```

You need to write a method that retrieves data from a Microsoft Access 2013 database.
The method must meet the following requirements:
Be read-only.
Be able to use the data before the entire data set is retrieved.
Minimize the amount of system overhead and the amount of memory usage.
Which type of object should you use in the method? **OleDbDataReader**

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 (obj = null)
{
  return true;
}
```

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

C.
```
if (obj ==  0)
{
  return true;
}
```

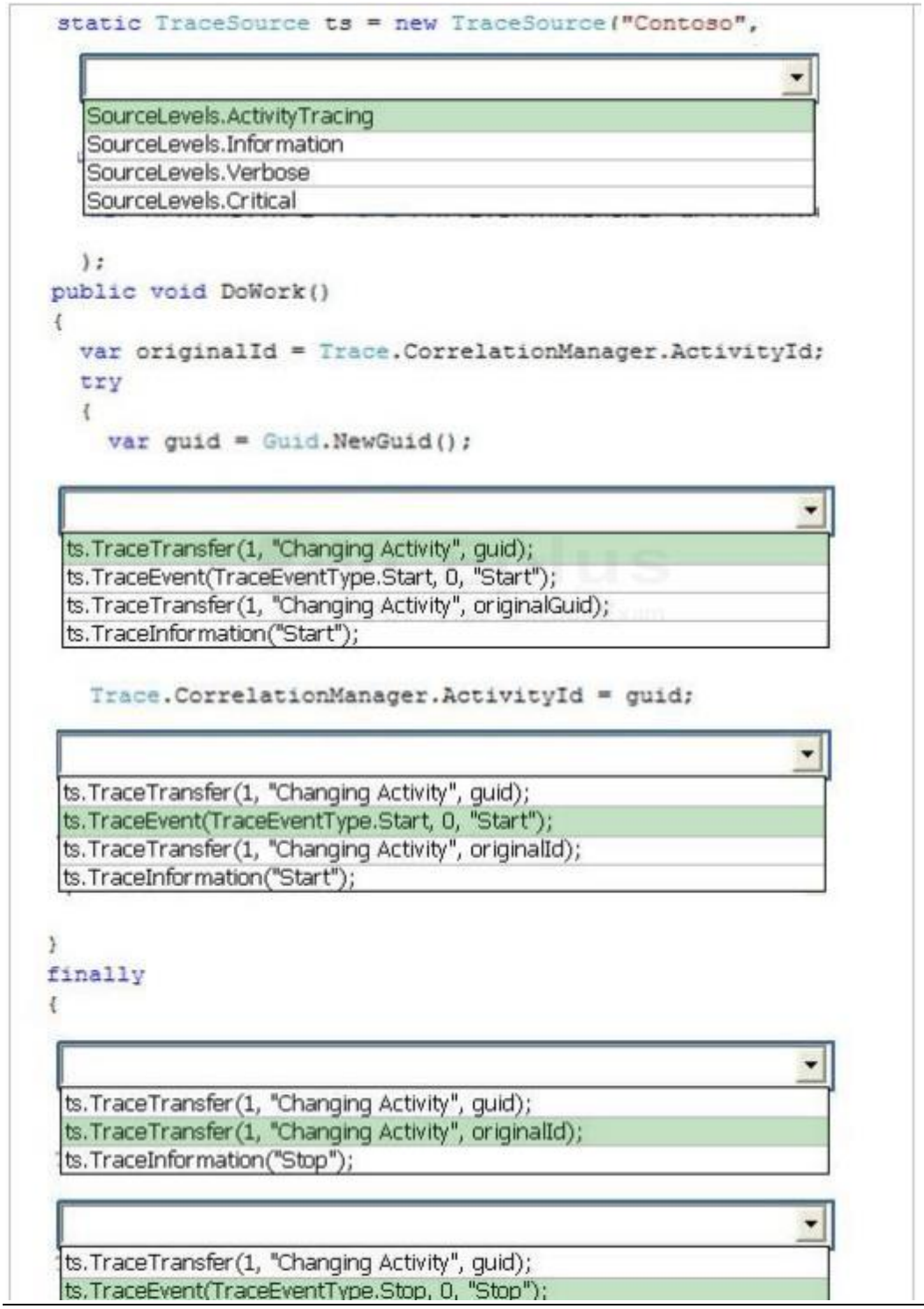
D.
```
if (obj == null)
{
  return true;
}
```

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? **var2 = (int) arrayl [0];**

You are developing an application that includes a Windows Communication Foundation (WCF) service. The service includes a custom TraceSource object named ts and a method named DoWork. The application must meet the following requirements:
Collect trace information when the DoWork() method executes.
Group all traces for a single execution of the DoWork() method as an activity that can be viewed in the WCF Service Trace Viewer Tool.
You need to ensure that the application meets the requirements.
How should you complete the relevant code? (To answer, select the correct code segment from each drop-down list in the answer area.)
Hot Area:



You are developing a class named Temperature.
You need to ensure that collections of Temperature objects are sortable.
How should you complete the relevant code segment? (To answer, drag the appropriate code segments to the correct locations in the answer area. Each code segment 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:

```
public class Temperature : IComparer

Equals

otherTemperature.Fahrenheit.CompareTo(this.Fahrenheit);
```

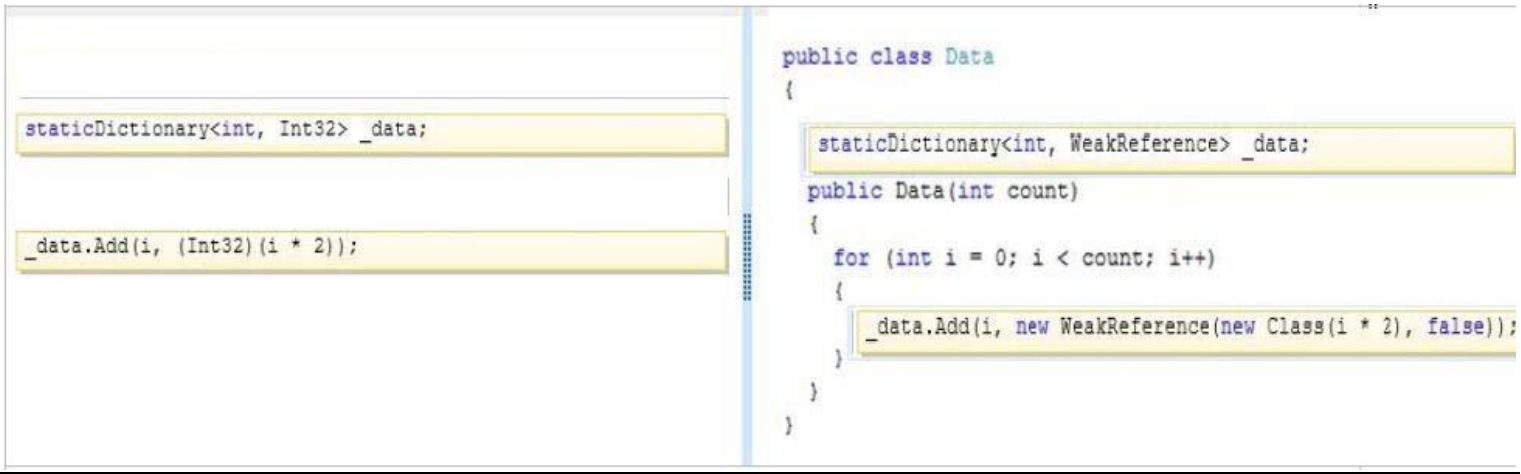
```
public class Temperature : IComparable
{
    public double Fahrenheit { get; set; }
    public int CompareTo
        (object obj)
    {
        if (obj == null) return 1;
        var otherTemperature = obj as Temperature;
        if(otherTemperature != null)
            return this.Fahrenheit.CompareTo(otherTemperature.Fahrenheit);
        throw new ArgumentException("Object is not a Temperature");
    }
}
```

You are developing an application that will populate an extensive XML tree from a Microsoft SQL Server 2008 R2 database table named Contacts.
You are creating the XML tree. The solution must meet the following requirements: Minimize memory requirements. Maximize data processing speed.
You open the database connection. You need to create the XML tree.
How should you complete the relevant code? (To answer, drag the appropriate code segments to the correct locations in the answer area. Each code segment 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:

```
XElement root = new XElement
 ("{ContactList}contacts", "content");

XElement contacts =
new XElement("contacts",
```

```
XNamespace ew = "ContactList";
XElement root = new XElement(ew + "Root");

Console.WriteLine(root);

XAttribute contacts =
new XAttribute("contacts",

  from c in db.Contacts
  orderby c.ContactId
  select new XElement("contact",
    new XAttribute("contactId", c.ContactId
    new XElement("firstName", c.FirstName),
    new XElement("lastName", c.LastName))
);
```

You are creating a class named Data that includes a dictionary object named _data.
You need to allow the garbage collection process to collect the references of the _data object.
How should you complete the relevant code? (To answer, drag the appropriate code segments to the correct locations in the answer area. Each code segment 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:



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):

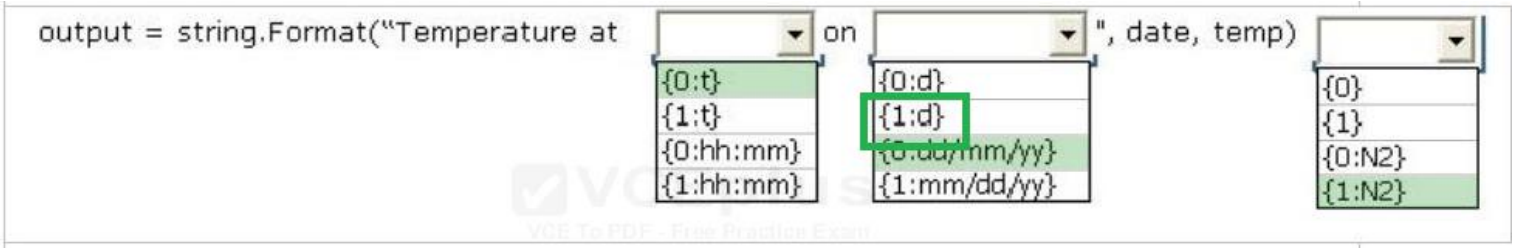
```
01 public bool ValidateJson(string json, Dictionary<string, object> result)
02 {
03
04   try
05   {
06     result = serializer.Deserialize<Dictionary<string, object>>(json);
07     return true;
08   }
09   catch
10   {
11     return false;
12   }
13 }
```

You need to ensure that the code validates the JSON string.
Which code should you insert at line 03? **var serializer = new JavaScriptSerializer();**

You are developing an application in C#.
The application will display the temperature and the time at which the temperature was recorded. You have the following method (line numbers are included for reference only):

```
01 public void DisplayTemperature(DateTime date, double temp)
02 {
03   string output;
04
05   string lblMessage = output;
06 }
```

You need to ensure that the message displayed in the lblMessage object shows the time formatted according to the following requirements:
The time must be formatted as hour:minute AM/PM, for example 2:00 PM.
The date must be formatted as month/day/year, for example 04/21/2013.
The temperature must be formatted to have two decimal places, for example 23-45.
Which code should you insert at line 04? (To answer, select the appropriate options in the answer area.)
Hot Area:



You have a List object that is generated by executing the following code:

```
List<string> departments = new List<string>()
{
  "Accounting", "Marketing", "Sales", "Manufacturing", "Information Systems", "Training"
};
```

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

```
01  private bool GetMatches(List<string> departments, string searchTerm)
02  {
03    var findDepartment = departments.Exists((delegate(string deptName)
04    {
05      return deptName.Equals(searchTerm);
06    }
07    ));
08    return findDepartment;
09  }
```

You need to alter the method to use a lambda statement.
How should you rewrite lines 03 through 06 of the method?

A.
```
var findDepartment = departments.First(x => x == searchTerm);
```

B.
```
var findDepartment = departments.Where(x => x == searchTerm);
```

C.
```
var findDepartment = departments.Exists(x => x.Equals(searchTerm));
```

D.
```
var findDepartment = departments.Where(x => x.Equals(searchTerm));
```

You are developing code for a class named Account. The Account class includes the following method:

```
public void Deposit(int dollars, int cents)
{
  int totalCents = cents + this.cents;
  int extraDollars = totalCents / 100;
  this.cents = totalCents - 100 * extraCents;
  this.dollars += dollars + extraDollars;
}
```

You need to ensure that overflow exceptions are thrown when there is an error.
Which type of block should you use? **Checked**

You are developing an application that uses a .config file.
The relevant portion of the .config file is shown as follows:

```
<system.diagnostics>
  <trace autoflush="false" indentsize="0">
    <listeners>
      <add name="appListener"
        type="System.Diagnostics.EventLogTraceListener"
        initializeData="TraceListenerLog" />
    </listeners>
  </trace>
</system.diagnostics>
```

You need to ensure that diagnostic data for the application writes to the event tog by using the configuration specified in the .config file.
What should you include in the application code?

A.
```
EventLog log = new EventLog();
log.WriteEntry("Trace data...");
```

B.
```
Debug.WriteLine("Trace data...");
```

C.
```
Console.SetOut(new StreamWriter("System.Diagnostics.EventLogTraceListener"));
Console.WriteLine("Trace data...");
```

D.
```
Trace.WriteLine("Trace data...");
```

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

You have the following code:

```
[DataContract(Name="Indvidual")]
  public class Individual
  {
    private string m_FirstName;
    private string m_LastName;

    [DataMember]
    public string FirstName
    {
      get { return m_FirstName; }
      set { m_FirstName = value; }
    }

    [DataMember(EmitDefaultValue=false)]
    public string LastName
    {
      get { return m_LastName; }
      set { m_LastName = value; }
    }


    public Individual()
    {
    }

   public Individual(string firstName, string lastName)
    {
      m_FirstName = firstName;
      m_LastName = lastName;
    }

  }
```

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

You have a method named GetCustomerIDs that returns a list of integers. Each entry in the list represents a customer ID that is retrieved from a list named Customers. The Customers list contains 1,000 rows.
Another developer creates a method named ValidateCustomer that accepts an integer parameter and returns a Boolean value. ValidateCustomer returns true if the integer provided references a valid customer. ValidateCustomer can take up to one second to run.
You need to create a method that returns a list of valid customer IDs. The code must execute in the shortest amount of time.
What should you do? (Develop the solution by selecting and ordering the required code snippets. You may not need all of the code snippets.)

```
public List<Int32> GetValidCustomers()
{
```

```
Task<List<Int32>> validCustomers =
```

```
List<Int32> validCustomers =
```

```
(from c in customers
where ValidateCustomer(c)
select c).ToList();
```

```
(from c in customers.AsParallel()
where ValidateCustomer(c)
select c).ToList();
```

```
return validCustomers;
}
```

```
(from c in customers
where ValidateCustomer(c)
select c).AsParallel().ToList();
```

```
public async Task<List<Int32>> GetValidCusto
mers()
```


You have the following class:

```
public class Class1 : IEquatable<Class1>
{
  public Int32 ID { get; set; }
  public String Name { get; set; }
  public bool Equals(Class1 other)
  {
  }
}
```


You need to implement IEquatable. The Equals method must return true if both ID and Name are set to the identical values. Otherwise, the method must return false. Equals must not throw an exception.
What should you do? (Develop the solution by selecting and ordering the required code snippets. You may not need all of the code snippets.)
Select and Place:

```
if (this.ID == other.ID) return false;
return false;
return true;
if (!Object.Equals
(this.Name, other.Name)) return false;
break
```

```
if (other == null) return false;
if (this.ID != other.ID) return false;
if (!this.Name.Equals
(other.Name)) return false;
```

You are reviewing the following code:

```
[System.FlagsAttribute()]
public enum Group
{
  Users = 1,
  Supervisors = 2,
  Managers = 4,
  Administrators = 8
}
public class User
{
  public Group UserGroup { get; set; }
}
```

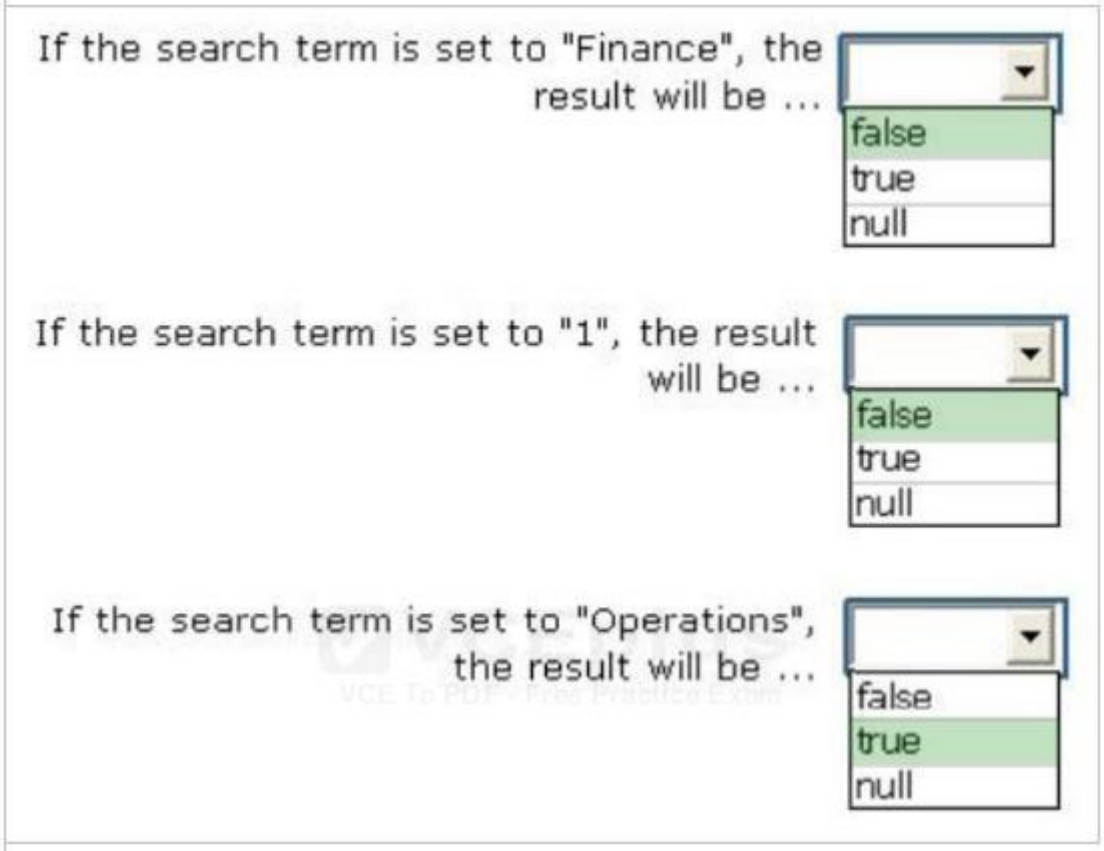
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
Hot Area:

	Yes	No
A user can be a member of more than one of the groups.	○	○
If the user belongs to only the Administrators group, the following code will return a value of true: user.UserGroup == Group.Administrators	○	○
If the user belongs to only the Supervisors group, the following code will return a value of true: user.UserGroup lt; Group.Administrators	○	○

You have the following code:

```
private static Dictionary<string, int> CreateTestData()
{
    Dictionary<string, int> dict = new Dictionary<string, int>()
    {
{"Accounting", 1},
{"Marketing",  2},
{"Operations", 3}
    };
    return dict;
}
private static bool? FindInList(string searchTerm)
{
    Dictionary<string, int> data = CreateTestData();

    if (data.ContainsKey(searchTerm))
    {
return true;
    }
    else
    {
return false;
    }

}
```

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



You are developing a C# application that includes a class named Product. The following code segment defines the Product class:

```
public class Product
{
  public int Id { get; set; }
  public int CategoryId { get; set; }
  public string Name { get; set; }
  public bool IsValid { get; set; }
}
```

You implement System.ComponentModel.DataAnnotations.IValidateableObject interface to provide a way to validate the Product object. The Product object has the following requirements:
The Id property must have a value greater than zero.
The Name property must have a value other than empty or null.
You need to validate the Product object. Which code segment should you use?

A.
```
public bool Validate()
{
  IsValid = Id > 0 || !string.IsNullOrEmpty(Name);
  return IsValid;
}
```

B.
```
public IEnumerable<ValidationResult> Validate(ValidationContext validationContext)
{
  if (Id <= 0)
    yield return new ValidationResult("Product Id is required.", new[] { "Id" });
  if (string.IsNullOrEmpty(Name))
    yield return new ValidationResult("Product Name is required.", new[] { "Name" });
}
```

C.
```
public bool Equals(Product productToValidate)
{
  productToValidate.IsValid = productToValidate.Id > 0 || !string.IsNullOrEmpty(productToValidate.Name);
  return productToValidate.IsValid;
}
```

D.
```
public ValidationResult Validate()
{
  ValidationResult validationResult = null;
  if (Id <= 0)
  {
    validationResult = new ValidationResult("Product Id is required.");
  }
  if (string.IsNullOrEmpty(Name))
  {
    validationResult = new ValidationResult("Product Name is required.");
  }
  return validationResult;
}
```

You are developing an application. The application calls a method that returns an array of integers named customerIds. You define an integer variable named customerIdToRemove and assign a value to it. You declare an array named filteredCustomerIds.
You have the following requirements.
Remove duplicate integers from the customerIds array.
Sort the array in order from the highest value to the lowest value.
Remove the integer value stored in the customerIdToRemove variable from the customerIds array.
You need to create a LINQ query to meet the requirements.
Which code segment should you use?

A.
```
int[] filteredCustomerIds = customerIds.Distinct().OrderByDescending(x => x).ToArray();
```

B.
```
int[] filteredCustomerIds = customerIds.Where(value => value !=
  customerIdToRemove).OrderByDescending(x => x).ToArray();
```

C.
```
int[] filteredCustomerIds = customerIds.Distinct().Where(value => value !=
  customerIdToRemove).OrderByDescending(x => x).ToArray();
```

D.
```
int[] filteredCustomerIds = customerIds.Where(value => value !=
  customerIdToRemove).OrderBy(x => x).ToArray();
```

You are developing an application that will transmit large amounts of data between a client computer and a server. You need to ensure the validity of the data by using a cryptographic hashing algorithm. Which algorithm should you use?
HMACSHA512

You are developing an application by using C#. The application will process several objects per second.
You need to create a performance counter to analyze the object processing.
Which three actions should you perform in sequence? (To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.)

Add the **PerformanceCounterPermissionEntry** objects to the collection by calling the **Add()** method of the collection.

Create a **CounterCreationDataCollection** collection. Then create the counters as **CounterCreationData** objects and set the necessary properties.

Add the **CounterCreationData** objects to the collection by calling the **Add()** method of the collection.

Call the **Create()** method of the **PerformanceCounterCategory** class and pass the collection to the method.

Create a **PerformanceCounterPermissionEntryCollection** collection.

Get the **CategoryName** property of the **PerformanceCounterPermissionEntry** class.

You are developing an application that uses the Microsoft ADO.NET Entity Framework to retrieve order information from a Microsoft SQL Server database. The application includes the following code. (Line numbers are included for reference only.)

```
01 public DateTime? OrderDate;
02 IQueryable<Order> LookupOrdersForYear(int year)
03 {
04   using (var context = new NorthwindEntities())
05   {
06     var orders =
07      from order in context.Orders
08
09       select order;
10     return orders.ToList().AsQueryable();
11   }
12 }
```

The application must meet the following requirements:
Return only orders that have an OrderDate value other than null.
Return only orders that were placed in the year specified in the year parameter.
You need to ensure that the application meets the requirements. Which code segment should you insert at line 08?

A. `where order.OrderDate.Value.Year == year`

B. `where order.OrderDate.HasValue && order.OrderDate.Value.Year == year`

C. `where order.OrderDate.Value != null && order.OrderDate.Value.Year >= year`

D. `where order.OrderDate.Value == null && order.OrderDate.Value.Year == year`

You are creating an application that manages information about your company's products. The application includes a class named Product and a method named Save.
The Save() method must be strongly typed. It must allow only types inherited from the Product class that use a

constructor that accepts no parameters.
You need to implement the Save() method.
Which code segment should you use?

