

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

Question 201 (Volume B) 

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

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

Answer : A

Explanation:

The Windows Software Development Kit (SDK) provides several ways to sign an assembly with a strong name:
-> (A) Using assembly attributes to insert the strong name information in your code. You can use either the AssemblyKeyFileAttribute or the AssemblyKeyNameAttribute, depending on where the key file to be used is located.
-> Using the Assembly Linker (Al.exe) provided by the Windows SDK.
-> Using compiler options such /keyfile or /delaysign in C# and Visual Basic, or the /KEYFILE or /DELAYSIGN linker option in C++. (For information on delay signing, see Delay Signing an Assembly.)

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Question 202 (Volume B)

You are developing an application that will manage customer records. The application includes a method named FindCustomer.
Users must be able to locate customer records by using the customer identifier 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)
```

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

Answer : BD

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Question 203 (Volume B)



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?

- A. The String.Concat method
- B. The StringBuilder.Append method
- C. The + operator
- D. The += operator

Answer : B

Explanation:

The StringBuilder.Append method appends the string representation of a specified object to this instance.

Incorrect Answers:

A: String.Concat Method concatenates one or more instances of String, or the String representations of the values of one or more instances of Object. However, all strings to concatenate must be given as parameters. In this scenario we have an unknown number of string and therefore cannot pass them as parameters.

References:

<https://coders-corner.net/2014/08/20/concatenate-strings-in-c-operator-vs-string-concat-vs-stringbuilder/>

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Question 204 (Volume B)



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);
        }
    }
}
```

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

Answer : D

Explanation:

Must add to the largeCustomerLoans collection, not the customerLoanCollection.

We iterate through each customer in customerCollection and check each loan belonging to this customer.

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Question 205 (Volume B)



DRAG DROP -

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:

Code Segments	Answer Area
&&	Target 1: <input type="text"/>
equals	Target 2: <input type="text"/>
from	Target 3: <input type="text"/>
join	Target 4: <input type="text"/>
on	
select	
where	

Answer :

Code Segments	Answer Area
&&	Target 1: <input type="text"/> from
	Target 2: <input type="text"/> join
	Target 3: <input type="text"/> on
	Target 4: <input type="text"/> equals
select	
where	

Explanation:

Example: Join operations create associations between sequences that are not explicitly modeled in the data sources. For example, you can perform a join to find all the customers and distributors who have the same location. In LINQ the join clause always works against object collections instead of database tables directly.

C#

```
var innerJoinQuery =
from cust in customers
join dist in distributors on cust.City equals dist.City
select new { CustomerName = cust.Name, DistributorName = dist.Name };
```

Reference:

<https://msdn.microsoft.com/en-us/library/bb397927.aspx>
<https://msdn.microsoft.com/en-us/library/bb397927.aspx>

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Question 206 (Volume B)

**DRAG DROP -**

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:

Code Segments	Answer Area
<code>while(reader.ReadToFollowing("RateSheet"))</code>	Target 1: <input type="text"/>
<code>while(reader.ReadToFollowing("rate"))</code>	Target 2: <input type="text"/>
<code>reader.MoveToElement();</code>	Target 3: <input type="text"/>
<code>reader.MoveToFirstAttribute();</code>	Target 4: <input type="text"/>
<code>reader.MoveToContent();</code>	
<code>reader.MoveToNextAttribute();</code>	
<code>reader.ReadToFollowing("value");</code>	

Answer :

Code Segments	Answer Area
<code>while(reader.ReadToFollowing("RateSheet"))</code>	Target 1: <input type="text"/> <code>while(reader.ReadToFollowing("rate"))</code>
<code>reader.MoveToFirstAttribute();</code>	Target 2: <input type="text"/> <code>reader.MoveToFirstAttribute();</code>
<code>reader.MoveToNextAttribute();</code>	Target 3: <input type="text"/> <code>reader.MoveToNextAttribute();</code>
<code>reader.MoveToElement();</code>	Target 4: <input type="text"/> <code>reader.MoveToElement();</code>
<code>reader.MoveToContent();</code>	
<code>reader.ReadToFollowing("value");</code>	

Explanation:

* Target 1: The element name is rate not Ratesheet.

The Xmlreader readToFollowing reads until the named element is found.

* Target 2:

The following example gets the value of the first attribute.

```
reader.ReadToFollowing("book");
reader.MoveToFirstAttribute();
string genre = reader.Value;
Console.WriteLine("The genre value: " + genre);
```

* Target 3, Target 4:

The following example displays all attributes on the current node.

```
C#VB -
if (reader.HasAttributes) {
    Console.WriteLine("Attributes of <" + reader.Name + ">");
    while (reader.MoveToNextAttribute()) {
        Console.WriteLine(" {0}={1}", reader.Name, reader.Value);
    }
    // Move the reader back to the element node.
    reader.MoveToElement();
}
```

The XmlReader.MoveToElement method moves to the element that contains the current attribute node.