A.
```
public static void Save(Product target)
{
  ...
}
```

B.
```
public static void Save<T>(T target) where T : Product
{
  ...
}
```

C.
```
public static void Save<T>(T target) where T : new()
{
  ...
}
```

D.
```
public static void Save<T>(T target) where T : Product, new()
{
  ...
}
```

You are creating a class named Employee. The class exposes a string property named EmployeeType. The following code segment defines the Employee class. (Line numbers are included for reference only.)

```
01 public class Employee
02 {
03   internal string EmployeeType
04   {
05     get;
06     set;
07   }
08 }
```

The EmployeeType property value must meet the following requirements:
The value must be accessed only by code within the Employee class or within a class derived from the Employee class.
The value must be modified only by code within the Employee class.
You need to ensure that the implementation of the EmployeeType property meets the requirements.
Which two actions should you perform? (Each correct answer represents part of the complete solution. Choose two.)
Replace line 03 with the following code segment: protected string EmployeeType ORAZ
Replace line 06 with the following code segment: private set;

You are developing an application by using C#.
The application includes an object that performs a long running process.
You need to ensure that the garbage collector does not release the object's resources until the process completes.
Which garbage collector method should you use? **KeepAlive()**

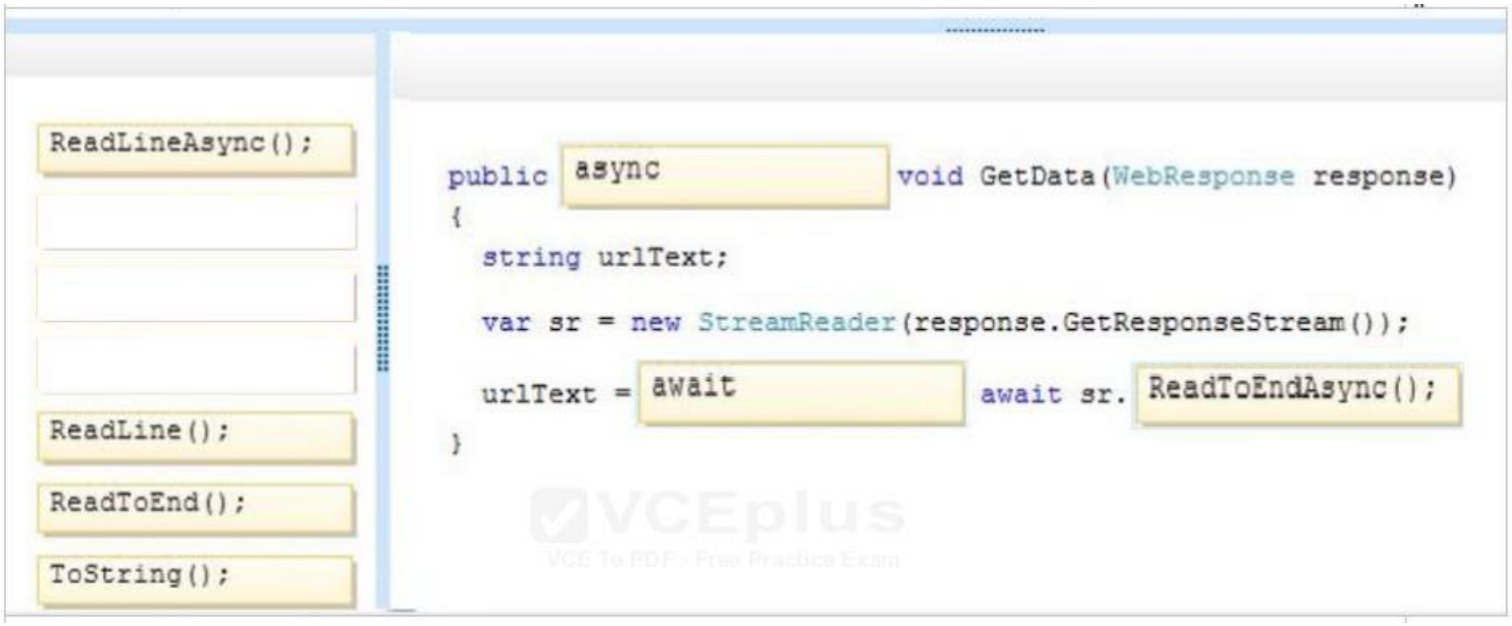
You are developing an application that will transmit large amounts of data between a client computer and a server. You need to ensure the validity of the data by using a cryptographic hashing algorithm. Which algorithm should you use?
HMACSHA256

You use the Task.Run() method to launch a long-running data processing operation. The data processing operation often fails in times of heavy network congestion.
If the data processing operation fails, a second operation must clean up any results of the first operation.
You need to ensure that the second operation is invoked only if the data processing operation throws an unhandled exception. What should you do? **Create a task by calling the Task.ContinueWith() method.**

You are developing an application by using C#. You provide a public key to the development team during development.
You need to specify that the assembly is not fully signed when it is built.
Which two assembly attributes should you include in the source code? (Each correct answer presents part of the solution. Choose two.) **AssemblyKeyFileAttribute** ORAZ **AssemblyDelaySignAttribute**

You are developing an application that will include a method named GetData. The GetData() method will retrieve several lines of data from a web service by using a System.IO.StreamReader object.
You have the following requirements:
The GetData() method must return a string value that contains the entire response from the web service.

The application must remain responsive while the GetData() method runs.
You need to implement the GetData() method.
How should you complete the relevant code? (To answer, drag the appropriate objects to the correct locations in the answer area. Each object 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:



You are developing an application that uses structured exception handling. The application includes a class named Logger. The Logger class implements a method named Log by using the following code segment: public static void Log(Exception ex) { }
You have the following requirements:
Log all exceptions by using the Log() method of the Logger class.
Rethrow the original exception, including the entire exception stack.
You need to meet the requirements. Which code segment should you use?

A.
```
catch
{
  var ex = new Exception();
  throw ex;
}
```

B.
```
catch (Exception ex)
{
  Logger.Log(ex);
  throw ex;
}
```

C.
```
catch
{
  Logger.Log(new Exception());
  throw;
}
```

D.
```
catch (Exception ex)
{
  Logger.Log(ex);
  throw;
}
```

You are developing an application that includes a class named BookTracker for tracking library books. The application includes the following code segment. (Line numbers are included for reference only.)

```
01 public delegate void AddBookCallback(int i);
02 public class BookTracker
03 {
04   List<Book> books = new List<Book>();
05   public void AddBook(string name, AddBookCallback callback)
06   {
07     books.Add(new Book(name));
08     callback(books.Count);
09   }
10 }
11
12 public class Book
13 {
14
15   BookTracker tracker = new BookTracker();
16   public void Add(string name)
17   {
18
19   }
20 }
```


You need to add a book to the BookTracker instance.
What should you do?

A. Insert the following code segment at line 18:

```
tracker.AddBook(name, delegate(int i)
  {
    ...
  });
```

B. Insert the following code segment at line 11:

```
delegatevoidAddBookDelegate(stringname, AddBookCallback callback);
```

Insert the following code segment at line 18:

```
AddBookDelegateadder = (i, callback) =>
  {
    ...
  };
```

C. Insert the following code segment at line 11:

```
delegatevoidAddBookDelegate(BookTracker bookTracker);
```

Insert the following code segment at line 18:

```
AddBookDelegateaddDelegate = (bookTracker) =>
  {
    ...
  };
addDelegate(tracker);
```

D. Insert the following code segment at line 14:

```
private static void PrintBookCount(int i)
{
  ...
}
```

Insert the following code segment at line 18:

```
AddBookCallback callback = PrintBookCount;
```

You are developing an application that implements a set of custom exception types. You declare the custom exception types by using the following code segments:

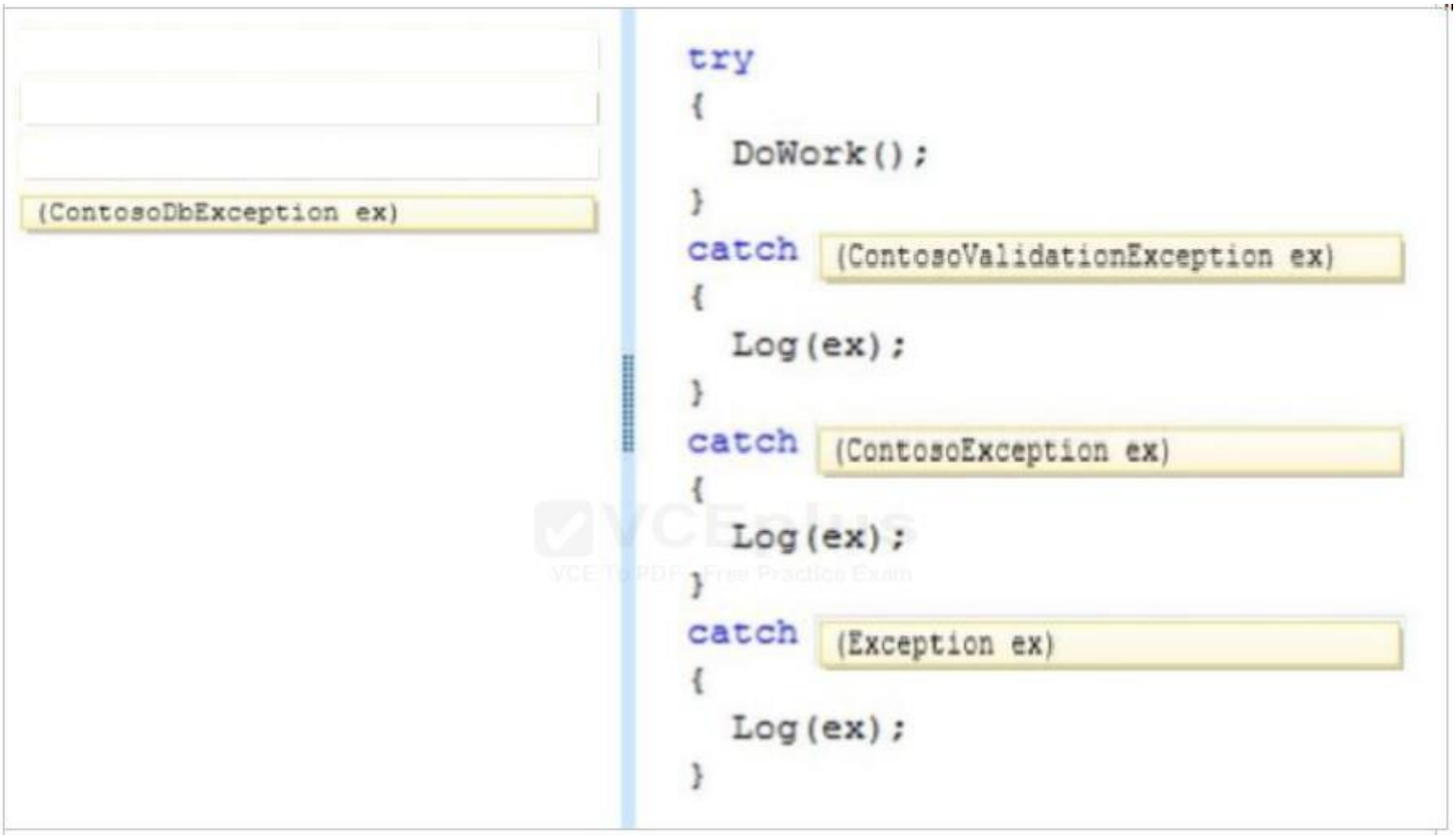
```
public class ContosoException : System.Exception { ... }
public class ContosoDbException : ContosoException { ... }
public class ContosoValidationException : ContosoException { ... }
```

The application includes a function named DoWork that throws .NET Framework exceptions and custom exceptions. The application contains only the following logging methods:

```
static void Log(Exception ex) { ... }
static void Log(ContosoException ex) { ... }
static void Log(ContosoValidationException ex) { ... }
```

The application must meet the following requirements:
When ContosoValidationException exceptions are caught, log the information by using the static void Log (ContosoValidationException ex) method.
When ContosoDbException or other ContosoException exceptions are caught, log the information by using the static void Log(ContosoException ex) method.
You need to meet the requirements.
How should you complete the relevant code? (To answer, drag the appropriate code segments to the correct locations in the answer area. Each code segment 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:



You are implementing a method named FloorTemperature that performs conversions between value types and reference types. The following code segment implements the method. (Line numbers are included for reference only.)

```
01 public static void FloorTemperature(float degrees)
02 {
03   object degreesRef = degrees;
04
05   Console.WriteLine(result);
06 }
```

You need to ensure that the application does not throw exceptions on invalid conversions.
Which code segment should you insert at line 04? **int result = (int)(float)degreesRef;**

You are developing an application by using C#.
The application includes an object that performs a long running process.
You need to ensure that the garbage collector does not release the object's resources until the process completes.
Which garbage collector method should you use? **SuppressFinalize()**

You are testing an application. The application includes methods named CalculateInterest and LogLine. The CalculateInterest() method calculates loan interest. The LogLine() method sends diagnostic messages to a console window.
The following code implements the methods. (Line numbers are included for reference only.)

```
01
02  private static decimal CalculateInterest(decimal loanAmount, int loanTerm, decimal loanRate)
03  {
04    decimal interestAmount = loanAmount * loanRate * loanTerm;
05
06    LogLine("Interest Amount : ", interestAmount.ToString("c"));
07
08    return interestAmount;
09  }
10
11  public static void LogLine(string message, string detail)
12  {
13    Console.WriteLine("Log: {0} = {1}", message, detail);
14  }
```

You have the following requirements:
The CalculateInterest() method must run for all build configurations.
The LogLine() method must run only for debug builds.
You need to ensure that the methods run correctly.
What are two possible ways to achieve this goal? (Each correct answer presents a complete solution. Choose two.)
Insert the following code segment at line 10: [Conditional(MDEBUG")]

oraz **Insert the following code segment at line 05:**
#if DEBUG
Insert the following code segment at line 07:
#endif

You are developing a method named CreateCounters that will create performance counters for an application. The method includes the following code. (Line numbers are included for reference only.)

```
01 void CreateCounters()
02 {
03   if (!PerformanceCounterCategory.Exists("Contoso"))
04   {
05     var counters = new CounterCreationDataCollection();
06     var ccdCounter1 = new CounterCreationData
07     {
08       CounterName = "Counter1",
09       CounterType = PerformanceCounterType.AverageTimer32
11     };
12     counters.Add(ccdCounter1);
13     var ccdCounter2 = new CounterCreationData
14     {
15       CounterName = "Counter2",
16
17     };
18     counters.Add(ccdCounter2);
19     PerformanceCounterCategory.Create("Contoso", "Help string",
20      PerformanceCounterCategoryType.MultiInstance, counters);
21   }
22 }
```


CounterType = PerformanceCounterType.CounterMultiBase

You are developing an application that will transmit large amounts of data between a client computer and a server. You need to ensure the validity of the data by using a cryptographic hashing algorithm. Which algorithm should you use?
HMACSHA512

You are developing an application by using C#.
The application includes an object that performs a long running process.
You need to ensure that the garbage collector does not release the object's resources until the process completes.
Which garbage collector method should you use? **SuppressFinalize()**

You are developing an application that will process orders. The debug and release versions of the application will display different logo images. You need to ensure that the correct image path is set based on the build configuration.
Which code segment should you use?

A.
```
#if (DEBUG)
  imgPath = "TempFolder/Images/";
#elif (RELEASE)
  imgPath = "DevFolder/Images/";
#endif
```

B.
```
if (DEBUG)
  imgPath = "TempFolder/Images/";
else
  imgPath = "DevFolder/Images/";
endif
```

C.
```
#if (DEBUG)
  imgPath = "TempFolder/Images/";
#else
  imgPath = "DevFolder/Images/";
#endif
```

D.
```
if(Debugger.IsAttached)
{
  imgPath = "TempFolder/Images/";
}
else
{
  imgPath = "DevFolder/Images/";
}
```

You are developing an application. The application converts a Location object to a string by using a method named WriteObject. The WriteObject() method accepts two parameters, a Location object and an XmlObjectSerializer object. The application includes the following code. (Line numbers are included for reference only.)

```
01 public enum Compass
02 {
03   North,
04   South,
05   East,
06   West
07 }
08 [DataContract]
09 public class Location
10 {
11   [DataMember]
12   public string Label { get; set; }
13   [DataMember]
14   public Compass Direction { get; set; }
15 }
16 void DoWork()
17 {
18   var location = new Location { Label = "Test", Direction = Compass.West };
19   Console.WriteLine(WriteObject(location,
20
21   ));
22 }
```

You need to serialize the Location object as XML.
Which code segment should you insert at line 20? **new DataContractSerializer(typeof(Location))**

You are developing an application that includes a class named Order. The application will store a collection of Order objects.

The collection must meet the following requirements:
Internally store a key and a value for each collection item.
Provide objects to iterators in ascending order based on the key.
Ensure that item are accessible by zero-based index or by key.
You need to use a collection type that meets the requirements. Which collection type should you use? **SortedList**

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

```
01 using System;
02 class MainClass
03 {
04   public static void Main(string[] args)
05   {
06     bool bValidInteger = false;
07     int value = 0;
08     do
09     {
10       Console.WriteLine("Enter an integer:");
11       bValidInteger = GetValidInteger(ref value);
12     } while (!bValidInteger);
13     Console.WriteLine("You entered a valid integer, " + value);
14   }
15   public static bool GetValidInteger(ref int val)
16   {
17     string sLine = Console.ReadLine();
18     int number;
19
20     {
21       return false;
22     }
23     else
24     {
25       val = number;
26       return true;
27     }
28   }
29 }
```

You need to ensure that the application accepts only integer input and prompts the user each time non-integer input is entered. Which code segment should you add at line 19? **If (!int.TryParse(sLine, out number))**

You are debugging an application that calculates loan interest. The application includes the following code. (Line numbers are included for reference only.)

```
01 private static decimal CalculateInterest(decimal loanAmount, int loanTerm, decimal loanRate)
02 {
03
04   decimal interestAmount = loanAmount * loanRate * loanTerm;
05
06   return interestAmount;
07 }
```

You have the following requirements:
The debugger must break execution within the CalculateInterest() method when the loanAmount variable is less than or equal to zero.
The release version of the code must not be impacted by any changes.
You need to meet the requirements.
What should you do? **Insert the following code segment at line 03: Debug.Assert(loanAmount > 0);**

An application will upload data by using HTML form-based encoding. The application uses a method named SendMessage. The SendMessage() method includes the following code. (Line numbers are included for reference only.)

```
01 public Task<byte[]> SendMessage(string url, int intA, int intB)
02 {
03    var client = new WebClient();
04
05 }
```

The receiving URL accepts parameters as form-encoded values.
You need to send the values intA and intB as form-encoded values named a and b, respectively.
Which code segment should you insert at line 04?

A.
```
var data = string.Format("a={0}&b={1}", intA, intB);
return client.UploadStringTaskAsync(new Uri(url), data);
```

B.
```
var data = string.Format("a={0}&b={1}", intA, intB);
return client.UploadFileTaskAsync(new Uri(url), data);
```

C.
```
var data = string.Format("a={0}&b={1}", intA, intB);
return client.UploadDataTaskAsync(new Uri(url), Encoding.UTF8.GetBytes(data));
```

D.
```
var nvc = new NameValueCollection() { { "a", intA.ToString() }, { "b", intB.ToString() } };
return client.UploadValuesTaskAsync(new Uri(url), nvc);
```

An application receives JSON data in the following format:

```
{ "FirstName" : "David",
  "LastName" : "Jones",
  "Values" : [0, 1, 2] }
```

The application includes the following code segment. (Line numbers are included for reference only.)

```
01 public class Name
02 {
03    public int[] Values { get; set; }
04    public string FirstName { get; set; }
05    public string LastName { get; set; }
06 }
07 public static Name ConvertToName(string json)
08 {
09    var ser = new JavaScriptSerializer();
10
11 }
```

You need to ensure that the ConvertToName() method returns the JSON input string as a Name object. Which code segment should you insert at line 10? **Return ser.Desenalize (json, typeof(Name));**

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

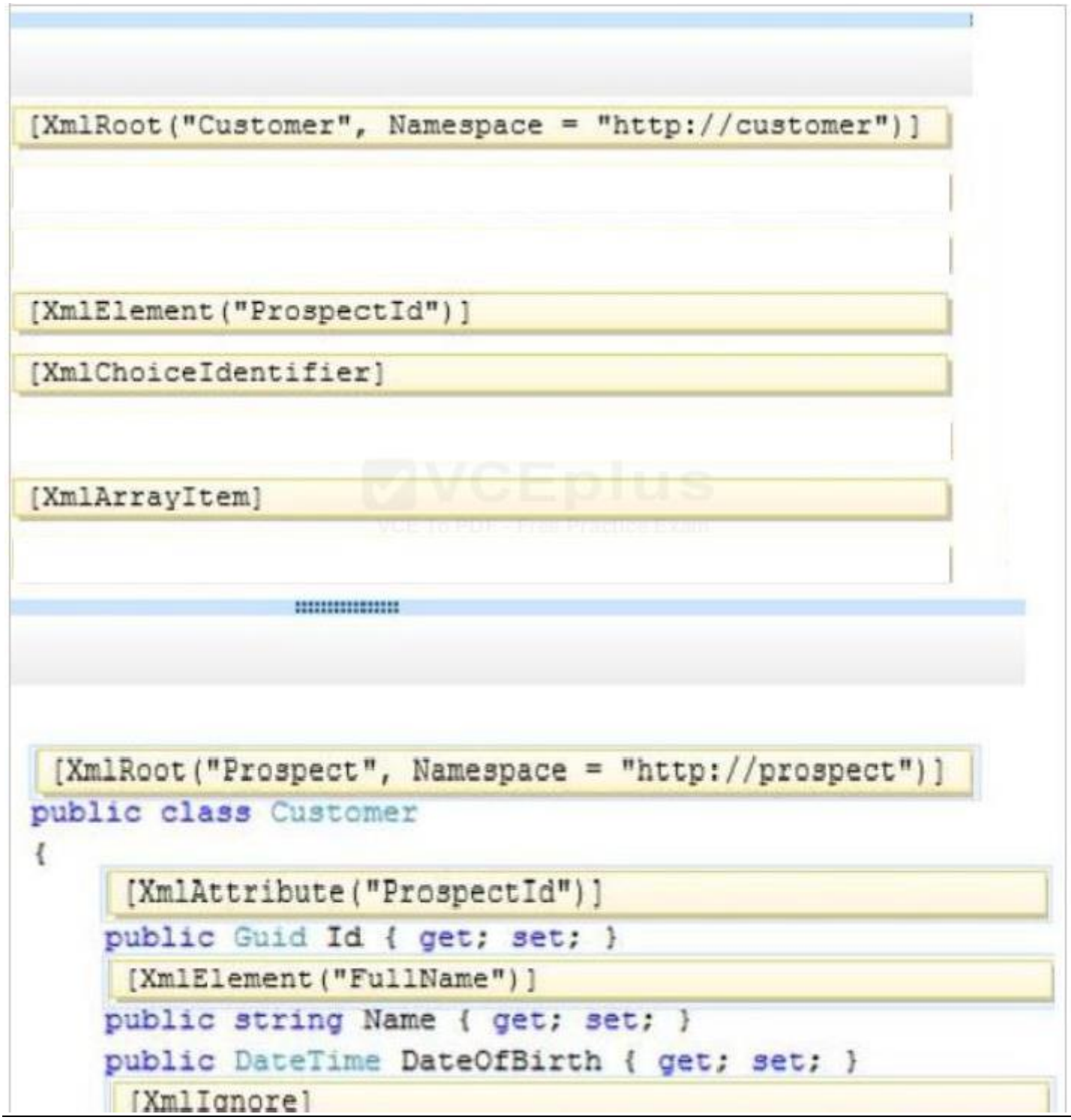
```
01 class Customer
02 {
03   public string CompanyName { get; set; }
04   public string Id { get; set; }
05 }
06 const string sqlSelectCustomers = "SELECT CustomerID, CompanyName FROM Customers";
07 private static IEnumerable<Customer> GetCustomers(string sqlConnectionString)
08 {
09   List<Customer> customers = new List<Customer>();
10   SqlConnection sqlConnection = new SqlConnection(sqlConnectionString);
11   using (sqlConnection)
12   {
13     SqlCommand sqlCommand = new SqlCommand(sqlSelectCustomers, sqlConnection);
14
15     using (SqlDataReader sqlDataReader = sqlCommand.ExecuteReader())
16     {
17
18       {
19         Customer customer = new Customer();
20         customer.Id = (string)sqlDataReader["CustomerID"];
21         customer.CompanyName = (string)sqlDataReader["CompanyName"];
22         customers.Add(customer);
23       }
24     }
25   }
26   return customers;
27 }
```


The GetCustomers() method must meet the following requirements: Connect to a Microsoft SQL Server database.
Populate Customer objects with data from the database.
Return an IEnumerable collection that contains the populated Customer objects.
You need to meet the requirements.
Which two actions should you perform? (Each correct answer presents part of the solution.
Choose two.) **. Insert the following code segment at line 14: sqlConnection.Open();** oraz **Insert the following code segment at line 17: while (sqlDataReader.Read())**

You are developing an application that includes a class named Customer.
The application will output the Customer class as a structured XML document by using the following code segment:

```
<?xml version="1.0" encoding="utf-8"?>
<Prospect xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns:xsd="http://www.w3.org/2001/XMLSchema"
 ProspectId="9c027bb8-65f1-40a9-8afa-ac839f3cdc5d" xmlns="http://prospect">
  <FullName>David Jones</FullName>
  <DateOfBirth>1977-06-11T00:00:00</DateOfBirth>
</Prospect>
```

You need to ensure that the Customer class will serialize to XML.
How should you complete the relevant code? (To answer, drag the appropriate code segments to the correct locations in the answer area. Each code segment 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:



You are developing an application. The application includes classes named Mammal and Animal and an interface named IAnimal.

The Mammal class must meet the following requirements:

It must either inherit from the Animal class or implement the IAnimal interface.

It must be inheritable by other classes in the application.

You need to ensure that the Mammal class meets the requirements.

Which two code segments can you use to achieve this goal? (Each correct answer presents a complete solution. Choose two.)

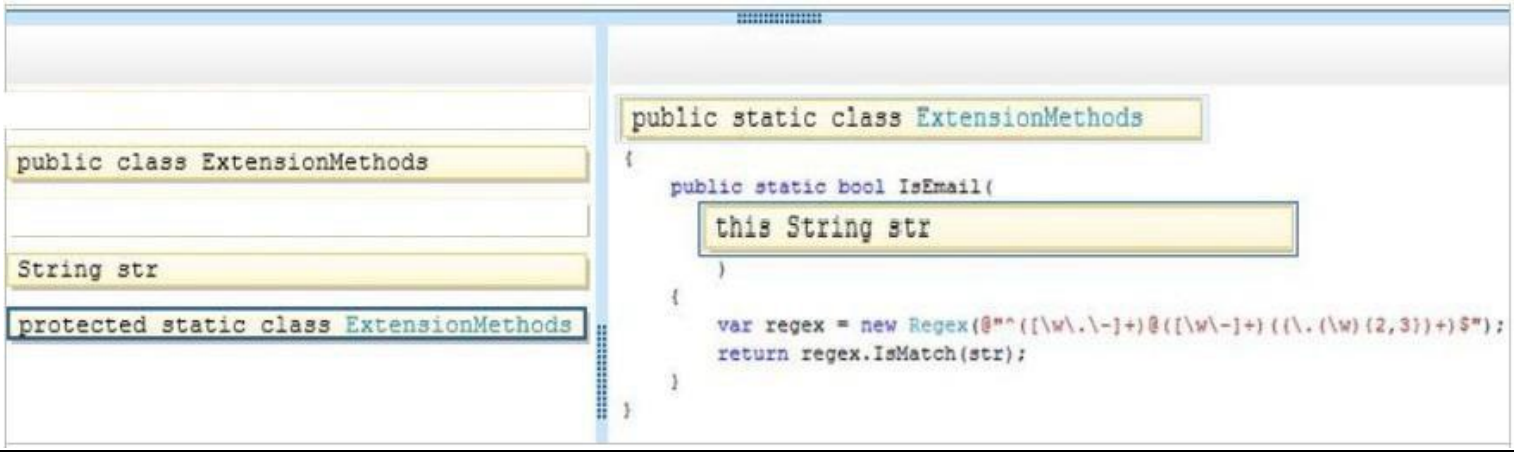
A.
```
abstract class Mammal : IAnimal
{
  ...
}
```

B.
```
sealed class Mammal : IAnimal
{
  ...
}
```

C.
```
abstract class Mammal : Animal
{
  ...
}
```

D.
```
sealed class Mammal : Animal
{
  ...
}
```

You are developing a class named ExtensionMethods.
You need to ensure that the ExtensionMethods class implements the IsEmail() extension method on string objects.
How should you complete the relevant code? (To answer, drag the appropriate code segments to the correct locations in the answer area. Each code segment 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:

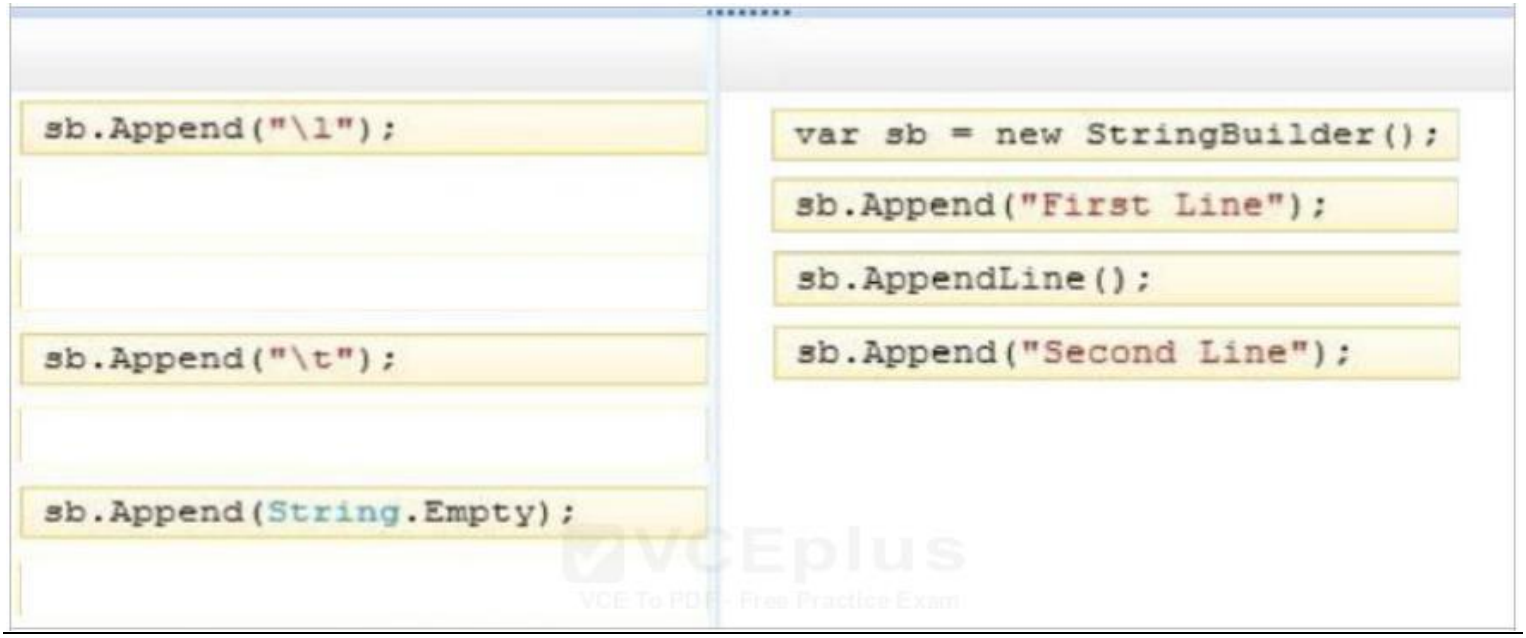


You are developing an application by using C#. The application includes the following code segment. (Line numbers are included for reference only.)

```
01 public interface IDataContainer
02 {
03   string Data { get; set; }
04 }
05 void DoWork(object obj)
06 {
07
08   if (dataContainer != null)
09   {
10     Console.WriteLine(dataContainer.Data);
11   }
12 }
```

The DoWork() method must throw an InvalidCastException exception if the obj object is not of type IDataContainer when accessing the Data property. You need to meet the requirements.
Which code segment should you insert at line 07? **var dataContainer = (IDataContainer) obj;**

You are developing an application by using C#. The application will output the text string “First Line” followed by the text string “Second Line”. You need to ensure that an empty line separates the text strings.
Which four code segments should you use in sequence? (To answer, move the appropriate code segments to the answer area and arrange them in the correct order.)
Select and Place:



An application includes a class named Person. The Person class includes a method named GetData.
You need to ensure that the GetData() method can be used only by the Person class and not by any class derived from the Person class.
Which access modifier should you use for the GetData() method? **Private**

You are creating an application that manages information about your company’s products. The application includes a class named Product and a method named Save.
The Save() method must be strongly typed. It must allow only types inherited from the Product class that use a constructor that accepts no parameters.
You need to implement the Save() method. Which code segment should you use?

A.
```
public static void Save(Product target)
{
  ...
}
```

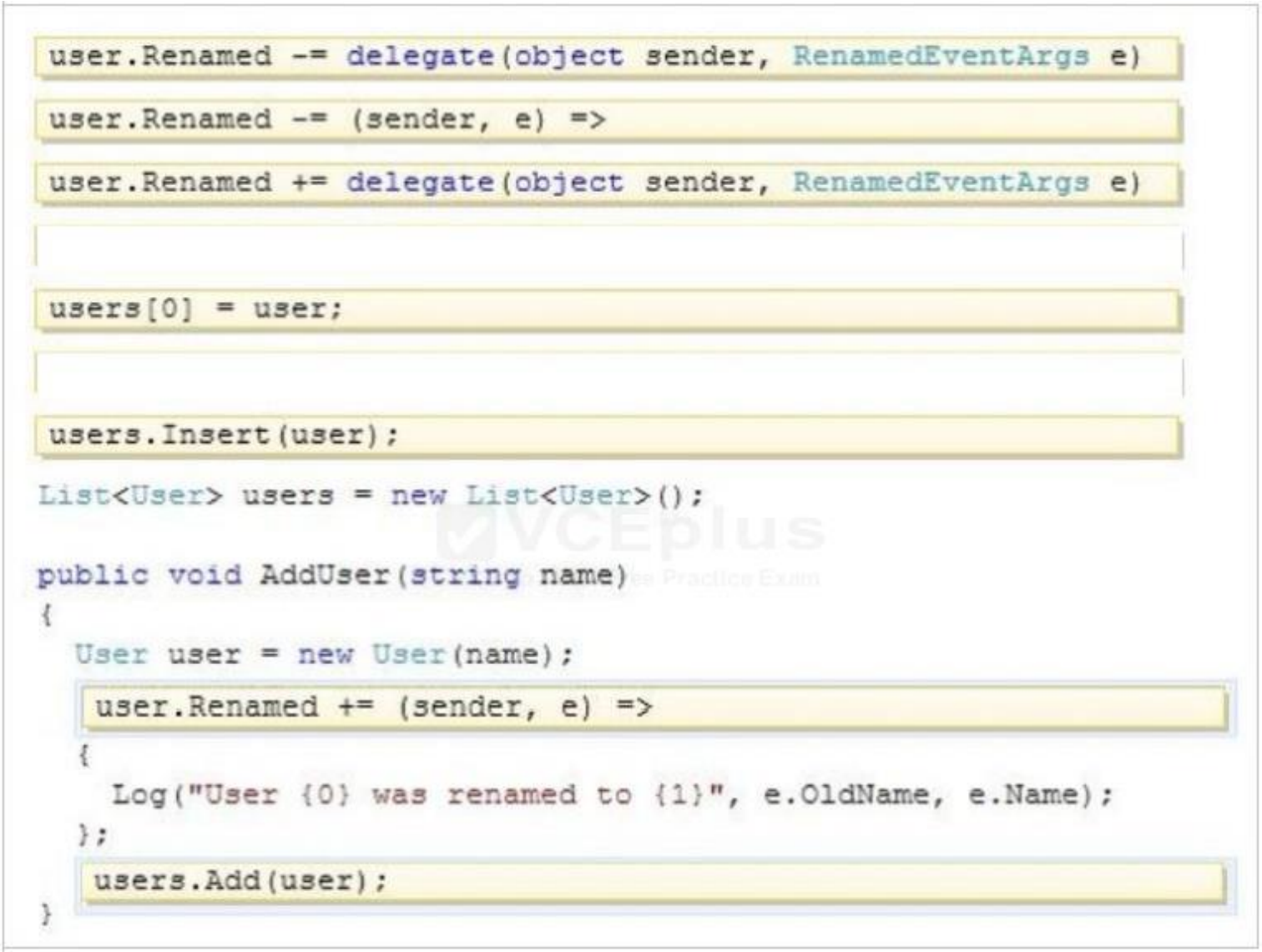
B.
```
public static void Save<T>(T target) where T : new(), Product
{
  ...
}
```

C.
```
public static void Save<T>(T target) where T : Product
{
  ...
}
```

D.
```
public static void Save<T>(T target) where T : Product, new()
{
  ...
}
```

You are implementing a method that creates an instance of a class named User. The User class contains a public event named Renamed. The following code segment defines the Renamed event:
Public event EventHandler Renamed;
You need to create an event handler for the Renamed event by using a lambda expression.
How should you complete the relevant code? (To answer, drag the appropriate code segments to the correct locations in the answer area. Each code segment 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:



You are creating a console application by using C#.
You need to access the assembly found in the file named car.dll.
Which code segment should you use? **Assembly.LoadFile("car.dll");**

You are developing an application by using C#.
The application includes an object that performs a long running process.
You need to ensure that the garbage collector does not release the object's resources until the process completes.
Which garbage collector method should you use? **KeepAlive()**

You are adding a public method named UpdateGrade to a public class named ReportCard.
The code region that updates the grade field must meet the following requirements:
It must be accessed by only one thread at a time.
It must not be vulnerable to a deadlock situation.
You need to implement the UpdateGrade() method.
What should you do?

A. Add a private object named **lockObject** to the **ReportCard** class. Place the code region inside the following lock statement:

```
lock (lockObject)
{
  ...
}
```

B. Place the code region inside the following lock statement:

```
lock (this)
{
  ...
}
```

C. Add a public static object named **lockObject** to the **ReportCard** class. Place the code region inside the following lock statement:

```
lock (typeof(ReportCard))
{
  ...
}
```

D. Apply the following attribute to the **UpdateGrade()** method signature:

```
[MethodImpl(MethodImplOptions.Synchronized)]
```

You are developing an application that includes a class named BookTracker for tracking library books. The application includes the following code segment. (Line numbers are included for reference only.)

```
01 public delegate void AddBookCallback(int i);
02 public class BookTracker
03 {
04   List<Book> books = new List<Book>();
05   public void AddBook(string name, AddBookCallback callback)
06   {
07     books.Add(new Book(name));
08     callback(books.Count);
09   }
10 }
11
12 public class Runner
13 {
14
15   BookTracker tracker = new BookTracker();
16   public void Add(string name)
17   {
18
19   }
20 }
```

You need to add a user to the BookTracker instance. What should you do?

A. Insert the following code segment at line 14:

```
private static void PrintBookCount(int i)
{
  ...
}
```

Insert the following code segment at line 18:

```
AddBookCallback callback = PrintBookCount;
```

B. Insert the following code segment at line 18:

```
tracker.AddBook(name, delegate(int i)
  {
    ...
  });
```

C. Insert the following code segment at line 11:

```
delegate void AddBookDelegate(BookTracker bookTracker);
```

Insert the following code segment at line 18:

```
AddBookDelegate addDelegate = (bookTracker) =>
  {
    ...
  };
addDelegate(tracker);
```

D. Insert the following code segment at line 11:

```
delegate void AddBookDelegate(string name, AddBookCallback callback);
```

Insert the following code segment at line 18:

```
AddBookDelegate adder = (i, callback) =>
  {
    ...
```

You are developing an application that accepts the input of dates from the user.
Users enter the date in their local format. The date entered by the user is stored in a string variable named inputDate. The valid date value must be placed in a DateTime variable named validatedDate.
You need to validate the entered date and convert it to Coordinated Universal Time (UTC). The code must not cause an exception to be thrown.
Which code segment should you use?

A.
```
bool validDate = DateTime.TryParse(inputDate,
 CultureInfo.CurrentCulture, DateTimeStyles.AdjustToUniversal | DateTimeStyles.AssumeLocal,
out validatedDate);
```

B.
```
bool validDate = DateTime.TryParse(inputDate,
 CultureInfo.CurrentCulture, DateTimeStyles.AssumeUniversal, out validatedDate);
```

C.
```
bool validDate = true;
try
{
  validatedDate = DateTime.Parse(inputDate);
}
catch
{
  validDate = false;
}
```

D.
```
validatedDate = DateTime.ParseExact(inputDate, "g",
 CultureInfo.CurrentCulture, DateTimeStyles.AdjustToUniversal | DateTimeStyles.AssumeUniversal
```

You are developing an application that will transmit large amounts of data between a client computer and a server.
You need to ensure the validity of the data by using a cryptographic hashing algorithm.
Which algorithm should you use? **HMACSHA256**

You are developing a method named CreateCounters that will create performance counters for an application.
The method includes the following code. (Line numbers are included for reference only.)

```
01 void CreateCounters()
02 {
03   if (!PerformanceCounterCategory.Exists("Contoso"))
04   {
05     var counters = new CounterCreationDataCollection();
06     var ccdCounter1 = new CounterCreationData
07     {
08       CounterName = "Counter1",
09       CounterType = PerformanceCounterType.SampleFraction
11     };
12     counters.Add(ccdCounter1);
13     var ccdCounter2 = new CounterCreationData
14     {
15       CounterName = "Counter2",
16
17     };
18     counters.Add(ccdCounter2);
19     PerformanceCounterCategory.Create("Contoso", "Help string",
20      PerformanceCounterCategoryType.MultiInstance, counters);
21   }
22 }
```

You need to ensure that Counter1 is available for use in Windows Performance Monitor (PerfMon).
Which code segment should you insert at line 16? **CounterType = PerformanceCounterType.SampleBase**

You are developing an application by using C#.
You have the following requirements:
Support 32-bit and 64-bit system configurations.
Include pre-processor directives that are specific to the system configuration.
Deploy an application version that includes both system configurations to testers.
Ensure that stack traces include accurate line numbers.
You need to configure the project to avoid changing individual configuration settings every time you deploy the application to testers.
Which two actions should you perform? (Each correct answer presents part of the solution. Choose two.) **Create two application configurations based on the default Release configuration.** oraz **Create two application configurations based on the default Debug configuration.**

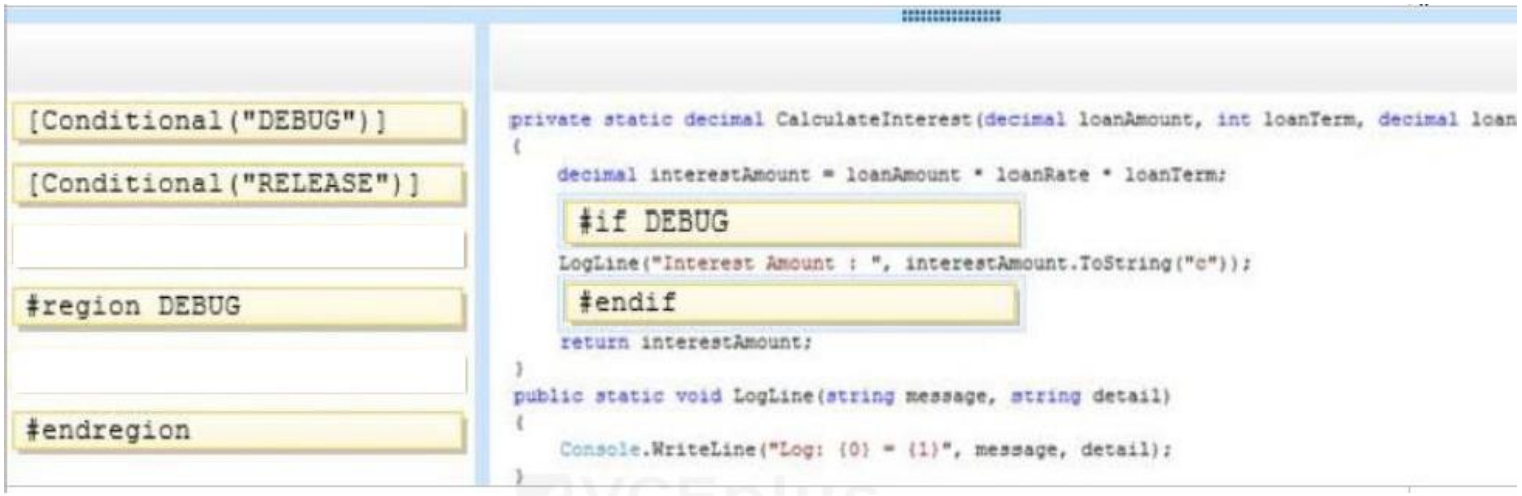
You are debugging an application that calculates loan interest. The application includes the following code. (Line numbers are included for reference only.)

```
01 private static decimal CalculateInterest(decimal loanAmount, int loanTerm, decimal loanRate)
02 {
03
04   decimal interestAmount = loanAmount * loanRate * loanTerm;
05
06   return interestAmount;
07 }
```

You need to ensure that the debugger breaks execution within the CalculateInterest() method when the loanAmount variable is less than or equal to zero in all builds of the application.
What should you do? **Insert the following code segment at line 03: Trace.Assert(loanAmount > 0);**

You are developing an assembly that will be used by multiple applications.
You need to install the assembly in the Global Assembly Cache (GAC).
Which two actions can you perform to achieve this goal? (Each correct answer presents a complete solution. Choose two.) **Use the Global Assembly Cache tool (gacutil.exe) to add the assembly to the GAC.** oraz **Windows Installer 2.0 to add the assembly to the GAC.**

You are testing an application. The application includes methods named CalculateInterest and LogLine. The CalculateInterest() method calculates loan interest. The LogLine() method sends diagnostic messages to a console window.
You have the following requirements:
The CalculateInterest() method must run for all build configurations.
The LogLine() method must be called only for debug builds.
You need to ensure that the methods run correctly.
How should you complete the relevant code? (To answer, drag the appropriate code segments to the correct locations in the answer area. Each code segment 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:

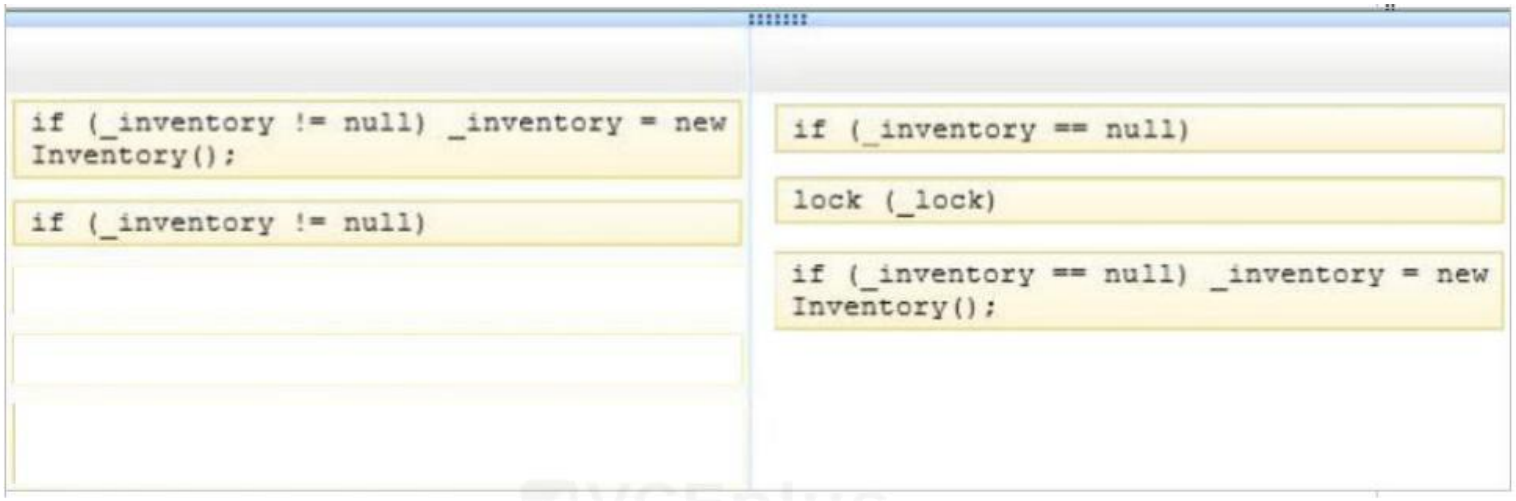


You are developing an application that includes a class named Warehouse. The Warehouse class includes a static property named Inventory- The Warehouse class is defined by the following code segment. (Line numbers are included for reference only.)

```
01 public class Warehouse
02 {
03   static Inventory _inventory = null;
04   static object _lock = new object();
05   public static Inventory Inventory
06   {
07     get
08     {
09
10       return _inventory;
11     }
12   }
13 }
```

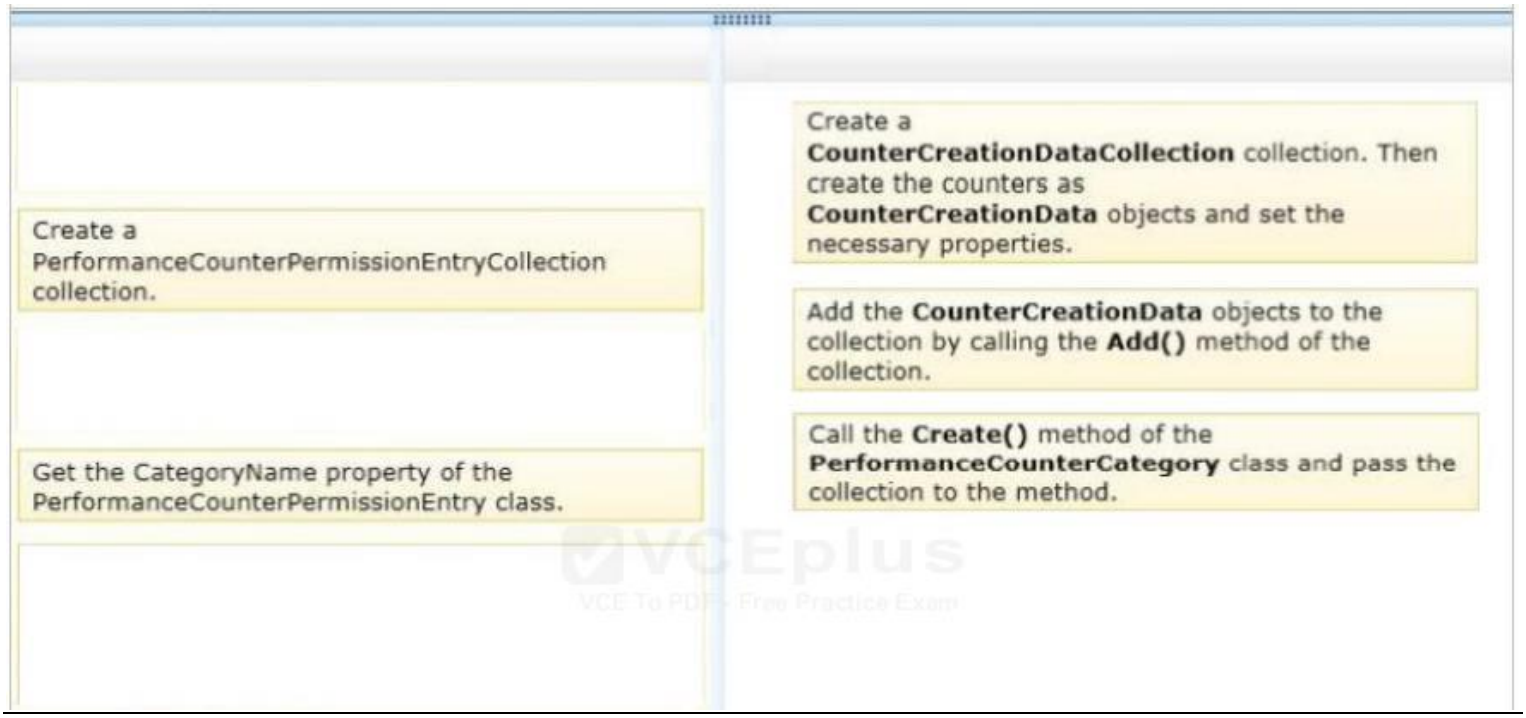
You have the following requirements:
Initialize the _inventory field to an Inventory instance. Initialize the _inventory field only once.
Ensure that the application code acquires a lock only when the _inventory object must be instantiated.
You need to meet the requirements.

Which three code segments should you insert in sequence at line 09? (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:



You are developing an application by using C#. You provide a public key to the development team during development. You need to specify that the assembly is not fully signed when it is built.
Which two assembly attributes should you include in the source code? (Each correct answer presents part of the solution. Choose two.) **AssemblyDelaySignAttribute oraz AssemblyKeyFileAttribute**

You are developing an application by using C#. The application will process several objects per second. You need to create a performance counter to analyze the object processing.
Which three actions should you perform in sequence? (To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.)
Select and Place:



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

```
01 public class Lease
02 {
03
04   private int _term;
05   private const int MaximumTerm = 5;
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);
```

Leases are restricted to a maximum term of 5 years. The application must send a notification message if a lease request exceeds 5 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 event MaximumTermReachedHandler OnMaximumTermReached;
```

B. Insert the following code segment at line 21:

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

C. Insert the following code segment at line 21:

```
value = MaximumTerm;
```

D. Insert the following code segment at line 03:

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

E. Insert the following code segment at line 03:

```
private string MaximumTermReachedEvent;
```

F. Insert the following code segment at line 21:

```
value = 4;
```

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

```
01 public delegate void AddUserCallback(int i);
02 public class UserTracker
03 {
04   List<User> users = new List<User>();
05   public void AddUser(string name, AddUserCallback callback)
06   {
07     users.Add(new User(name));
08     callback(users.Count);
09   }
10 }
11
12 public class Runner
13 {
14
15   UserTracker tracker = new UserTracker();
16   public void Add(string name)
17   {
18
19   }
20 }
```

You need to add a user to the UserTracker instance.
What should you do?

A. Insert the following code segment at line 14:

```
private static void PrintUserCount(int i)
{
  ...
}
```

Insert the following code segment at line 18:

```
AddUserCallback callback = PrintUserCount;
```

B. Insert the following code segment at line 11:

```
delegate void AddUserDelegate(UserTracker userTracker);
```

Insert the following code segment at line 18:

```
AddUserDelegate addDelegate = (userTracker) =>
  {
    ...
  };
addDelegate(tracker);
```

C. Insert the following code segment at line 11:

```
delegate void AddUserDelegate(string name, AddUserCallback callback);
```

Insert the following code segment at line 18:

```
AddUserDelegate adder = (i, callback) =>
  {
    ...
  };
```

D. Insert the following code segment at line 18:

```
tracker.AddUser(name, delegate(int i)
  {
```

You are developing an application that uses structured exception handling. The application includes a class named ExceptionLogger.
The ExceptionLogger class implements a method named LogException by using the following code segment:
public static void LogException(Exception ex)
You have the following requirements:
Log all exceptions by using the LogException() method of the ExceptionLogger class. Rethrow the original exception, including the entire exception stack.
You need to meet the requirements.

Which code segment should you use?

A.
```
catch (Exception ex)
{
  ExceptionLogger.LogException(ex);
  throw;
}
```

B.
```
catch (Exception ex)
{
  ExceptionLogger.LogException(ex);
  throw ex;
}
```

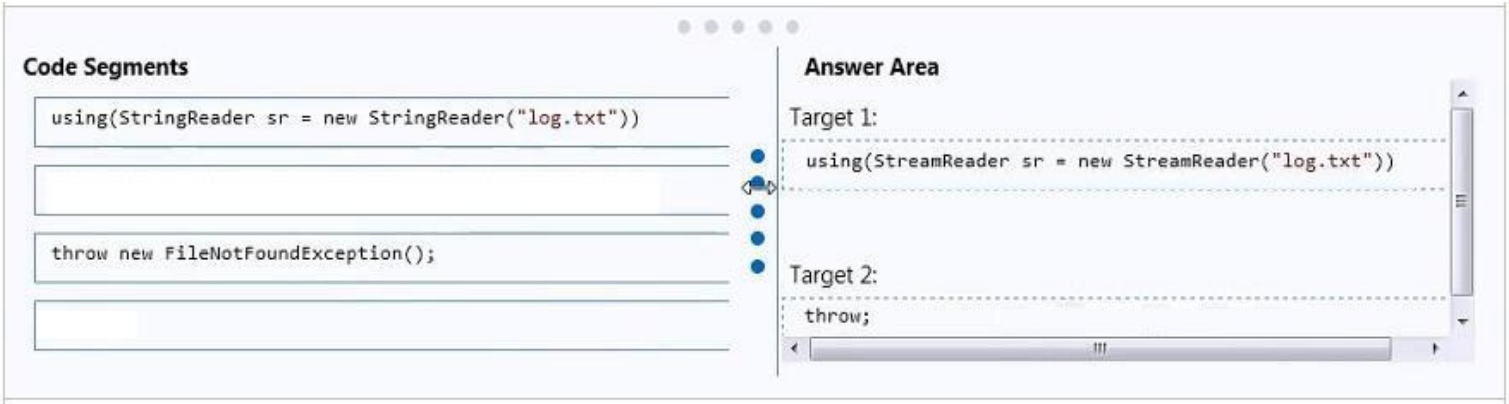
C.
```
catch
{
  ExceptionLogger.LogException(new Exception());
  throw;
}
```

D.
```
catch
{
  var ex = new Exception();
  throw ex;
}
```

You develop an application that displays information from log files when errors occur. The application will prompt the user to create an error report that sends details about the error and the session to the administrator.
When a user opens a log file by using the application, the application throws an exception and closes.
The application must preserve the original stack trace information when an exception occurs during this process.
You need to implement the method that reads the log files.
You have the following code:

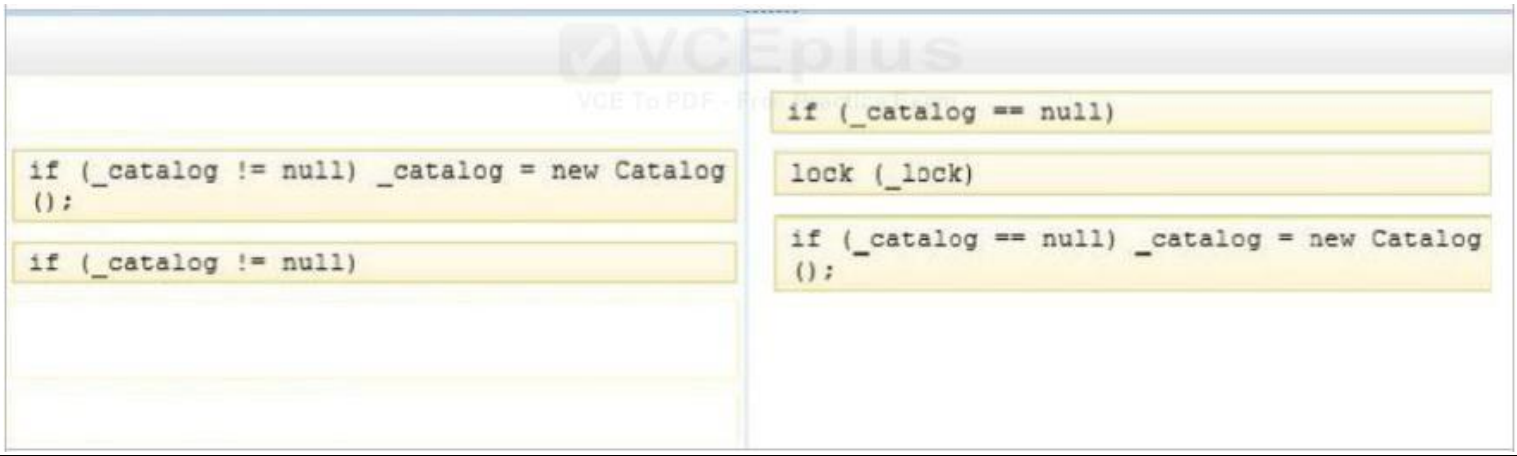
```
Target 1
{
  try
  {
    string line;
    while ((line = sr.ReadLine()) != null)
    {
      Console.WriteLine(line);
    }
  }
  catch (FileNotFoundException e)
  {
    Console.Write(e.ToString());
    Target 2
  }
}
```

Which code segments should you include in Target 1 and Target 2 to complete the code? (To answer, drag the appropriate code segments to the correct locations in the answer area. Each code segment 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:

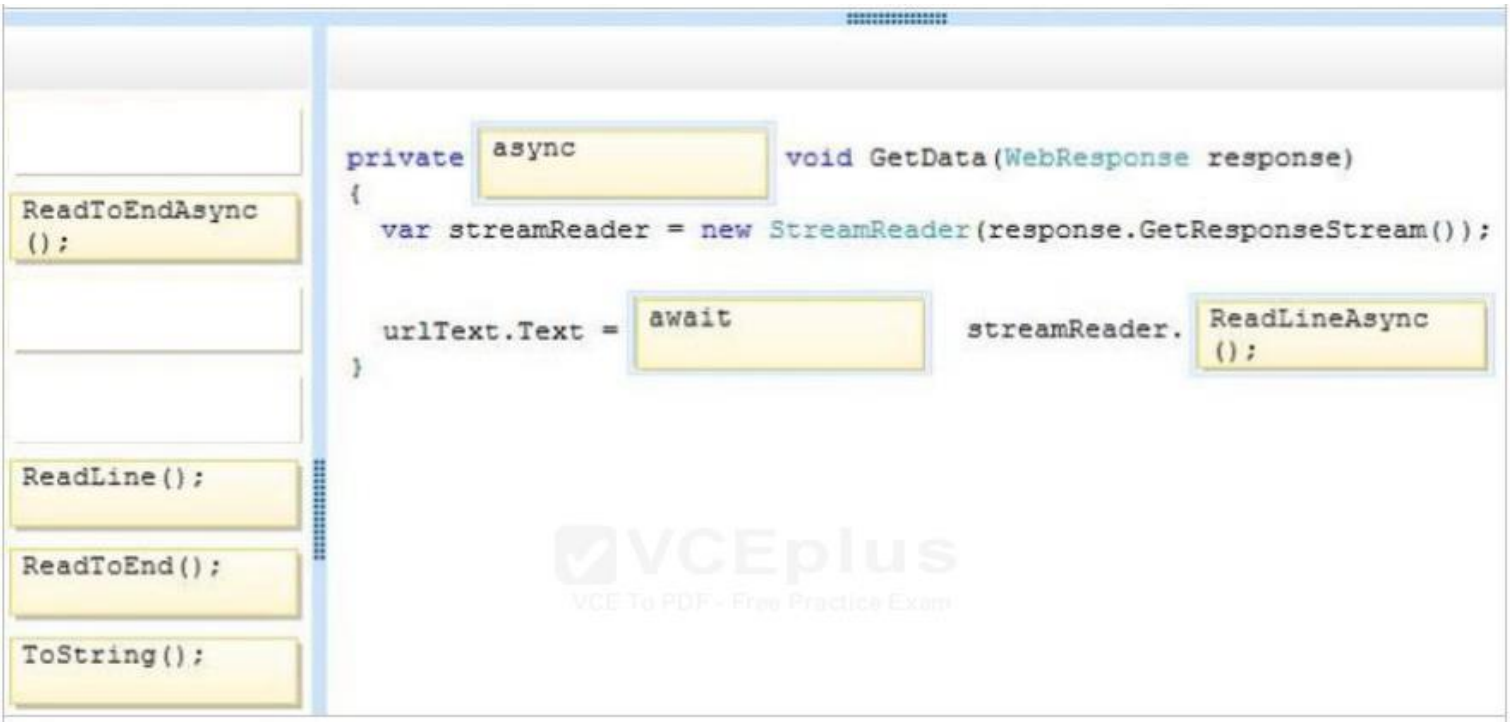



```
01 public class Kiosk
02 {
03   static Catalog _catalog = null;
04   static object _lock = new object();
05   public static Catalog Catalog
06   {
07     get
08     {
09
10       return _catalog;
11     }
12   }
13 }
```

You have the following requirements:
Initialize the _catalog field to a Catalog instance.
Initialize the _catalog field only once.
Ensure that the application code acquires a lock only when the _catalog object must be instantiated.
You need to meet the requirements.
Which three code segments should you insert in sequence at line 09? (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:



You are developing an application that will include a method named GetData. The GetData() method will retrieve several lines of data from a web service by using a System.IO.StreamReader object.
You have the following requirements:
The GetData() method must return a string value that contains the first line of the response from the web service.
The application must remain responsive while the GetData() method runs.
You need to implement the GetData() method.
How should you complete the relevant code? (To answer, drag the appropriate objects to the correct locations in the answer area. Each object 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:



You are adding a public method named UpdateScore to a public class named ScoreCard.
The code region that updates the score field must meet the following requirements: It must be accessed by only one thread at a time.
It must not be vulnerable to a deadlock situation.
You need to implement the UpdateScore() method.
What should you do?

A. Place the code region inside the following lock statement:

```
lock (this)
{
  ...
}
```

B. Add a private object named **lockObject** to the **ScoreCard** class. Place the code region inside the following lock statement:

```
lock (lockObject)
{
  ...
}
```

C. Apply the following attribute to the **UpdateScore()** method signature:

```
[MethodImpl(MethodImplOptions.Synchronized)]
```

D. Add a public static object named **lockObject** to the **ScoreCard** class. Place the code region inside the following lock stateme

```
lock (typeof(ScoreCard))
{
  ...
}
```

You are developing a C# application that has a requirement to validate some string input data by using the Regex class.
The application includes a method named ContainsHyperlink. The ContainsHyperlink() method will verify the presence of a URI and surrounding markup.
The following code segment defines the ContainsHyperlink() method. (Line numbers are included for reference only.)

```
01 bool ContainsHyperlink(string inputData)
02 {
03   string regExPattern = "href\\s*=\\s*(?:\"(?<1>[^\"]*)\"|(?<1>\\S+))";
04
05   return evaluator.IsMatch(inputData);
06 }
```

The expression patterns used for each validation function are constant.

A.
```
var evaluator = new Regex(regExPattern, RegexOptions.CultureInvariant);
```

B.
```
var evaluator = new Regex(inputData);
```

C.
```
var assemblyName = "Validation";
var compilationInfo = new RegexCompilationInfo(inputData, RegexOptions.IgnoreCase, "Href", assemblyNa
true);
Regex.CompileToAssembly(new[] { compilationInfo }, new AssemblyName(assemblyName));
var evaluator = new Regex(regExPattern, RegexOptions.CultureInvariant);
```

D.
```
var evaluator = new Regex(regExPattern, RegexOptions.Compiled);
```

You need to ensure that the expression syntax is evaluated only once when the Regex object is initially instantiated.
Which code segment should you insert at line 04?

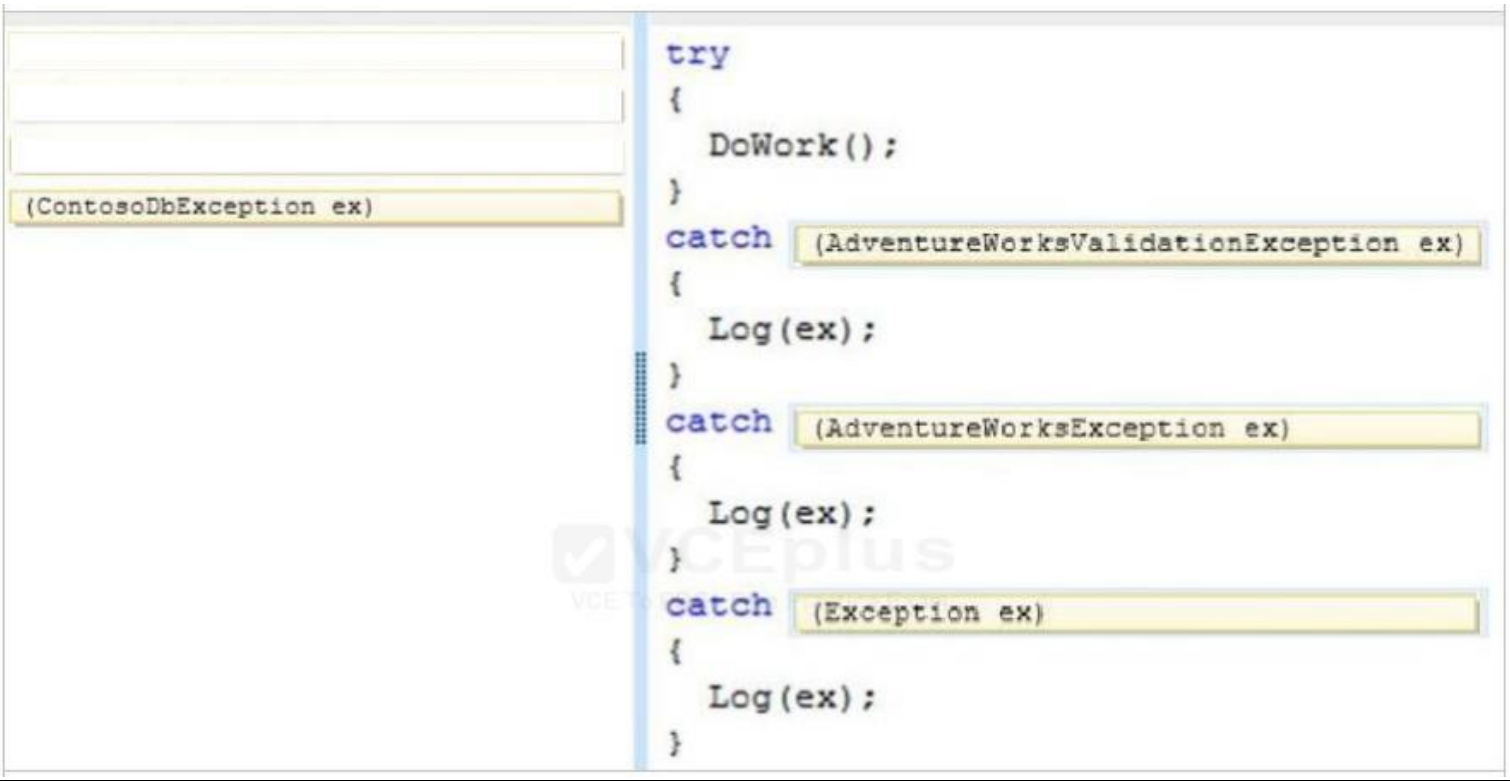
You are developing an application that implements a set of custom exception types. You declare the custom exception types by using the following code segments:

```
public class AdventureWorksException : System.Exception { ... }
public class AdventureWorksDbException : AdventureWorksException { ... }
public class AdventureWorksValidationException : AdventureWorksException { ... }
```

The application includes a function named DoWork that throws .NET Framework exceptions and custom exceptions.
The application contains only the following logging methods:

```
static void Log(Exception ex) { ... }
static void Log(AdventureWorksException ex) { ... }
static void Log(AdventureWorksValidationException ex) { ... }
```

The application must meet the following requirements:
When AdventureWorksValidationException exceptions are caught, log the information by using the static void Log (AdventureWorksValidationException ex) method.
When AdventureWorksDbException or other AdventureWorksException exceptions are caught, log the information by using the static void I oq (AdventureWorksException ex) method.
You need to meet the requirements.
How should you complete the relevant code? (To answer, drag the appropriate code segments to the correct locations in the answer area. Each code segment 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:



You are implementing a library method that accepts a character parameter and returns a string.
If the lookup succeeds, the method must return the corresponding string value. If the lookup fails, the method must return the value “invalid choice.”
You need to implement the lookup algorithm.
How should you complete the relevant code? (To answer, select the correct keyword in each drop-down list in the answer area.)
Hot Area:

Work Area

```
public string GetResponse(char letter)
{
   string response;
   [ ▾ ](letter)
   {
      [ ▾ ] 'a':
         response = "animal";
         break;
      [ ▾ ] 'm':
         response = "mineral";
         break;
      [ ▾ ] :
         response = "invalid choice";
         break;
```

case / if / switch

case / default / else / if

case / default / else / if

case / default / else / if

You use the Task.Run() method to launch a long-running data processing operation. The data processing operation often fails in times of heavy network congestion.
If the data processing operation fails, a second operation must clean up any results of the first operation.
You need to ensure that the second operation is invoked only if the data processing operation throws an unhandled exception.
What should you do? **Create a task by calling the Task.ContinueWith() method.**

You are creating a console application by using C#.
You need to access the application assembly.
Which code segment should you use? **Assembly.GetExecutingAssembly();**

You are developing an application by using C#.
The application includes an object that performs a long running process.
You need to ensure that the garbage collector does not release the object's resources until the process completes.
Which garbage collector method should you use? **SuppressFinalize()**

You are creating a class named Employee. The class exposes a string property named EmployeeType. The following code segment defines the Employee class. (Line numbers are included for reference only.)

```
01 public class Employee
02 {
03   internal string EmployeeType
04   {
05     get;
06     set;
07   }
08 }
```

The EmployeeType property value must be accessed and modified only by code within the Employee class or within a class derived from the Employee class.
You need to ensure that the implementation of the EmployeeType property meets the requirements.
Which two actions should you perform? (Each correct answer represents part of the complete solution. Choose two.) **. Replace line 06 with the following code segment: private set;** oraz **Replace line 03 with the following code segment: protected string EmployeeType**

You are implementing a method named Calculate that performs conversions between value types and reference types. The following code segment implements the method. (Line numbers are included for reference only.)

```
01 public static void Calculate(float amount)
02 {
03   object amountRef = amount;
04
05   Console.WriteLine(balance);
06 }
```

You need to ensure that the application does not throw exceptions on invalid conversions.
Which code segment should you insert at line 04? **int balance = (int) (float)amountRef;**

You are developing a class named ExtensionMethods.
You need to ensure that the ExtensionMethods class implements the IsEmail() method on string objects.
How should you complete the relevant code? (To answer, drag the appropriate code segments to the correct locations in the answer area. Each code segment 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:

```
public class ExtensionMethods

String str

protected static class ExtensionMethods
```



```
public static class ExtensionMethods
{
    public static bool IsUrl(
        this String str
    )
    {
        var regex = new Regex(
            "(https?://)?([A-Za-z9-0-]*\\.)?([A-Za-z0-9-]*)" +
            "\\.[A-Za-z0-9]*/?.*");
        return regex.IsMatch(str);
    }
}
```

```
public class ExtensionMethods

String str

protected static class ExtensionMethods
```



```
public static class ExtensionMethods
{
    public static bool IsUrl(
        this String str
    )
    {
        var regex = new Regex(
            "(https?://)?([A-Za-z9-0-]*\\.)?([A-Za-z0-9-]*)" +
            "\\.[A-Za-z0-9]*/?.*");
        return regex.IsMatch(str);
    }
}
```

You are developing an application. The application includes classes named Employee and Person and an interface named IPerson.

The Employee class must meet the following requirements:

It must either inherit from the Person class or implement the IPerson interface. It must be inheritable by other classes in the application.

You need to ensure that the Employee class meets the requirements.

Which two code segments can you use to achieve this goal? (Each correct answer presents a complete solution. Choose two.)

A.
```
sealed class Employee : Person
{
  ...
}
```

B.
```
abstract class Employee : Person
{
  ...
}
```

C.
```
sealed class Employee : IPerson
{
  ...
}
```

D.
```
abstract class Employee : IPerson
{
  ...
}
```

You are developing an application that will convert data into multiple output formats.
The application includes the following code. (Line numbers are included for reference only.)

```
01 public class TabDelimitedFormatter : IOutputFormatter<string>
02 {
03   readonly Func<int, char> suffix = col => col % 2 == 0 ? '\n' : '\t';
04   public string GetOutput(IEnumerator<string> iterator, int recordSize)
05   {
06
07   }
08 }
```

You are developing a code segment that will produce tab-delimited output. All output routines implement the following interface:

```
public interface IOutputFormatter<T>
{
  string GetOutput(IEnumerator<T> iterator, int recordSize);
}
```

You need to minimize the completion time of the GetOutput() method. Which code segment should you insert at line 06?

A.
```
string output = null;
for (int i = 1; iterator.MoveNext(); i++)
{
  output = string.Concat(output, iterator.Current, suffix(i));
}
return output;
```

B.
```
var output = new StringBuilder();
for (int i = 1; iterator.MoveNext(); i++)
{
  output.Append(iterator.Current);
  output.Append(suffix(i));
}
return output.ToString();
```

C.
```
string output = null;
for (int i = 1; iterator.MoveNext(); i++)
{
  output = output + iterator.Current + suffix(i);
}
return output;
```

D.
```
string output = null;
for (int i = 1; iterator.MoveNext(); i++)
{
  output += iterator.Current + suffix(i);
}
return output;
```

You are creating an application that manages information about zoo animals. The application includes a class named Animal and a method named Save.
The Save() method must be strongly typed. It must allow only types inherited from the Animal class that uses a constructor that accepts no parameters. You need to implement the Save() method.
Which code segment should you use?

A.
```
public static void Save<T>(T target) where T : new(), Animal
{
  ...
}
```

B.
```
public static void Save<T>(T target) where T : Animal
{
  ...
}
```

C.
```
public static void Save<T>(T target) where T : Animal, new()
{
  ...
}
```

D.
```
public static void Save(Animal target)
{
  ...
}
```

You are developing an application. The application converts a Location object to a string by using a method named WriteObject. The WriteObject() method accepts two parameters, a Location object and an XmlObjectSerializer object. The application includes the following code. (Line numbers are included for reference only.)

```
01 public enum Compass
02 {
03   North,
04   South,
05   East,
06   West
07 }
08 [DataContract]
09 public class Location
10 {
11   [DataMember]
12   public string Label { get; set; }
13   [DataMember]
14   public Compass Direction { get; set; }
15 }
16 void DoWork()
17 {
18   var location = new Location { Label = "Test", Direction = Compass.West };
19   Console.WriteLine(WriteObject(location,
20
21   ));
22 }
```

You need to serialize the Location object as a JSON object.
Which code segment should you insert at line 20? **New DataContractJsonSerializer(typeof(Location))**

An application includes a class named Person. The Person class includes a method named GetData.
You need to ensure that the GetData() from the Person class.
Which access modifier should you use for the GetData() method? **Private**

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

```
01 public interface IDataContainer
02 {
03   string Data { get; set; }
04 }
05 void DoWork(object obj)
06 {
07
08   if (dataContainer != null)
09   {
10     Console.WriteLine(dataContainer.Data);
11   }
12 }
```

The DoWork() method must not throw any exceptions when converting the obj object to the IDataContainer interface or when accessing the Data property.
You need to meet the requirements. Which code segment should you insert at line 07? **var dataContainer = obj as IDataContainer;**

An application receives JSON data in the following format:

```
{ "FirstName" : "David",
  "LastName" : "Jones",
  "Values" : [0, 1, 2] }
```

The application includes the following code segment. (Line numbers are included for reference only.)

```
01 public class Name
02 {
03   public int[] Values { get; set; }
04   public string FirstName { get; set; }
05   public string LastName { get; set; }
06 }
07 public static Name ConvertToName(string json)
08 {
09   var ser = new JavaScriptSerializer();
10
11 }
```


You need to ensure that the ConvertToName() method returns the JSON input string as a Name object.
Which code segment should you insert at line 10? **Return ser.Deserialize(json); ||** Correct is: **Return ser.Deserialize(json);**Or **Return (Name)(ser.DeserializeObject(json))** Or **Return ser.Deserialize(json, typeof(Name));**

An application serializes and deserializes XML from streams. The XML streams are in the following format:

```
<Name xmlns="http://www.contoso.com/2012/06">
  <LastName>Jones</LastName>
  <FirstName>David</FirstName>
</Name>
```

The application reads the XML streams by using a DataContractSerializer object that is declared by the following code segment: var ser = new DataContractSerializer(typeof(Name));
You need to ensure that the application preserves the element ordering as provided in the XML stream.
How should you complete the relevant code? (To answer, drag the appropriate attributes to the correct locations in the answer area-Each attribute 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:

```
[DataContract(Name="http://www.contoso.com/2012/06")]
[DataMember(Name="http://www.contoso.com/2012/06", Order=10)]
[DataContract]
[DataMember(Name="http://www.contoso.com/2012/06")]
```

```
[DataContract(Namespace="http://www.contoso.com/2012/06")]
class Name
{
  [DataMember(Order=10)]
  public string FirstName { get; set; }

  [DataMember]
  public string LastName { get; set; }
}
```

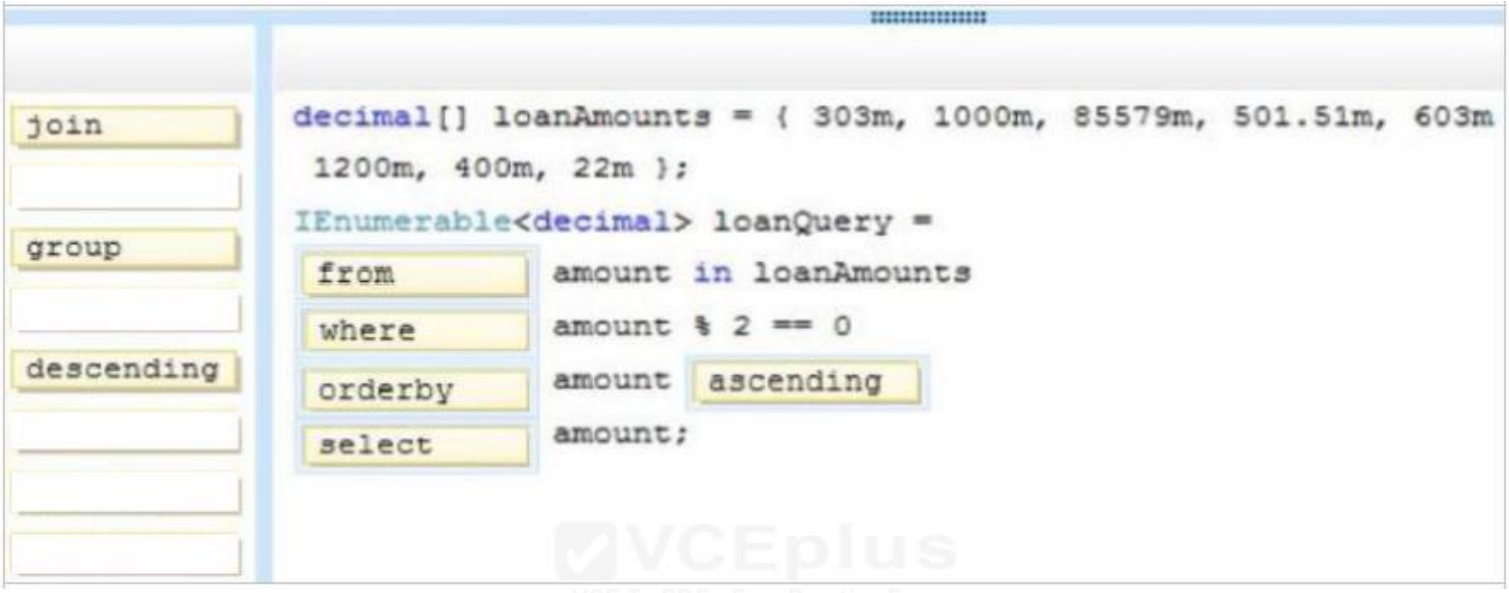
You are developing an application that uses the Microsoft ADO.NET Entity Framework to retrieve order information from a Microsoft SQL Server database. The application includes the following code. (Line numbers are included for reference only.)

```
01 public DateTime? OrderDate;
02 IQueryable<Order> LookupOrdersForYear(int year)
03 {
04   using (var context = new NorthwindEntities())
05   {
06     var orders =
07      from order in context.Orders
08
09       select order;
10     return orders.ToList().AsQueryable();
11   }
12 }
```

The application must meet the following requirements:
Return only orders that have an OrderDate value other than null.
Return only orders that were placed in the year specified in the OrderDate property or in a later year.
You need to ensure that the application meets the requirements. Which code segment should you insert at line 08?
Where order.OrderDate.Value != null && order.OrderDate.Value.Year > = year

You are developing an application by using C#. The application includes an array of decimal values named loanAmounts.
You are developing a LINQ query to return the values from the array.
The query must return decimal values that are evenly divisible by two. The values must be sorted from the lowest value to the highest value.
You need to ensure that the query correctly returns the decimal values.
How should you complete the relevant code? (To answer, drag the appropriate code segments to the correct locations in the answer area. Each code segment 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:



You are developing an application. The application includes a method named ReadFile that reads data from a file.
The ReadFile() method must meet the following requirements:
It must not make changes to the data file.
It must allow other processes to access the data file.
It must not throw an exception if the application attempts to open a data file that does not exist.
You need to implement the ReadFile() method. Which code segment should you use? **. var fs = File.Open(Filename, FileMode.OpenOrCreate, FileAccess.Read, FileShare.ReadWrite);**

You are developing an application. The application calls a method that returns an array of integers named employeeIds.
You define an integer variable named employeeIdToRemove and assign a value to it. You declare an array named filteredEmployeeIds.
You have the following requirements:
Remove duplicate integers from the employeeIds array.
Sort the array in order from the highest value to the lowest value.
Remove the integer value stored in the employeeIdToRemove variable from the employeeIds array.
You need to create a LINQ query to meet the requirements.
Which code segment should you use?

A.
```
int[] filteredEmployeeIds = employeeIds.Where(value => value !=
  employeeIdToRemove).OrderBy(x => x).ToArray();
```

B.
```
int[] filteredEmployeeIds = employeeIds.Where(value => value !=
  employeeIdToRemove).OrderByDescending(x => x).ToArray();
```

C.
```
int[] filteredEmployeeIds = employeeIds.Distinct().Where(value => value !=
  employeeIdToRemove).OrderByDescending(x => x).ToArray();
```

D.
```
int[] filteredEmployeeIds = employeeIds.Distinct().OrderByDescending(x => x).ToArray();
```

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

```
01 class Animal
02 {
03   public string Color { get; set; }
04   public string Name { get; set; }
05 }
06 private static IEnumerable<Animal> GetAnimals(string sqlConnectionString)
07 {
08   var animals = new List<Animal>();
09   SqlConnection sqlConnection = new SqlConnection(sqlConnectionString);
10   using (sqlConnection)
11   {
12     SqlCommand sqlCommand = new SqlCommand("SELECT Name, ColorName FROM Animals", sqlConnection
13
14     using (SqlDataReader sqlDataReader = sqlCommand.ExecuteReader())
15     {
16
17       {
18         var animal = new Animal();
19         animal.Name = (string)sqlDataReader["Name"];
20         animal.Color = (string)sqlDataReader["ColorName"];
21         animals.Add(animal);
22       }
23     }
24   }
25   return customers;
26 }
```

The GetAnimals() method must meet the following requirements: Connect to a Microsoft SQL Server database. Create Animal objects and populate them with data from the database. Return a sequence of populated Animal objects. You need to meet the requirements.

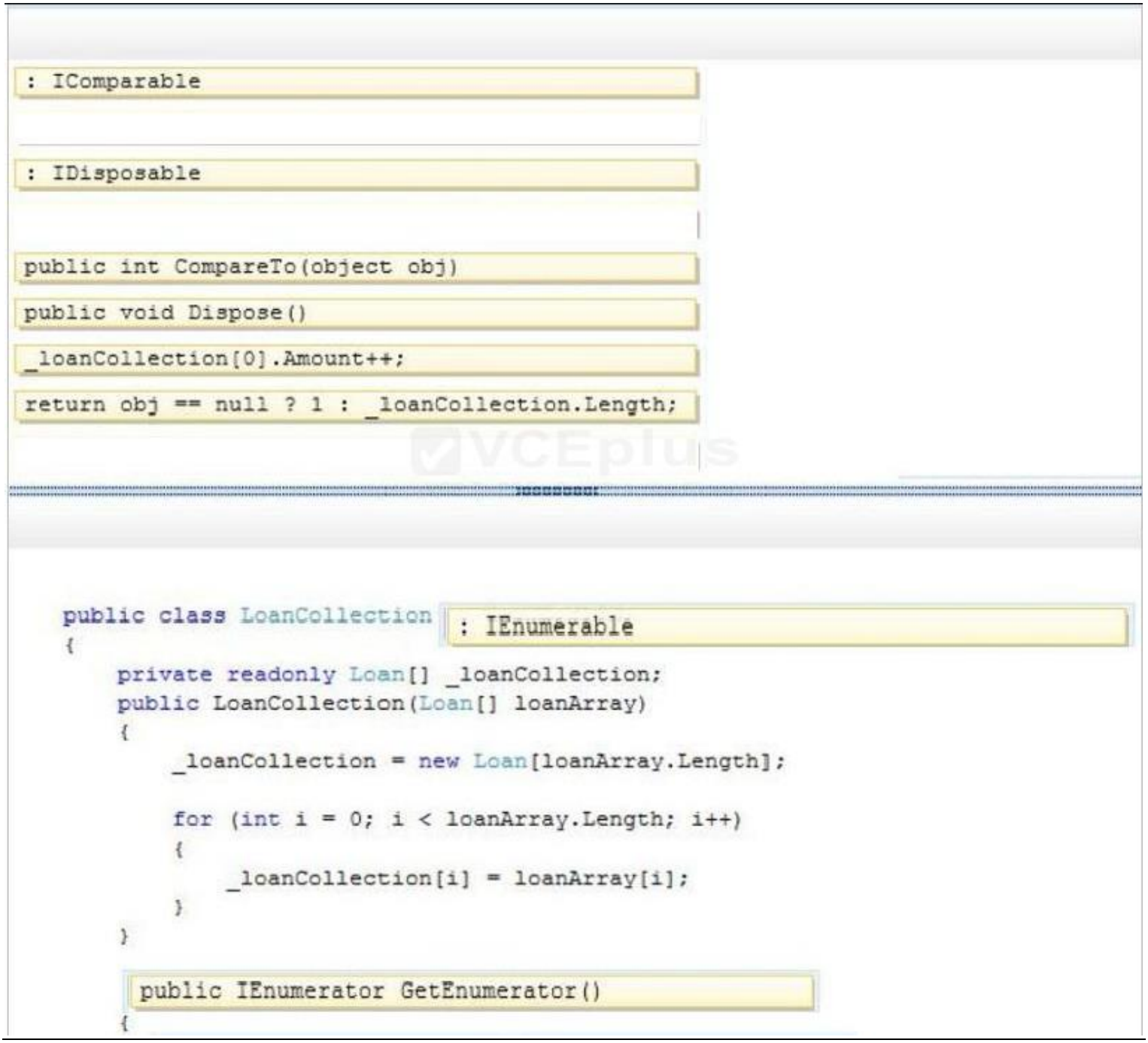
Which two actions should you perform? (Each correct answer presents part of the solution. Choose two.) **Insert the following code segment at line 13: sqlConnection.Open();** oraz **Insert the following code segment at line 16: while(sqlDataReader.Read())**

You are developing a custom collection named LoanCollection for a class named Loan class.

You need to ensure that you can process each Loan object in the LoanCollection collection by using a foreach loop.

How should you complete the relevant code? (To answer, drag the appropriate code segments to the correct locations in the answer area. Each code segment 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:

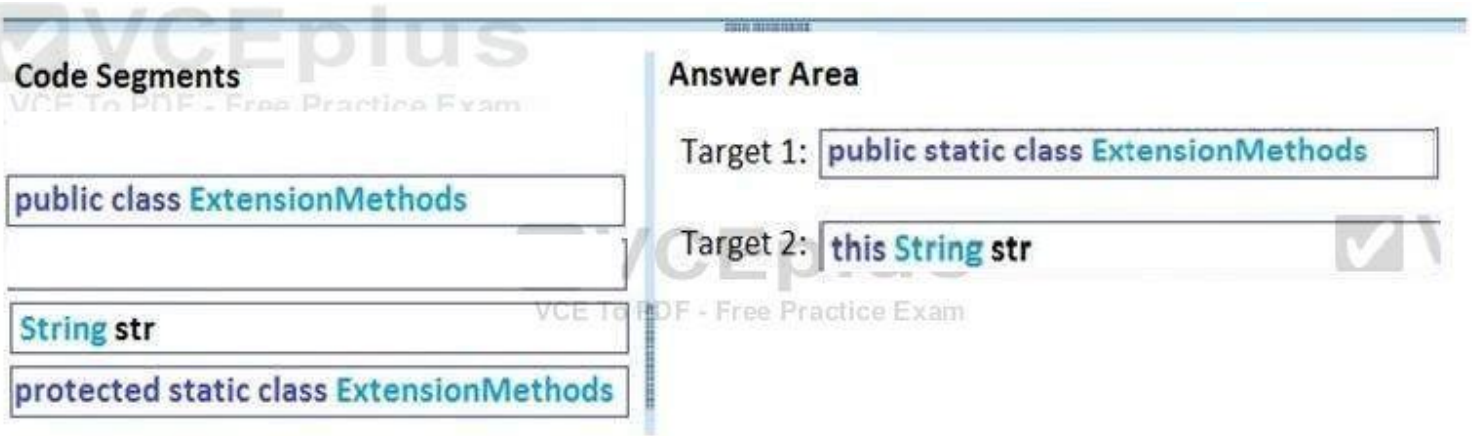


You are developing an application that includes a class named Order. The application will store a collection of Order objects.
The collection must meet the following requirements:
Use strongly typed members.
Process Order objects in first-in-first-out order.
Store values for each Order object.
Use zero-based indices.
You need to use a collection type that meets the requirements.
Which collection type should you use? **Queue<T>**

You are developing a class named ExtensionMethods.
You need to ensure that the ExtensionMethods class implements the IsEmail() extension method on string objects.
You have the following code:

```
Target 1
{
  public static bool IsEmail(
    Target 2
    )
 {
   var regex = new Regex (@"^([\w\.\-]+)@([\w\-]+)((\.(\w){2,3})+$");
   return regex.IsMatch(str);
 }
}
```

Which code segments should you include in Target 1 and Target 2 to complete the code? (To answer, drag the appropriate code segments to the correct targets in the answer area. Each code segment 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:



You are developing a C# application named Application1 by using Microsoft Visual Studio 2017
You plan to compare the memory usage between different builds of Application 1.
You need to record the memory usage of each build.
What should you use from Visual Studio? **Memory Usage from Performance Profiler**

Note: This question is pert of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You have the following C# code. (Line numbers are included for reference only.)

```
01   int[] intArray = { 1, 2, 3, 4, 5 };
02
03   foreach (var item in intArray)
04   {
05       Console.WriteLine(item);
06   }
```

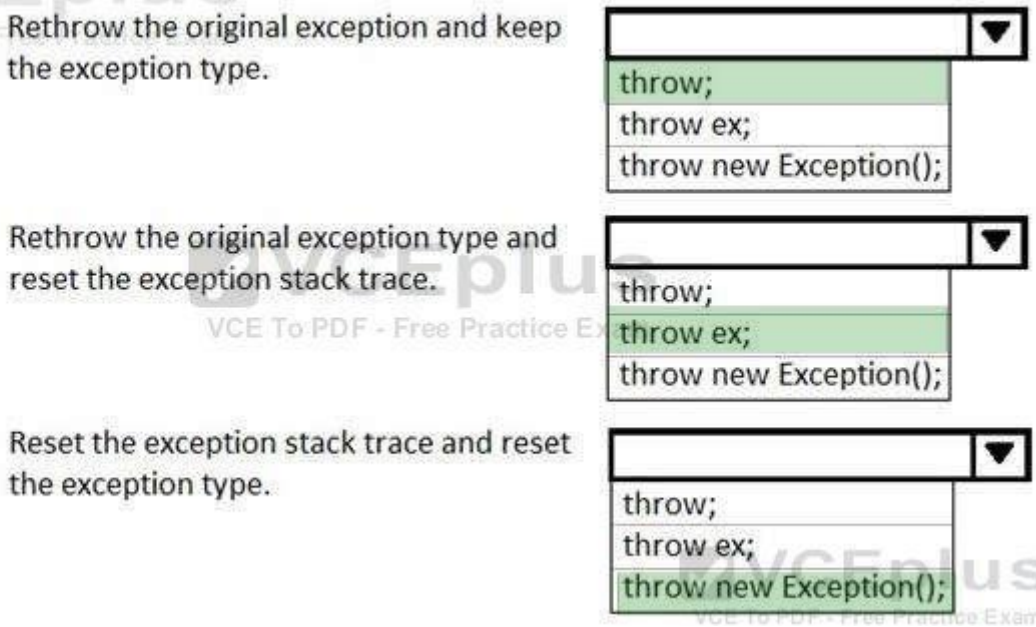
You need the foreach loop to display a running total of the array elements, as shown in the following output.
136
10
15
Solution: You insert the following code at line 02:

```
int sum = 0;
foreach (var item in intArray)
{
    sum += item;
}
```

Does this meet the goal? **No**

You are writing a code to handle exceptions for a C# application.
You need to identify different ways to handle an exception named ex.
Which line of code should you use for each task? To answer, select the appropriate line of code for each task in the answer area.

Answer Area



You are developing an application that implements a set of custom exception types. You declare the custom exception types by using the following code segments:

```
public class ContosoException : System.Exception { ... }
public class ContosoDbException : ContosoException { ... }
public class ContosoValidationException : ContosoException { ... }
```

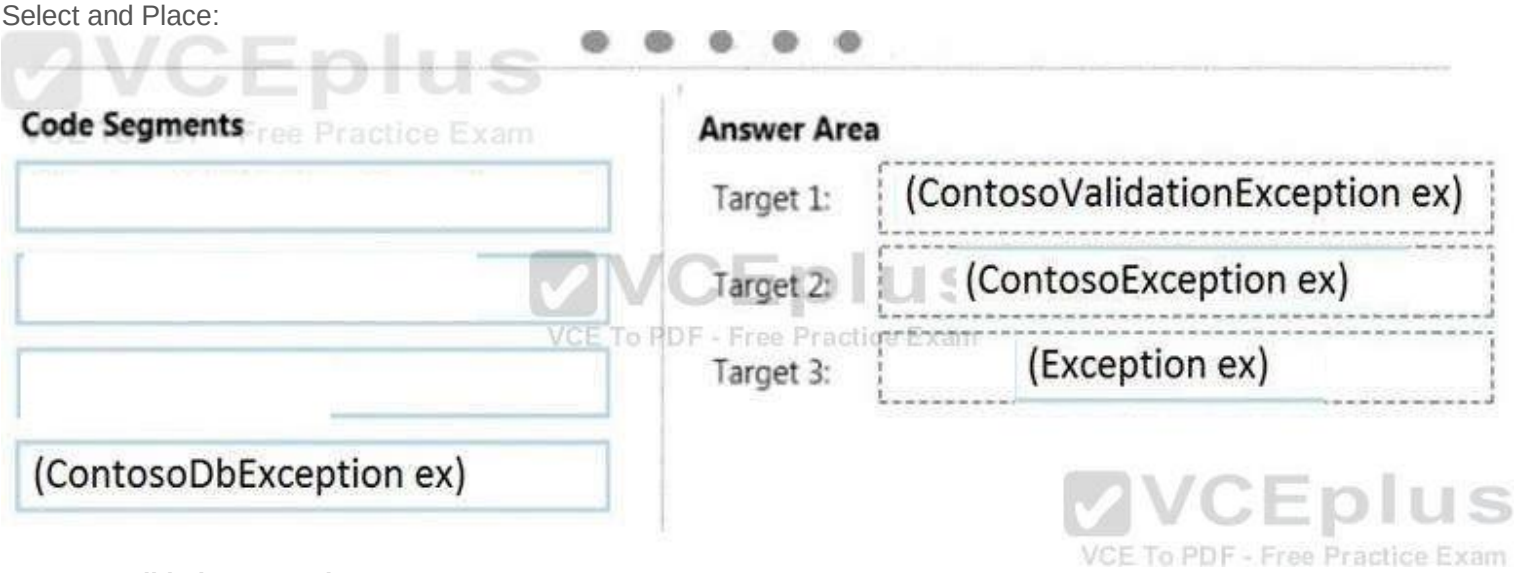
The application includes a function named DoWork that throws .NET Framework exceptions and custom exceptions. The application contains only the following logging methods:

```
static void Log(Exception ex) { ... }
static void Log(ContosoException ex) { ... }
static void Log(ContosoValidationException ex) { ... }
```

The application must meet the following requirements:
When ContosoValidationException exceptions are caught, log the information by using the static void Log(ContosoValidationException ex) method.
When ContosoDbException or other ContosoException exceptions are caught, log the information by using the static void Log(ContosoException ex) method.
When generic exceptions are caught, log the information by using the static void Log(Exception ex) method.
You need to meet the requirements.
You have the following code:

```
try
{
  DoWork();
}
catch Target 1
{
  Log(ex);
}
catch Target 2
{
  Log(ex);
}
catch Target 3
{
  Log(ex);
}
```

Which code segments should you include in Target 1, Target 2 and Target 3 to complete the code? (To answer, drag the appropriate code segments to the correct targets in the answer area. Each code segment 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:



ContosoValidationException ex
ContosoException ex
Exception ex
When ContosoValidationException exceptions are caught, log the information by using the static void Log(ContosoValidationException ex) method.
When ContosoDbException or other ContosoException exceptions are caught, log the information by using the static void Log(ContosoException ex) method.
When generic exceptions are caught, log the information by using the static void Log(Exception ex) method.
You need to meet the requirements.

You have the following code.

```
public class Order
  {
      public int OrderId { get; set;}
      public DateTime { get; set;}
      public Order(int orderId, DateTime OrderDate)
     {
          OrderId = OrderId;
          OrderDate = OrderDate;
     }
  }
public class OrderDetails : Order
 {
      public string ProductName { get; set; }
      public OrderDetails(string productName, int orderId,DateTime orderDate)
        : base(OrderId, OrderDate)
      {
           ProductName = ProductName;
      }
 }
```

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

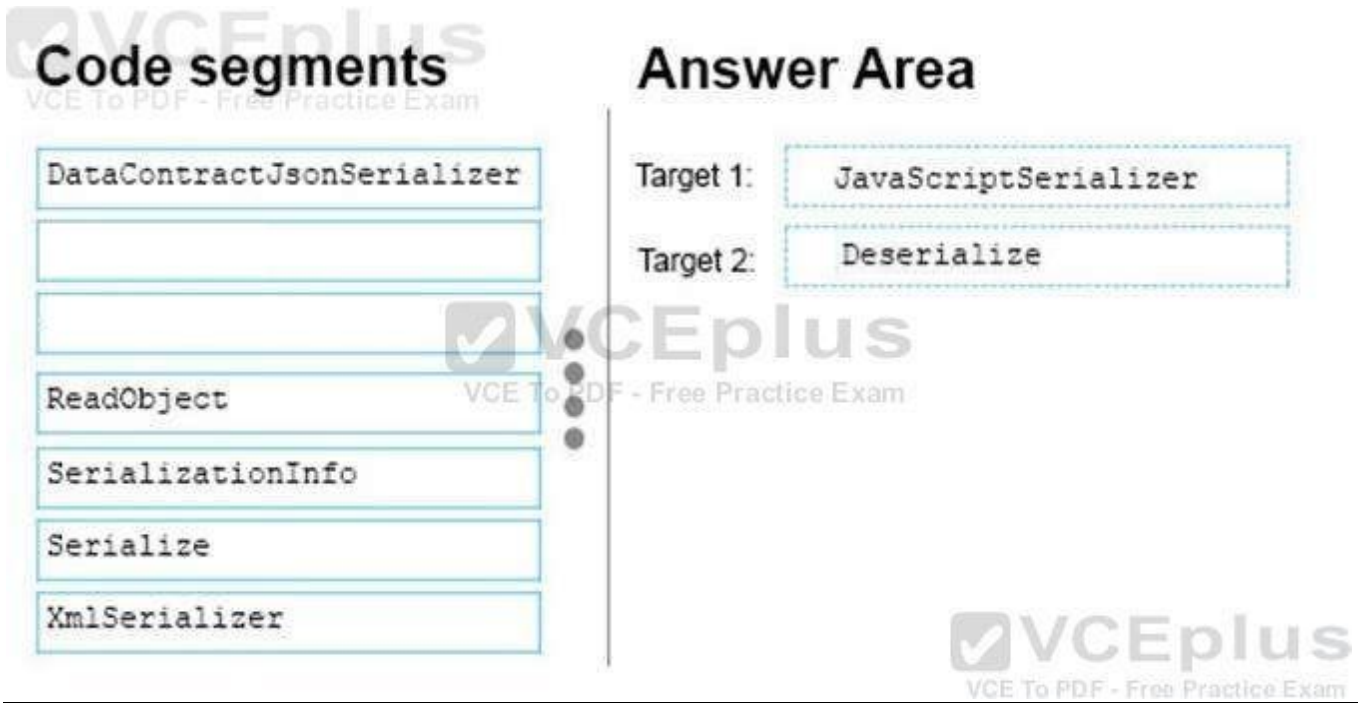
Answer Area

Statement	Yes	No
The OrderId property is inherited by OrderDetails.	○	○
A new property named ProductName is added to the Order constructor.	○	○
OrderId and OrderDate are required parameters when you create OrderDetails objects.	○	○

You need to validate whether string strJson is a valid JSON string.
You write the following code:

```
var serializer = new Target 1();
var result = serializer.Target 2<Dictionary<string, object>>(strJson);
```

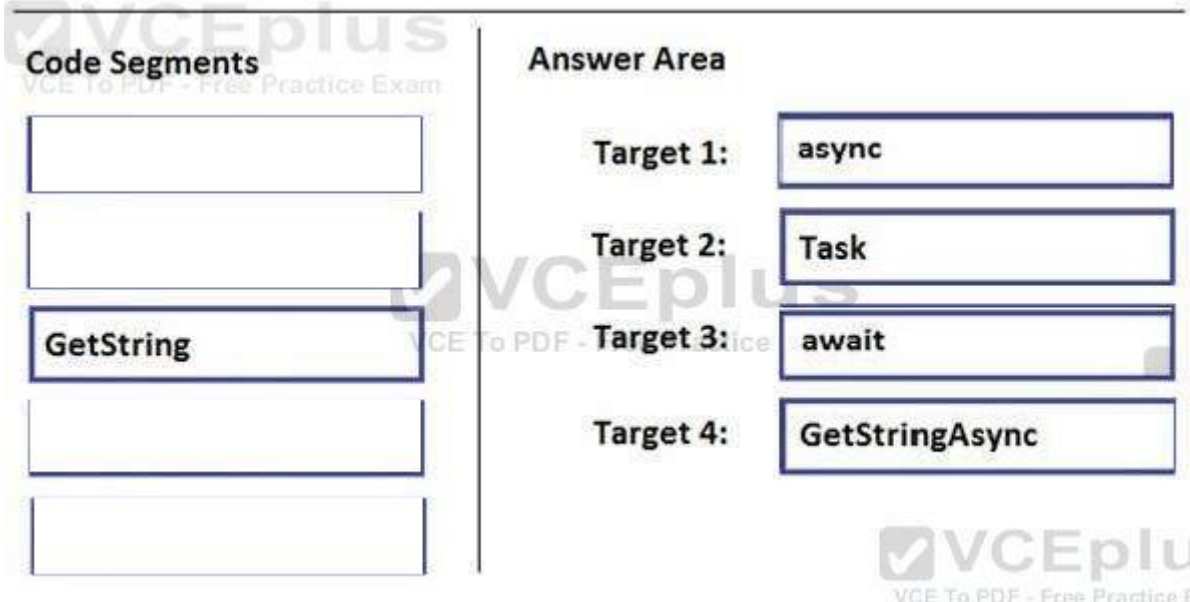
How should you complete the code? To answer, drag the appropriate code segments to the correct targets in the answer area. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.
Select and Place:



You have the following code.

```
public Target 1 Target 2 < string> GetAsync(string uri)
  {
   var httpClient = new HttpClient ();
   var content = Target 3 httpClient.Target 4(uri);
   return await Task .Run(() => content);
}
```

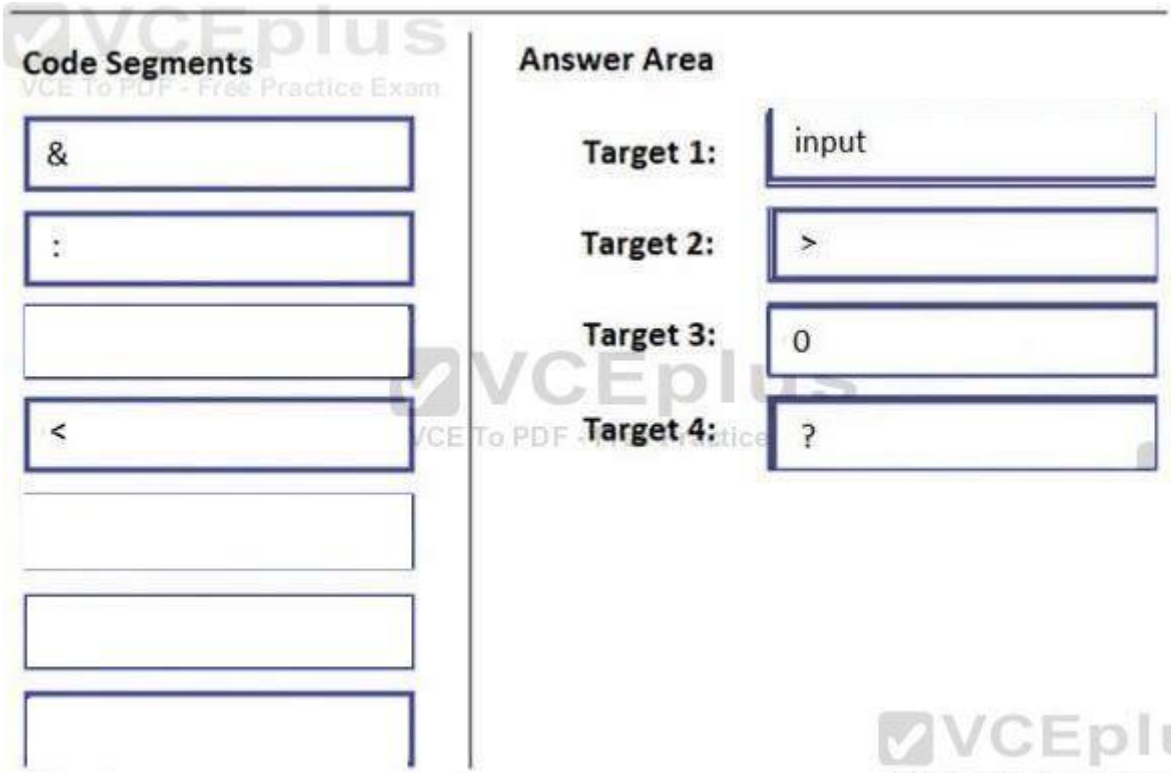
You need to complete the method to return the content as a string.
How should you complete the code? To answer, drag the appropriate code elements to the correct targets in the answer area. Each code element may be used once, more than once or not at all. You may need to drag the split bar between panes or scroll to view content.
Select and Place:



You have the following code.

```
int input = Convert .ToInt32(Console .ReadLine());
string classify;
classify = (Target1 Target2 Target3) Target4 "possitive" : "negative";
```

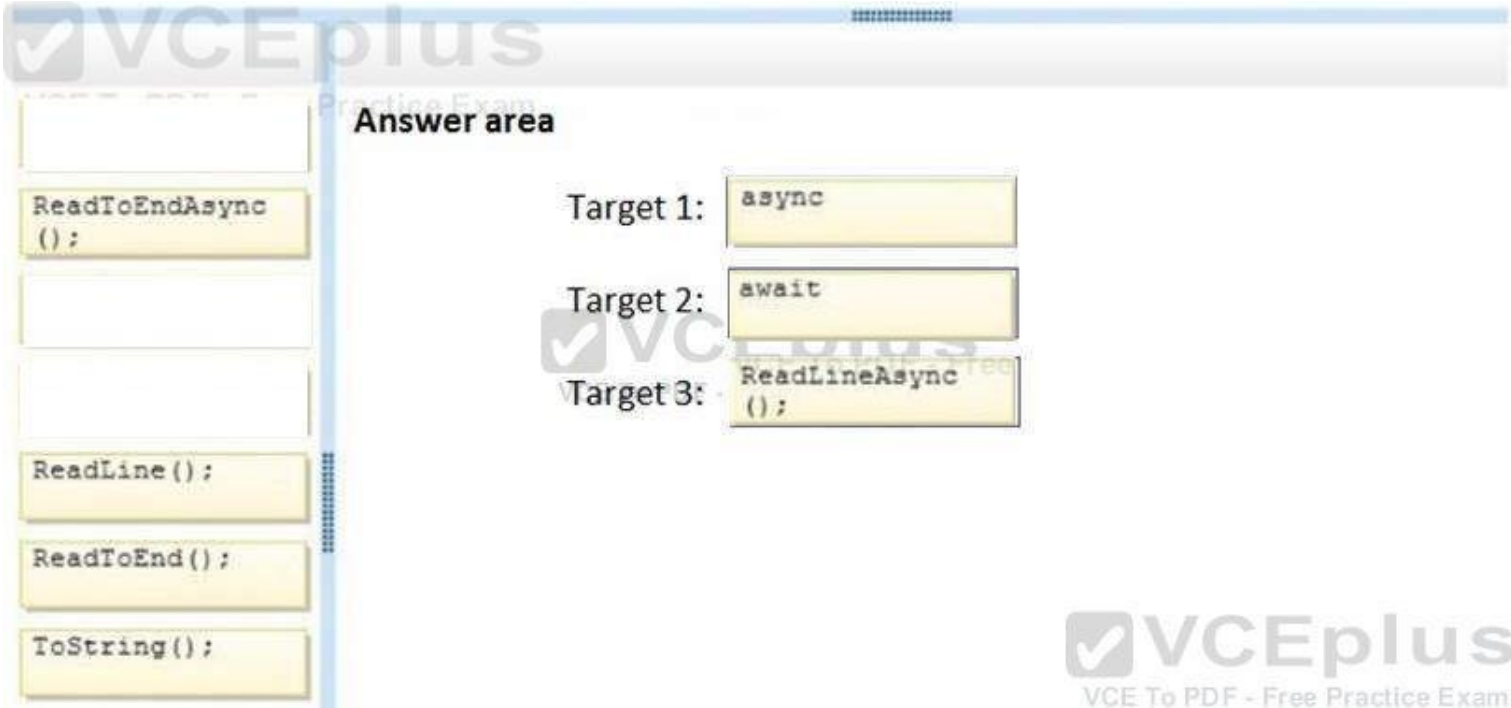
You need to ensure that the classify string contains the next "positive" if the input number is more than zero and "negative" if the input number is less than or equal to zero.
How should you complete the code? To answer, drag the appropriate code elements to the correct targets in the answer area. Each code element 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:



You are developing an application that will include a method named GetData. The GetData() method will retrieve several lines of data from a web service by using a System.IO.StreamReader object.
You have the following requirements:
The GetData() method must populate the urlText text box with a string value that contains the first line of the response from the web service. The application must remain responsive while the GetData() method runs.
You need to implement the GetData() method.
You have the following code:

```
private Target 1 void GetData(WebResponse response)
{
  var streamReader = new StreamReader(response.GetResponseStream());
  urlText.Text = Target 2 streamReader. Target 3
}
```

Which objects should you include in Target 1, Target 2 and Target 3 to complete the code? (To answer, drag the appropriate objects to the correct locations in the answer area. Each object 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:



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

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

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

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

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

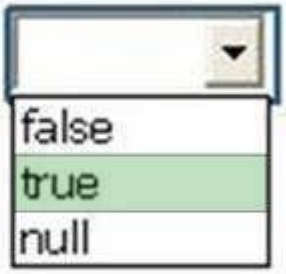
You have the following code:

```
private static Dictionary<string, int> CreateTestData()
{
    Dictionary<string, int> dict = new Dictionary<string, int>()
    {
        {"Accounting", 1},
        {"Marketing",  2},
        {"Operations", 3}
    };
    return dict;
}
private static bool? FindInList(string searchTerm, int value)
{
    Dictionary<string, int> data = CreateTestData();
    return data.Contains(new KeyValuePair<string,int>(searchTerm,value));
}
```

Use the drop-down lists to select the answer choice that completes each statement.
Hot Area:

If the search term is set to "Finance", and value is set to 0, the result will be **[answer choice]**.

If the search term is set to "Accounting", and value is set to 1, the result will be **[answer choice]**.



If the search term is set to "Accounting", and value is set to 2, the result will be **[answer choice]**.

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? **Task.WaitAll(tasks);**

You have the following code.

```
List<string> myData = new List<string>();

myData.Add("string1");
myData.Add("string2");
myData.Add("string3");
```

You need to remove all of the data from the myData list.
Which code should you use? **while (myData.Count ! = 0) myData.RemoveAt(0);**

You are developing an application that uses multiple asynchronous tasks to optimize performance.
You need to retrieve the result of an asynchronous 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()
{
  ...
}
```

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? **var2 = (int) array1[0];**

You have a List object that is generated by executing the following code:

```
List<string> departments = new List<string>()
{
  "Accounting", "Marketing", "Sales", "Manufacturing", "Information Systems", "Training"
};
```

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

```
01  private bool GetMatches(List<string> departments, string searchTerm)
02  {
03    var findDepartment = departments.Exists((delegate(string deptName)
04    {
05      return deptName.Equals(searchTerm);
06    }
07    ));
08    return findDepartment;
09  }
```

You need to alter the method to use a lambda statement.
How should you rewrite lines 03 through 06 of the method?

A.
```
var findDepartment = departments.Where(x => x == searchTerm);
```

B.
```
var findDepartment = departments.Where(x => x.Equals(searchTerm));
```

C.
```
var findDepartment = departments.First(x => x == searchTerm);
```

D
```
var findDepartment = departments.Exists(x => x == searchTerm);
```

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

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? **Specify the /define compiler option.**

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? **binary.Flush();**

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))
{
  DataContractJsonSerializer dataContractJsonSerializer = new DataContractJsonSerializer(typeof(Employee));
  Employee retrievedEmployee = dataContractJsonSerializer.ReadObject(stream) as Employee;
  ...
}
```

B.
```
using (Stream stream = new MemoryStream(employeeData))
{
  DataContractSerializer dataContractSerializer = new DataContractSerializer(typeof(Employee));
  dataContractSerializer.WriteObject(stream, new Employee());
  ...
}
```

C.
```
using (Stream stream = new MemoryStream(employeeData))
{
  DataContractSerializer dataContractSerializer = new DataContractSerializer(typeof(Employee));
  var employee = (Employee)dataContractSerializer.ReadObject(XmlReader.Create(stream));
  ...
}
```

D.
```
using (Stream stream = new MemoryStream(employeeData))
{
  var formatter = new System.Runtime.Serialization.Formatters.Binary.BinaryFormatter();
  var jsonMethod = new MethodCall(new[] {new Header("json", "GetEmployee")});
  Employee employee = (Employee)formatter.DeserializeMethodResponse(stream, null, jsonMethod);
  ...
}
```

You plan to debug an application remotely by using Microsoft Visual Studio 2013.
You set a breakpoint in the code.
When you compile the application, you get the following error message: "The breakpoint will not currently be hit. No symbols have been loaded for this document." You need to ensure that you can debug the application remotely.
What should you do? **Modify the AssemblyInfo.cs file.**

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))
{
   DataContractJsonSerializer dataContractJsonSerializer = new DataContract-
JsonSerializer(typeof(Employee));
   Employee retrievedEmployee = dataContractJsonSerializer.ReadOb-
ject(stream) as Employee;
   ...
   }
```

B.
```
using (Stream stream = new MemoryStream(employeeData))
{
   var formatter = new System.Runtime.Serialization.Formatters.Binary.BinaryFor-
matter();
   var jsonMethod = new MethodCall(new[] { new Header("json", "GetEmployee") });
   Employee employee = (Employee)formatter.DeserializeMethodResponse(stream,
null, jsonMethod);
   ...
}
```

C.

```
using (Stream stream = new MemoryStream(employeeData))
{
   DataContractSerializer dataContractSerializer = new DataContractSerializ-
er(typeof(Employee));
   var employee = (Employee)dataContractSerializer.ReadObject(XmlReader.Cre-
ate(stream));
   …
}
```

D.

```
using (Stream stream = new MemoryStream(employeeData))
{
   DataContractSerializer dataContractSerializer = new DataContractSerializ-
er(typeof(Employee));
   dataContractSerializer.WriteObject(stream, new Employee());
   …
}
```

You are developing a Windows Forms (WinForms) application. The application displays a TreeView that has 1,000 nodes. You need to ensure that if a user expands a node, and then collapses the TreeView, the node object is kept in memory unless the Garbage Collector requires additional memory.
Which object should you use to store the node? **WeakReference**

You have the following line of code.

```
Type type1 = typeof(Myclass);
```

You need to create an object named obj that has a type of type1.
Which line of code should you use?

A.

```
object obj = Activator.CreateInstance("type1".GetType());
```

B.

```
type obj = Activator.CreateInstance(type1);
```

C.

```
type1 obj = Activator.CreateInstance("type1".GetType());
```

D.

```
object obj = Activator.CreateInstance(type1);
```

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.

```
#define DEBUG
      Console.WriteLine("Entering debug mode");
#define RELEASE
      Console.WriteLine("Entering release mode")
```

B.

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

C.

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

D.

```
if(System.Reflection.Assembly.GetExecutingAssembly().IsDefined
      (typeof(System.Diagnostics.Debugger), false))
       Console.WriteLine("Entering debug mode");
else
       Console.WriteLine("Entering release mode")
```

You have the following code:

```
[DataContract]
      public class Class1
      {
           string oneValue;
           [DataMember]
           public string OneValue
           {
                get { return oneValue; }
                set { oneValue = value; }
           }
          public Class1(string _oneValue)
          {
              oneValue = _oneValue;
          }
      }
     [DataContract]
      public class Class2
      {
           List<string> values;
          [DataMember]
           public List<string> Values
           {
                get { return values; }
```

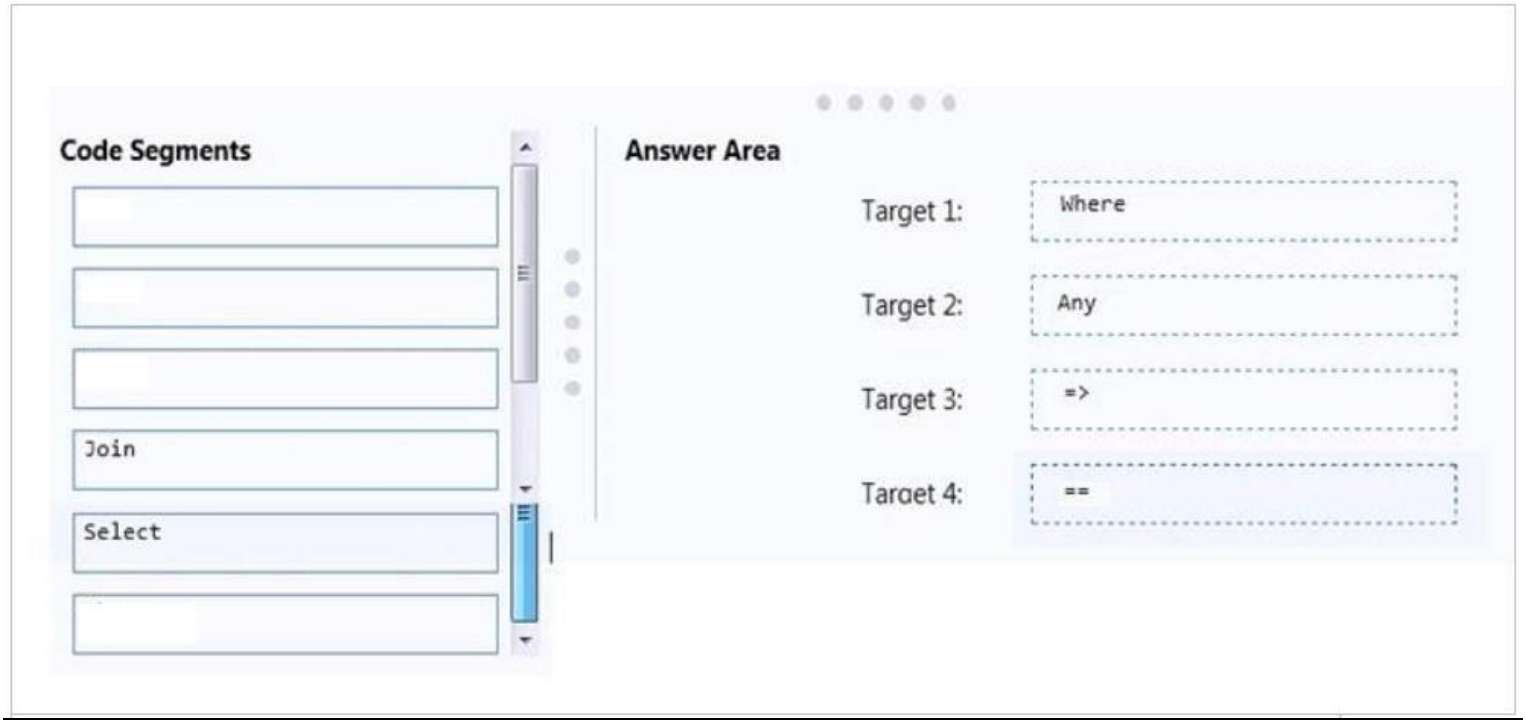
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
Hot Area:

Statement	Yes	No
Class1 can be serialized by using the BinaryFormatter class.	○	○
Class2 can be serialized by using the BinaryFormatter class.	○	○
Class2 can be serialized by using the DataContractSerializer class.	○	○

You have a class named Customer and a class named Order.
The customer class has a property named Orders that contains a list of Order objects.
The Order class has a property named OrderDate that contains the date of the Order.
You need to create a LINQ query that returns all of the customers who had at least one order during the year 2005.
You write the following code.

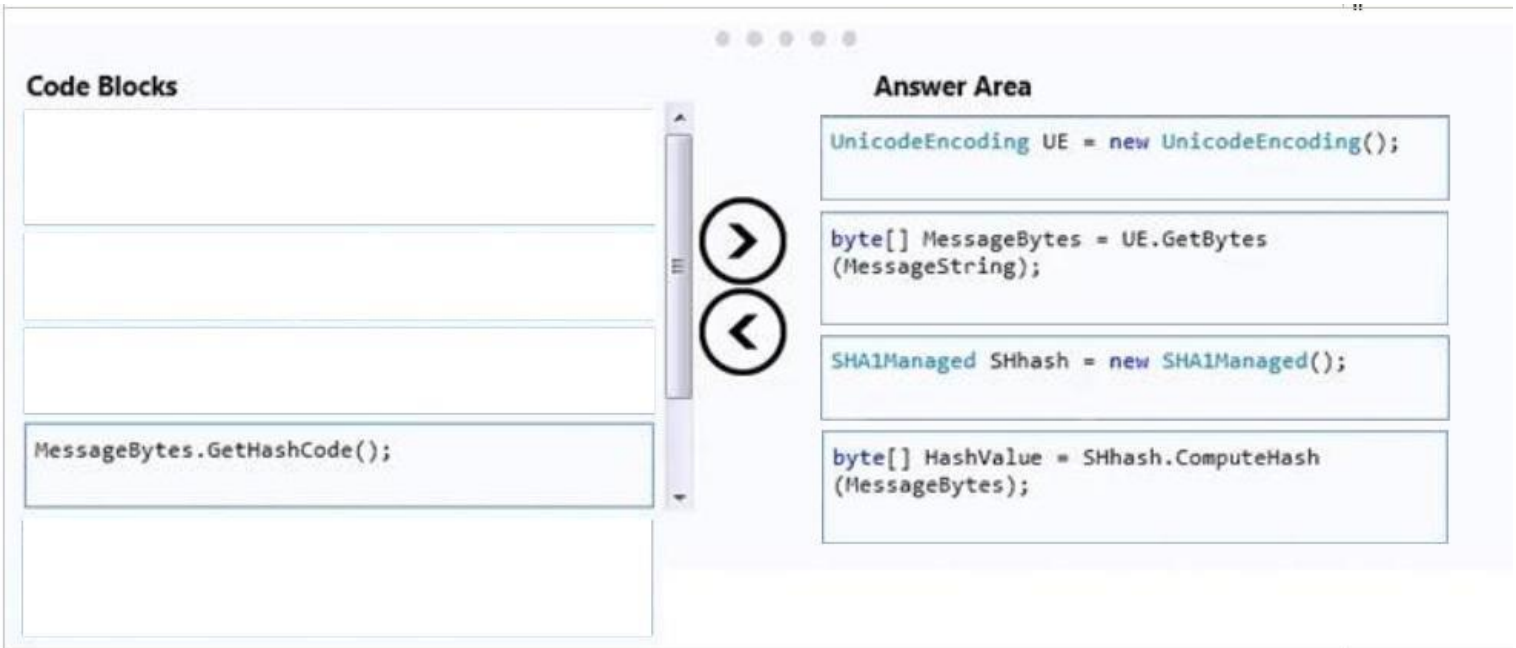
```
List<Customer> customersWithOrdersIn2005 =
 customers.Target 1(c => c.Orders.Target 2(
 o Target 3 o.OrderDate.Year Target 4 2005)).ToList();
```

How should you complete the code? To answer, drag the appropriate code elements to the correct targets in the answer area. Each code element 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:



You plan to create a list of customers named customers. Each customer will have a name and a key. The name and key will be strings.
You will use the following code to retrieve customers from the list.
customers[aKey].toString();
You need to identify which class must be used to declare the customers list. The solution must ensure that each key is unique.
Which class should you identify? **Dictionary**

You have the following code.
string MessageString = "This is the original message!";
You need to store the SHA1 hash value of MessageString in a variable named HashValue.
Which code should you use? Develop the solution by selecting and arranging the required code blocks in the correct order. You may not need all of the code blocks.
Select and Place:

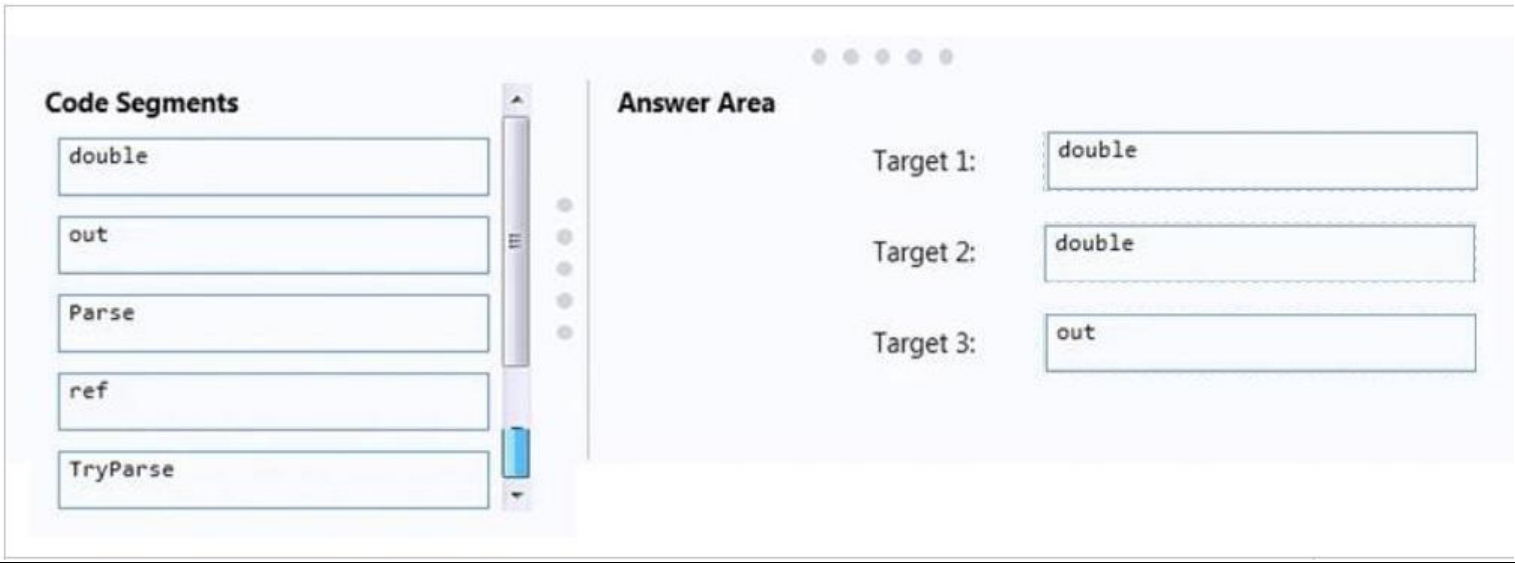


You have a C# application.
The application requires 500 MB of available memory.
You need to identify whether there is enough available memory when the application starts.
Which class should you use? **PerformanceCounter**

You are developing a function that takes a parameter named aParam as a string input.
You need to convert aParam to a Double. If the conversion cannot be completed, the function should return 0.

```
public double convertTheDouble(string aParam)
        {
            Target 1 result;
            if (!Target 2.TryParse(aParam, Target 3 result))
                return 0;
            return result;
        }
```

How should you complete the code? To answer, drag the appropriate code elements to the correct targets in the answer area. Each code element 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:



You are building an application in Microsoft Visual Studio 2013.
You have the following code.

```
#define DEBUG

using System;
using System.Diagnostics;

public class TestClass
{
    [Conditional("DEBUG")]
    public void LogData()
    {
        Trace.Write("LogData1");
    }
    public void RunTestClass()
    {
        this.LogData();

#if (DEBUG)
        Trace.Write("LogData2");
#endif
    }
}
```

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

Statement	Yes	No
When RunTestClass executes, LogData1 will be written if the application starts in DEBUG mode.	○	○
When RunTestClass executes, LogData2 will be written if the application starts in DEBUG mode.	○	○
When RunTestClass executes, LogData2 will be written if the application starts in RELEASE mode.	○	○

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. `XmlSerializer serializer = new XmlSerializer();`

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

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

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

You are testing an application. The application includes methods named CalculateInterest and LogLine. The CalculateInterest() method calculates loan interest.
The LogLine() method sends diagnostic messages to a console window.
The following code implements the methods. (Line numbers are included for reference only.)

```
01
02  private static decimal CalculateInterest(decimal loanAmount, int loanTerm, decimal loanRate)
03  {
04    decimal interestAmount = loanAmount * loanRate * loanTerm;
05
06    LogLine("Interest Amount : ", interestAmount.ToString("c"));
07
08    return interestAmount;
09  }
10
11  public static void LogLine(string message, string detail)
12  {
13    Console.WriteLine("Log: {0} = {1}", message, detail);
14  }
```

You have the following requirements:
• The CalculateInterest() method must run for all build configurations.
• The LogLine() method must run only for debug builds.
You need to ensure that the methods run correctly.
What are two possible ways to achieve this goal? (Each correct answer presents a complete solution. Choose two.)
D. Insert the following code segment at line 10:
[Conditional("DEBUG")]
G. Insert the following code segment at line 05:
#if DEBUG
Insert the following code segment at line 07:
#endif

You have a class named Customer and a variable named customers.
You need to test whether the customers' variable is a generic list of Customer objects.

A.
```
if (customers is List<Customer>)
```

B.
```
if (customers is List<Customer>[])
```

C.
```
if(customers.GetType() is List<Customer>[])
```

D.
```
if(customers.GetType() is List<Customer>)
```

Which line of code should you use?

You are developing an application that implements a set of custom exception types. You declare the custom exception types by using the following code segments:

```
public class ContosoException : System.Exception { ... }
public class ContosoDbException : ContosoException { ... }
public class ContosoValidationException : ContosoException { ... }
```

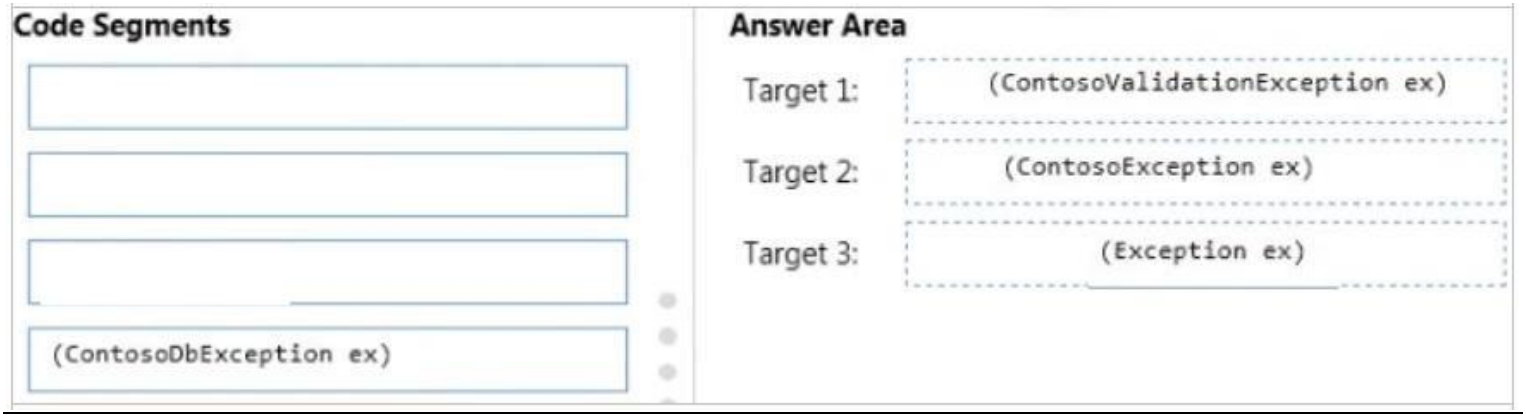
The application includes a function named DoWork that throws .NET Framework exceptions and custom exceptions. The application contains only the following logging methods:

```
static void Log(Exception ex) { ... }
static void Log(ContosoException ex) { ... }
static void Log(ContosoValidationException ex) { ... }
```

The application must meet the following requirements:
• When ContosoValidationException exceptions are caught, log the information by using the static void Log (ContosoValidationException ex) method.
• When ContosoDbException or other ContosoException exceptions are caught, log the information by using the static void Log(ContosoException ex) method.
You need to meet the requirements.
You have the following code:

```
try
{
  DoWork();
}
catch Target 1
{
  Log(ex);
}
catch Target 2
{
  Log(ex);
}
catch Target 3
{
  Log(ex);
}
```

Which code segments should you include in Target 1, Target 2 and Target 3 to complete the code? (To answer, drag the appropriate code segments to the correct targets in the answer area. Each code segment 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:



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

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

C.
```
if(System.Reflection.Assembly.GetExecutingAssembly().IsDefined
 (typeof(System.Diagnostics.Debugger), false))
  Console.WriteLine("Entering debug mode");
else
  Console.WriteLine("Entering release mode");
```

D.
```
#if (DEBUG)
  Console.WriteLine("Entering debug mode");
#elif (RELEASE)
  Console.WriteLine("Entering release mode ");
#endif
```

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.GetEnumerator();
```

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

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

D.
```
result = ( from  System.Text.RegularExpressions. Match  m  in  myMatches
   where  !m.Success
   select  m.Value).ToList< string >();
```

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? **. Specify the /define compiler option.**

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((double)amount);
}
private static void TransferFunds(double funds)
{
  ...
  Console.WriteLine(funds);
}
```

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

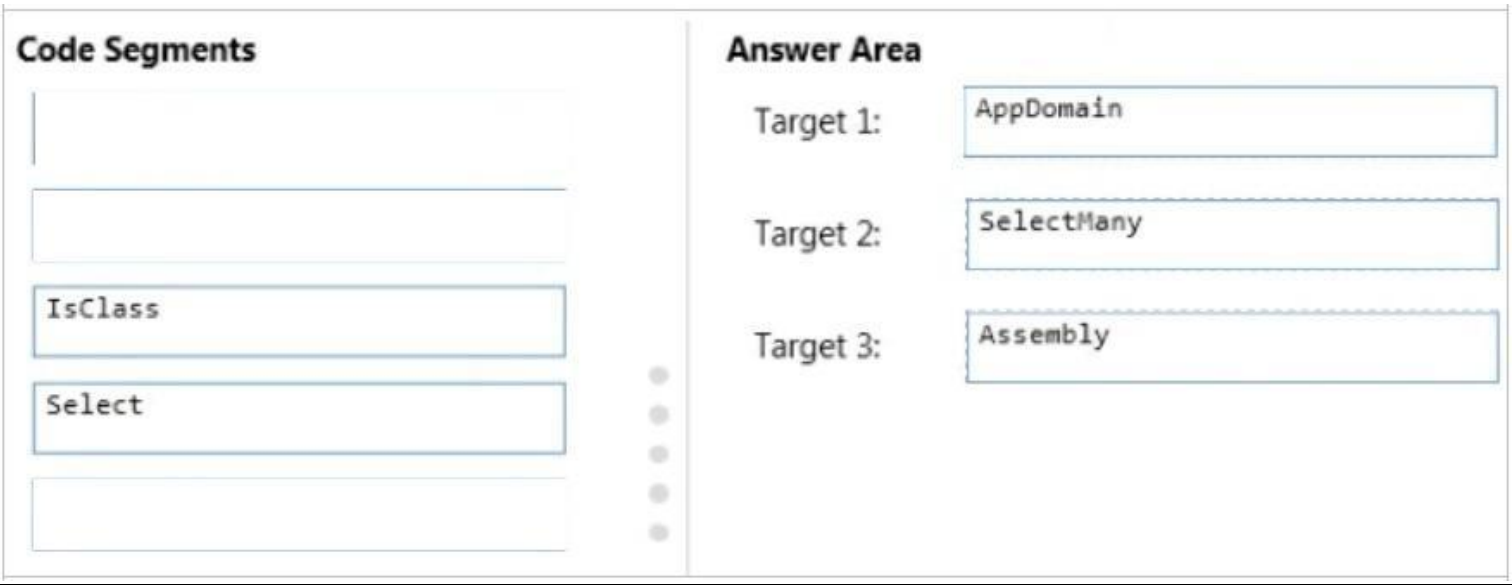
C.
```
private static void ConvertAmount(float amount)
{
  TransferFunds(amount);
}
private static void TransferFunds(int funds)
{
  ...
  Console.WriteLine(funds);
}
```

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

You write the following code.

```
List<Type> types = (Target 1.CurrentDomain.GetAssemblies()
  .Target 2(t => t.GetTypes())
  .Where(t => t.IsClass && t.Assembly == this.GetType().Target 3)).ToList<Type>();
```

You need to get the list of all the types defined in the assembly that is being executed currently.
How should you complete the code? To answer, drag the appropriate code elements to the correct targets in the answer area. Each code element 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:



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

```
01 public class Connection
02 {
03 public static Connection Create()
04 {
05 return new Connection();
06 }
07
08 }
```

You need to ensure that new instances of Connection can be created only by other classes by calling the Create method.
The solution must allow classes to inherit from Connection.
What should you do?

A. Replace line 01 with the following code:

```
public abstract class Connection
```

B. Replace line 01 with the following code:

```
public static class Connection
```

C. Insert the following code at line 07:

```
private Connection () {}
```

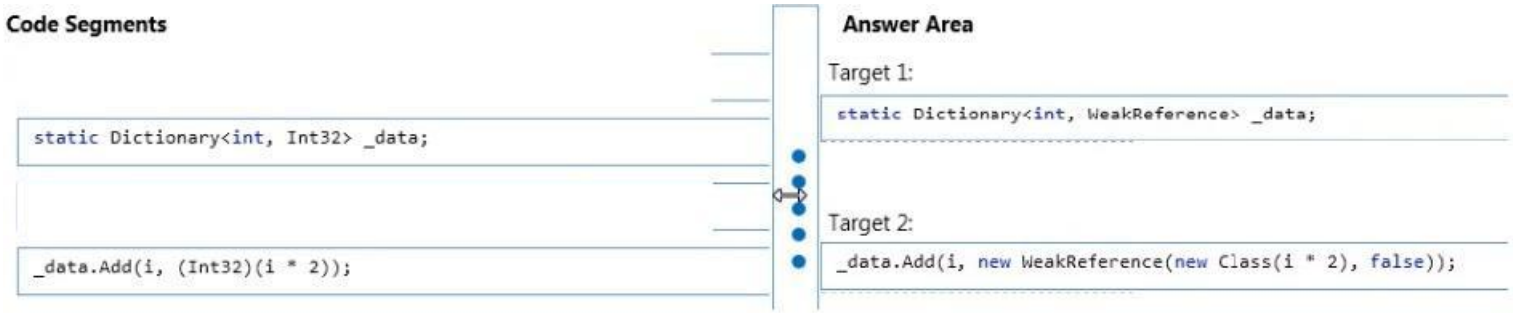
D. Insert the following code at line 07:

```
protected Connection () {}
```

You are creating a class named Data that includes a dictionary object named _data.
You need to allow the garbage collection process to collect the references of the _data object.
You have the following code:

```
public class Data
{
  Target 1
  public Data(int count)
  {
    for (int i = 0; i < count; i++)
    {
      Target 2
    }
  }
}
```

Which code segments should you include in Target 1 and Target 2 to complete the code? (To answer, drag the appropriate code segments to the correct locations in the answer area. Each code segment 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:



You are developing a class named Temperature.
You need to ensure that collections of Temperature objects are sortable.
You have the following code:

```
Target 1
{
  public double Fahrenheit { get; set; }
  public int Target 2
    (object obj)
  {
    if (obj == null) return 1;
    var otherTemperature = obj as Temperature;
    if(otherTemperature != null)
      return Target 3
    throw new ArgumentException("Object is not a Temperature");
  }
}
```

Which code segments should you include in Target 1, Target 2 and Target 3 to complete the code? (To answer, drag the appropriate code segments to the correct targets in the answer area. Each code segment 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:
You are developing a class named Temperature.
You need to ensure that collections of Temperature objects are sortable.
You have the following code:

```
Target 1
{
  public double Fahrenheit { get; set; }
  public int Target 2
    (object obj)
  {
    if (obj == null) return 1;
    var otherTemperature = obj as Temperature;
    if(otherTemperature != null)
      return Target 3
    throw new ArgumentException("Object is not a Temperature");
  }
}
```

Which code segments should you include in Target 1, Target 2 and Target 3 to complete the code? (To answer, drag the appropriate code segments to the correct targets in the answer area. Each code segment 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:

You have the following class. (Line numbers are included for reference only.)

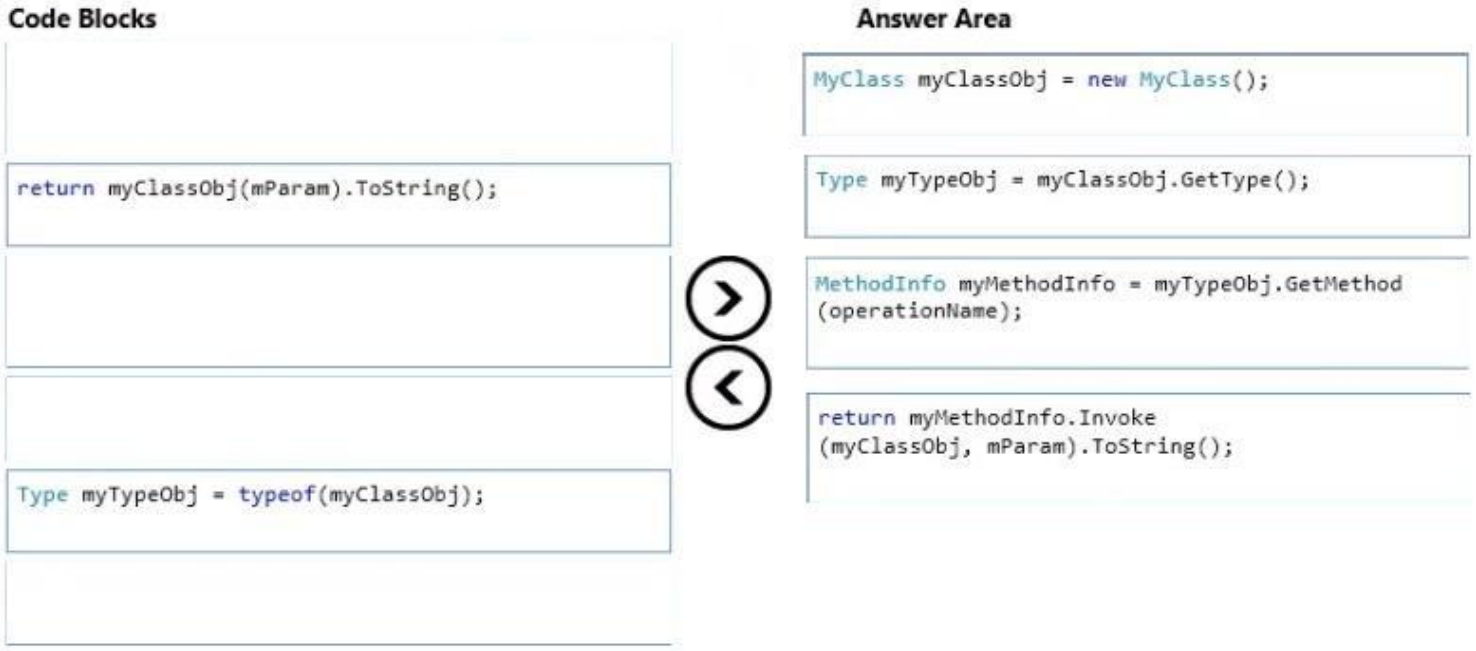
```
01 public class MyClass
02 {
03   public int AddNumb(int numb1, int numb2)
04   {
05    int result = numb1 + numb2;
06    return result;
07   }
08   public int SubNumb(int numb1, int numb2)
09   {
10    int result = numb1 - numb2;
11    return result;
12   }
13   public string doOperation(
   string operationName, int numb1, int numb2)
14   {
15    object[] mParam = new object[] { numb1, numb2 };
16
17   }
18 }
```

You need to complete the doOperation method to meet the following requirements:
• If AddNumb is passed as the operationName parameter, the AddNumb function is called.

• If SubNumb is passed as the operationName parameter, the SubNumb function is called.

Which code should you insert at line 16? Develop the solution by selecting and arranging the required code blocks in the correct order. You may not need all of the code blocks.

Select and Place:



A developer designs an interface that contains the following code:

```
public class Class1 : Class2
  {
  }
  public interface INewInterface
  {
      void Method1();
  }
  public class Class2 : INewInterface
  {
      void INewInterface.Method1()
      {
          throw new NotImplementedException();
      }
  }
```

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

Hot Area:

Answer Area

Statement	Yes	No
If you call Method1 from an instance of Class2, an exception will be thrown.	○	○
If you cast an instance of Class1 into INewInterface, an exception will be thrown.	○	○
Class2 uses an implicit implementation of INewInterface.	○	○

An application serializes and deserializes XML from streams. The XML streams are in the following format:

```
<Name xmlns="http://www.contoso.com/2012/06">
  <LastName>Jones</LastName>
  <FirstName>David</FirstName>
</Name>
```

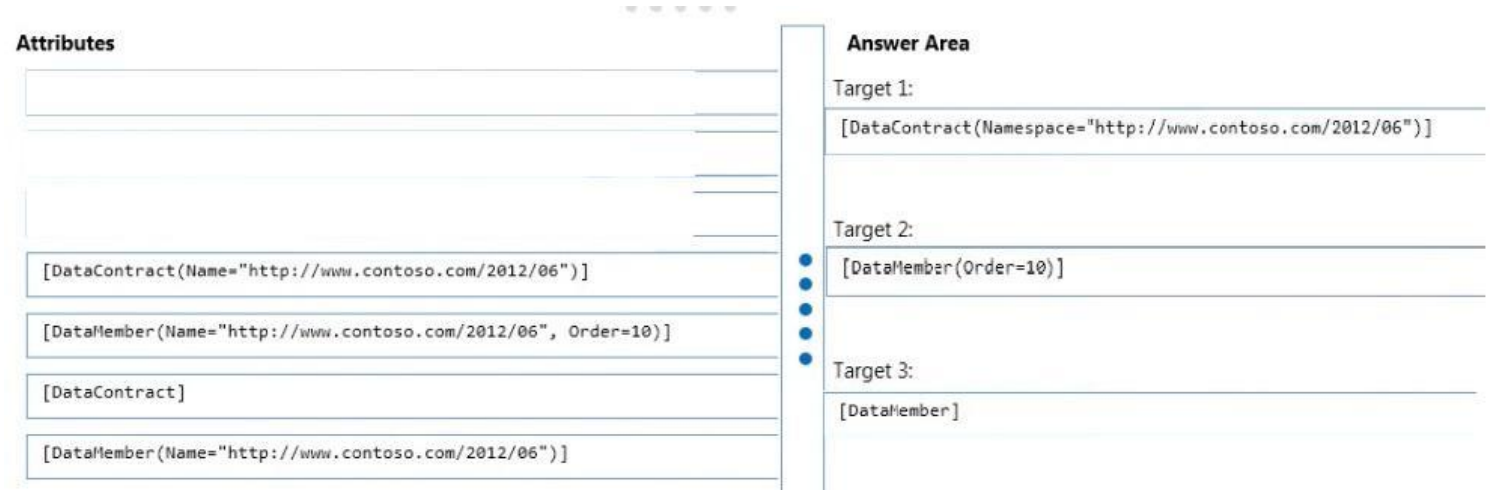
The application reads the XML streams by using a DataContractSerializer object that is declared by the following code segment:

```
var ser = new DataContractSerializer(typeof(Name));
```

You need to ensure that the application preserves the element ordering as provided in the XML stream.
You have the following code:

```
Target 1
class Name
{
  Target 2
  public string FirstName { get; set; }
  Target 3
  public string LastName { get; set; }
}
```

Which attributes should you include in Target 1, Target 2 and Target 3 to complete the code? (To answer, drag the appropriate attributes to the correct targets in the answer area. Each attribute 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:



You have the following code. (Line numbers are included for reference only).

```
01 public async void ProcessWrite()
02 {
03   string filePath = @"temp2.txt";
04   string text = "Hello World\r\n";
05   await WriteTextAsync(filePath, text);
06 }
07 private async Task WriteTextAsync(string filePath, string text)
08 {
09   byte[] encodedText = Encoding.Unicode.GetBytes(text);
10   using (FileStream sourceStream = new FileStream(
·   filePath, FileMode.Append, FileAccess.Write,
·   FileShare.None, bufferSize: 4096, useAsync: true))
11   {
12
13   }
14 }
```

You need to complete the WriteTextAsync method. The solution must ensure that the code is not blocked while the file is being written.
Which code should you insert at line 12?

A. `async sourceStream.Write(encodedText, 0, encodedText.Length);`

B. `async sourceStream.WriteAsync(encodedText, 0, encodedText.Length);`

C. `await sourceStream.Write(encodedText, 0, encodedText.Length);`

D. `await sourceStream.WriteAsync(encodedText, 0, encodedText.Length);`

You need to write a method that retrieves data from a Microsoft Access 2013 database. The method must meet the following requirements:
• Be read-only.
• Be able to use the data before the entire data set is retrieved.
• Minimize the amount of system overhead and the amount of memory usage.
Which type of object should you use in the method? **DbDataReader**

You are developing an application that contains a class named TheaterCustomer and a method named ProcessTheaterCustomer. The ProcessTheaterCustomer() method accepts a TheaterCustomer object as the input parameter.
You have the following requirements:
• Store the TheaterCustomer objects in a collection.
• Ensure that the ProcessTheaterCustomer() method processes the TheaterCustomer objects in the reverse order in which they are placed into the collection.
You need to meet the requirements.
What should you do? **Create a System.Collections.Stack collection. Use the Push() method to add**

TheaterCustomer objects to the collection. Use the Pop() method to pass the objects to the ProcessTheaterCustomer() method.

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.Skip(80);
```

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

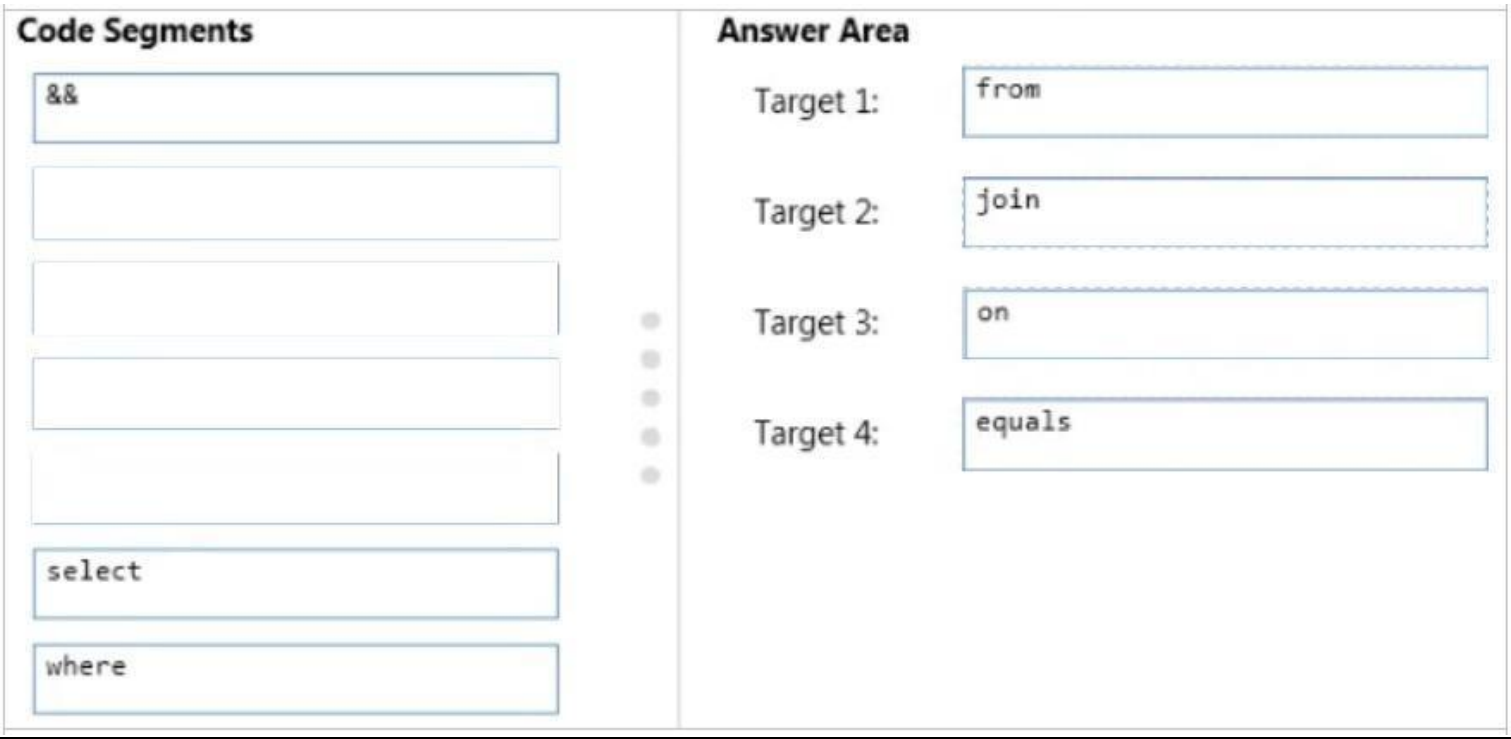
C.
```
var result = from i in items
  groupby i into grouped
  where grouped.Key > 80
  select i;
```

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

You have the following code.

```
public class Product
    {
        public string Name { get; set; }
        public int CategoryID { get; set; }
    }
    public class Category
    {
        public int ID { get; set; }
        public string Name { get; set; }
    }
List<Category> categories = new List<Category>()
{
    new Category() { ID = 1, Name = "Food" },
    new Category() { ID = 2, Name = "Clothing" },
};
List<Product> products = new List<Product>()
{
    new Product() { Name = "Strawberry", CategoryID = 1 },
    new Product() { Name = "Banana", CategoryID = 1 },
    new Product() { Name = "Pants", CategoryID = 2 },
};
    var productsWithCategories =
     Target 1 product in products
     Target 2 category in categories
        Target 3 product.CategoryID Target 4 category.ID
    select new
    {
        Name = product.Name,
        Category = category.Name
    };
```

You need to return all of the products and their associated categories.
How should you complete the code? To answer, drag the appropriate code elements to the correct targets in the answer area. Each code element 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:



You are developing a C# application. The application includes a class named Rate. The following code segment implements the Rate class:

```
public class Rate
{
  public string Category { get; set; }
  public DateTime Date { get; set; }
  public decimal Value { get; set; }
}
```

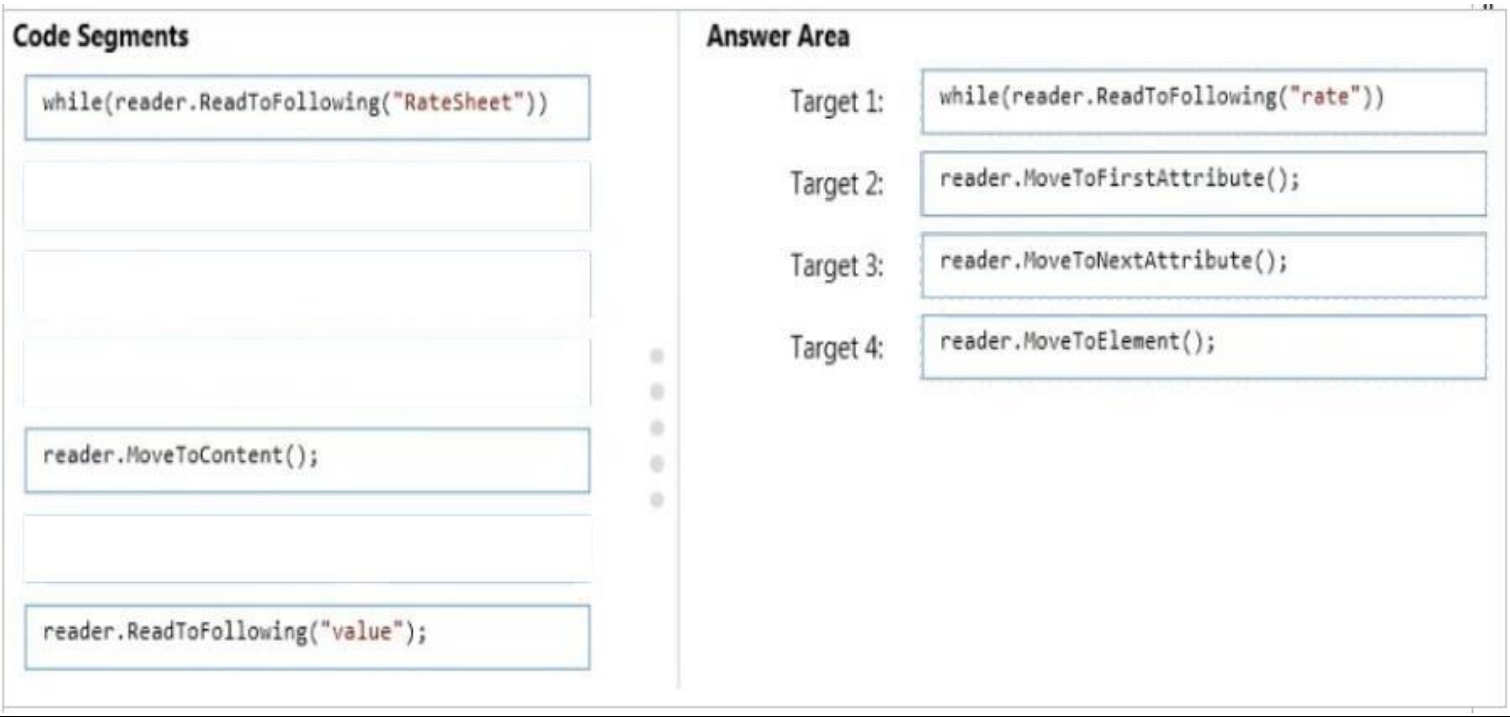
You define a collection of rates named rateCollection by using the following code segment:
Collection<Rate> rateCollection = new Collection<Rate>() ;
The application receives an XML file that contains rate information in the following format:

```
<?xml version="1.0" encoding="utf-8" ?>
<RateSheet>
  <rate category="buyout" date="2012-03-22">
    <value>0.0375</value>
  </rate>
  <rate category="fixed" date="2012-03-23">
    <value>0.0475</value>
  </rate>
</RateSheet>
```

You need to parse the XML file and populate the rateCollection collection with Rate objects.
You have the following code:

```
using (XmlReader reader = XmlReader.Create(new StringReader(rateXML)))
{
  Target 1
  {
    Rate rate = new Rate();
    Target 2
    rate.Category = reader.Value;
    Target 3
    DateTime rateDate;
    if (DateTime.TryParse(reader.Value, out rateDate))
    {
      rate.Date = rateDate;
    }
    Target 4
    decimal value;
    if (decimal.TryParse(reader.ReadElementContentAsString(), out value))
    {
      rate.Value = value;
    }
    rateCollection.Add(rate);
  }
}
```

Which code segments should you include in Target 1, Target 2, Target 3 and Target 4 to complete the code? (To answer, drag the appropriate code segments to the correct targets in the answer area. Each code segment 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:



You have the following code. (Line numbers are included for reference only.)

```
01 List<Product> products = new List<Product>()
02 {
03   new Product() { Name = "Strawberry", CategoryID = 1 },
04   new Product() { Name = "Banana", CategoryID = 1 },
05 };
06 List<Product> B_Products = (List<Product>)
07 (
08 from product in products
09   where (product.Name.StartsWith("B"))
10   select new { Name = product.Name }
11 );
```

When you execute the code, you get an exception.
You need to ensure that B_Products contain all of the products that start with the letter "B".
What should you do?

A. Replace line 06 with the following code.

```
Product[] B_Products = (Product[])
```

B. Replace line 10 with the following code.

```
select product.Name
```

C. Replace line 06 with the following code.

```
Array<Product> B_Products = (Array <Product>)
```

D. Replace line 10 with the following code.

```
select product
```

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 or customer name.
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. Choose two.)

A.
```
public static Customer FindCustomer(int id)
public static Customer FindCustomer(string id)
public static void FindCustomer(int id)
```

B.
```
public static Customer FindCustomer(int id)
public static Customer FindCustomer(string id)
public static Customer FindCustomer(int id, string name)
```

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

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

You need to write a method that combines an unknown number of strings. The solution must minimize the amount of memory used by the method when the method executes.
What should you include in the code? **The StringBuilder.Append method**

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

```
class Loan
{
  public Loan(decimal amount, int term, decimal rate)
  {
    Term = term;
    Amount = amount;
    Rate = rate;
  }
  public decimal Amount { get; set; }
  public decimal Rate { get; set; }
  public int Term { get; set; }
}

class Customer
{
  public Customer(string firstName, string lastName, Collection<Loan> loans)
  {
    FirstName = firstName;
    LastName = lastName;
    LoanCollection = loans;
  }
  public string FirstName { get; set; }
  public string LastName { get; set; }
  public Collection<Loan> LoanCollection { get; set; }
}
```

You populate a collection named customer-Collection with Customer and Loan objects by using the following code segment:

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

You create a largeCustomerLoans collection to store the Loan objects by using the following code segment:
Collection<Loan> largeCustomerLoans = new Collection<Loan>();
All loans with an Amount value greater than or equal to 4000 must be tracked.
You need to populate the largeCustomerLoans collection with Loan objects.
Which code segment should you use?

A.
```
foreach (Customer customer in customerCollection)
{
  foreach (Loan loan in customer.LoanCollection)
  {
    if (loan.Amount >= 4000m)
    {
      customer.LoanCollection.Add(loan);
    }
  }
}
```

B.
```
foreach (Loan customer in customerCollection)
{
  foreach (Loan loan in largeCustomerLoans)
  {
    if (loan.Amount >= 4000m)
    {
      largeCustomerLoans.Add(loan);
    }
  }
}
```

C.
```
foreach (Loan loan in largeCustomerLoans)
{
  foreach (Customer customer in customerCollection)
  {
    if (loan.Amount >= 4000m)
    {
      customer.LoanCollection.Add(loan);
    }
  }
}
```

D.
```
foreach (Customer customer in customerCollection)
{
  foreach (Loan loan in customer.LoanCollection)
  {
    if (loan.Amount >= 4000m)
    {
      largeCustomerLoans.Add(loan);
    }
  }
```

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? **Use assembly attributes.**

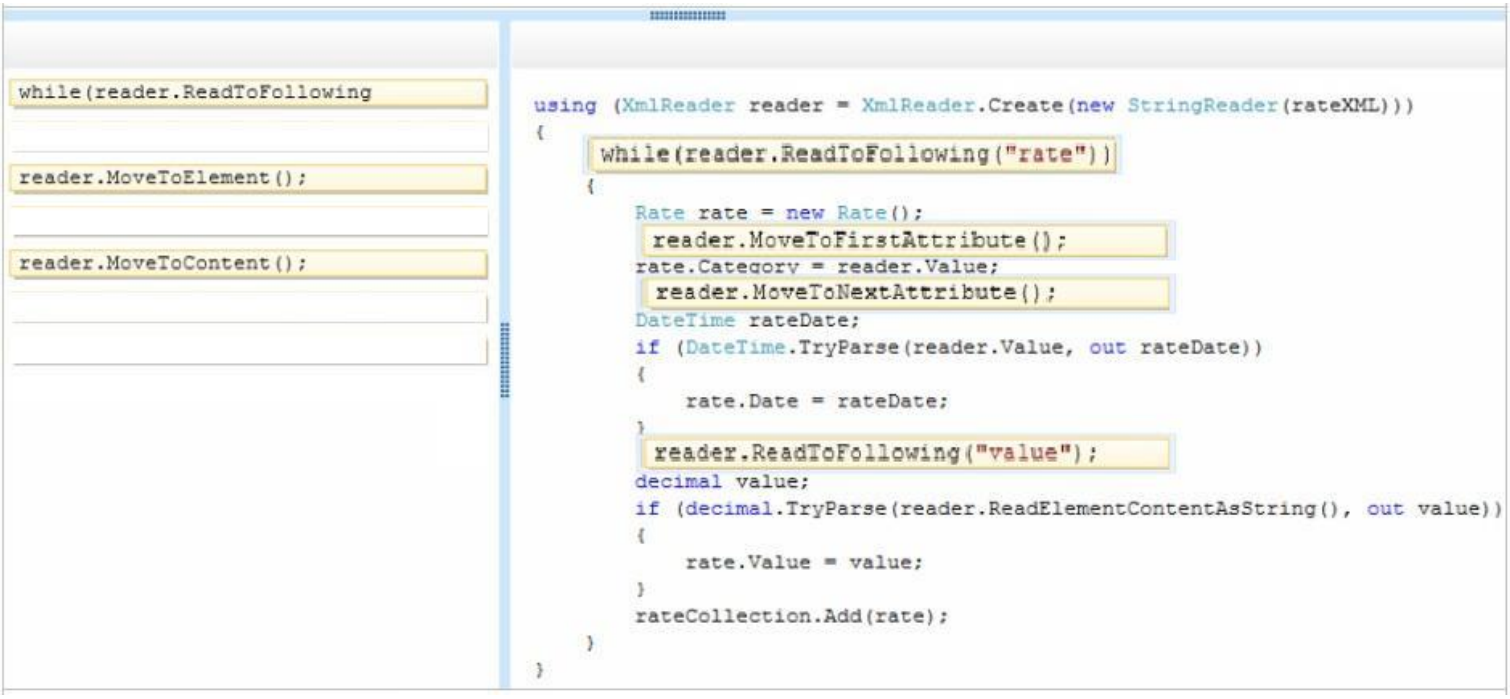
You are developing a C# application. The application includes a class named Rate. The following code segment implements the Rate class:

```
public class Rate
{
  public string Category { get; set; }
  public DateTime Date { get; set; }
  public decimal Value { get; set; }
}
```

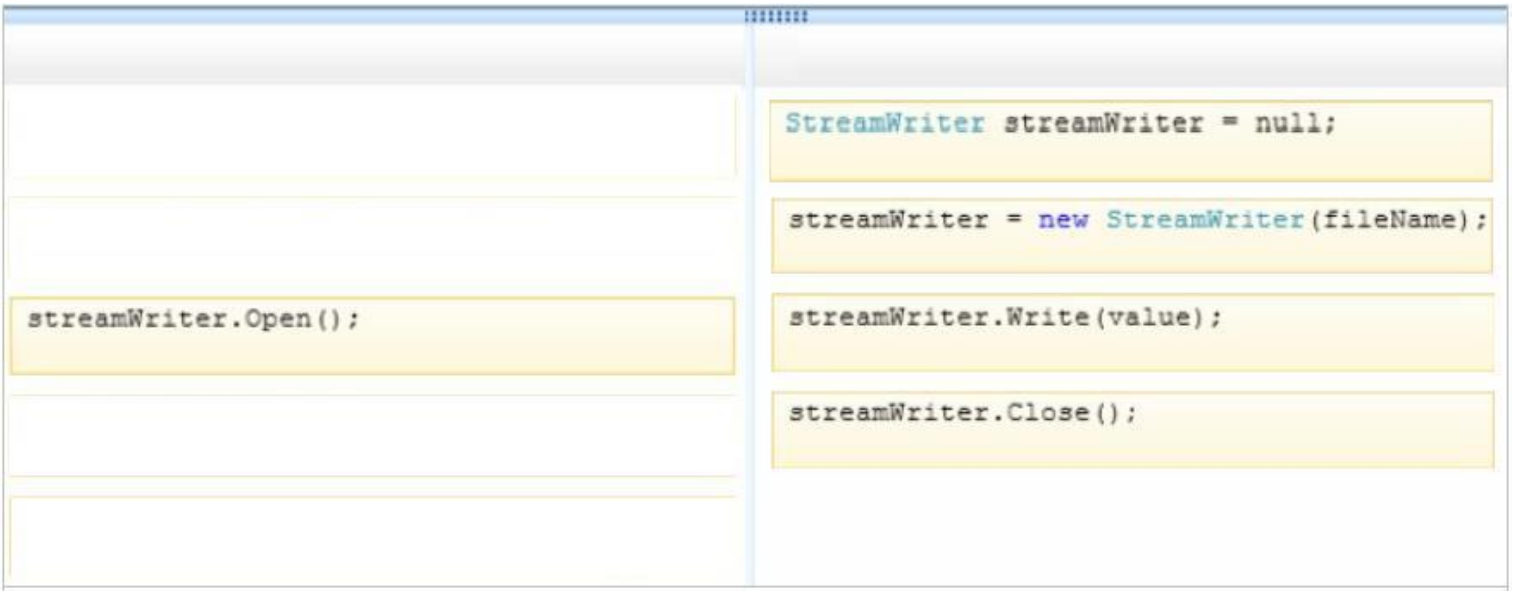
You define a collection of rates named rateCollection by using the following code segment:
Collection<Rate> rateCollection = new Collection<Rate>() ;
The application receives an XML file that contains rate information in the following format:

```
<?xml version="1.0" encoding="utf-8" ?>
<RateSheet>
  <rate category="buyout" date="2012-03-22">
    <value>0.0375</value>
  </rate>
  <rate category="fixed" date="2012-03-23">
    <value>0.0475</value>
  </rate>
</RateSheet>
```

You need to parse the XML file and populate the rateCollection collection with Rate objects.
How should you complete the relevant code? (To answer, drag the appropriate code segments to the correct locations in the answer area. Each code segment 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:



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 {
03
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:



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?

A.
```
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());
}
```

B.
```
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(dataFileId + ".dat"))
{
  writer.Write(reader.ReadToEnd());
}
```

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

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

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))
```

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);
```

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.)

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

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

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

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

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

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

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.
```
#define DEBUG
  Console.WriteLine("Entering debug mode");
#define RELEASE
  Console.WriteLine("Entering release mode");
```

B.
```
if(System.Reflection.Assembly.GetExecutingAssembly().IsDefined
 (typeof(System.Diagnostics.Debugger), false))
  Console.WriteLine("Entering debug mode");
else
  Console.WriteLine("Entering release mode");
```

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

D.
```
#if (DEBUG)
  Console.WriteLine("Entering debug mode");
#elif (RELEASE)
  Console.WriteLine("Entering release mode ");
#endif
```

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 AppSource and a custom log named AppLog on the server.
You need to write events to the custom log.
Which code segment should you use?

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

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

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

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

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

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

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

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

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

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? **Task.WaitAll(tasks);**

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? **Replace line 15 with the following code segment: loanRate = 0.065m;**

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);
```

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? **Set the value of the gcAllowVeryLargeObjects property to true in the application configuration file.**

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.)
D. AssemblyCultureAttribute
E. AssemblyVersionAttribute

You are developing an application that contains a class named TheaterCustomer and a method named ProcessTheaterCustomer. The ProcessTheaterCustomer() method accepts a TheaterCustomer object as the input parameter.
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? **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.**

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? **Assembly.ReflectionOniyLoad(bytes);**