Reference: XmlReader Methods -

[https://msdn.microsoft.com/en-us/library/System.Xml.XmlReader_methods\(v=vs.110\).aspx](https://msdn.microsoft.com/en-us/library/System.Xml.XmlReader_methods(v=vs.110).aspx)

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Question 207 (Volume B)

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
```

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

Answer : D

Explanation:

Simply select the product items.

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Question 208 (Volume B)

You have the following code:

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

You need to retrieve all of the numbers from the items variable that are greater than 80.

Which code should you use?

- A. `var result = items.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);`

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

Answer : B

Explanation:

Example: All number larger than 15 from a list using the var query = from num in numbers... construct: var largeNumbersQuery = numbers2.Where(c => c > 15);

Reference: How to: Write LINQ Queries in C#

<https://msdn.microsoft.com/en-us/library/bb397678.aspx>

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Question 209 (Volume B)



DRAG DROP -

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:

Attributes

[DataContract(Namespace="http://www.contoso.com/2012/06")]

[DataMember(Order=10)]

[DataMember]

[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")]

• • • •

Answer Area

Target 1:

Attribute

Target 2:

Attribute

Target 3:

Attribute

Answer :

Attributes

[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")]
• • • •

Answer Area

Target 1:

```
[DataContract(Namespace="http://www.contoso.com/2012/06")]
```

Target 2:

```
[DataMember(Order=10)]
```

Target 3:

```
[DataMember]
```

Explanation:

Target 1: The DataContractAttribute.Namespace Property gets or sets the namespace for the data contract for the type. Use this property to specify a particular namespace if your type must return data that complies with a specific data contract.

Target2, target3: We put Order=10 on FirstName to ensure that LastName is ordered first.

Note:

The basic rules for data ordering include:

- > If a data contract type is a part of an inheritance hierarchy, data members of its base types are always first in the order.
- > Next in order are the current type's data members that do not have the Order property of the DataMemberAttribute attribute set, in alphabetical order.
- > Next are any data members that have the Order property of the DataMemberAttribute attribute set. These are ordered by the value of the Order property first and then alphabetically if there is more than one member of a certain Order value. Order values may be skipped.

Reference: Data Member Order -

[https://msdn.microsoft.com/en-us/library/ms729813\(v=vs.110\).aspx](https://msdn.microsoft.com/en-us/library/ms729813(v=vs.110).aspx) [https://msdn.microsoft.com/en-us/library/system.runtime.serialization.datacontractattribute.namespace\(v=vs.110\).aspx](https://msdn.microsoft.com/en-us/library/system.runtime.serialization.datacontractattribute.namespace(v=vs.110).aspx)

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Question 210 (Volume B)



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(
11         filePath, FileMode.Append, FileAccess.Write,
12         FileShare.None, bufferSize: 4096, useAsync: true))
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);`

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

Answer : D

Explanation:

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

The following example has the statement `await sourceStream.WriteAsync(encodedText, 0, encodedText.Length);`, which is a contraction of the following two statements:

`Task theTask = sourceStream.WriteAsync(encodedText, 0, encodedText.Length); await theTask;`

Example: The following example writes text to a file. At each await statement, the method immediately exits. When the file I/O is complete, the method resumes at the statement that follows the await statement. Note that the `async` modifier is in the definition of methods that use the `await` statement.

```

public async void ProcessWrite()
{
    string filePath = @"temp2.txt";
    string text = "Hello World\r\n";
    await WriteTextAsync(filePath, text);
}

private async Task WriteTextAsync(string filePath, string text)
{
    byte[] encodedText = Encoding.Unicode.GetBytes(text);
    using (FileStream sourceStream = new FileStream(filePath,
        FileMode.Append, FileAccess.Write, FileShare.None,
        bufferSize: 4096, useAsync: true))
    {
        await sourceStream.WriteAsync(encodedText, 0,
            encodedText.Length);
    };
}

```

Reference: Using Async for File Access (C# and Visual Basic)
<https://msdn.microsoft.com/en-us/library/jj155757.aspx>

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Question 211 (Volume B)



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
10         };
11         counters.Add(ccdCounter1);
12         var ccdCounter2 = new CounterCreationData
13         {
14             CounterName = "Counter2",
15             CounterType = PerformanceCounterType.CounterMultiBase
16         };
17         counters.Add(ccdCounter2);
18         PerformanceCounterCategory.Create("Contoso", "Help string",
19             PerformanceCounterCategoryType.MultiInstance, counters);
20     }
21 }
22 }
```

You need to ensure that Counter2 is available for use in Windows Performance Monitor (PerfMon). Which code segment should you insert at line 16?

- A. CounterType = PerformanceCounterType.RawBase
- B. CounterType = PerformanceCounterType.AverageBase
- C. CounterType = PerformanceCounterType.SampleBase
- D. CounterType = PerformanceCounterType.CounterMultiBase

Answer : C

Explanation:

PerformanceCounterType.SampleBase - A base counter that stores the number of sampling interrupts taken and is used as a denominator in the sampling fraction. The sampling fraction is the number of samples that were 1 (or true) for a sample interrupt. Check that this value is greater than zero before using it as the denominator in a calculation of SampleFraction.

PerformanceCounterType.SampleFraction - A percentage counter that shows the average ratio of hits to all operations during the last two sample intervals.

Formula: $((N_{1} - N_{0}) / (D_{1} - D_{0})) \times 100$, where the numerator represents the number of successful operations during the last sample interval, and the denominator represents the change in the number of all operations (of the type measured) completed during the sample interval, using counters of type

SampleBase. Counters of this type include Cache\Pin Read Hits %.

References:

<http://msdn.microsoft.com/en-us/library/system.diagnostics.performancecountertype.aspx>

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Question 212 (Volume B)



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

ProcessTheaterCustomer()

You have the following requirements:

-> Store the TheaterCustomer objects in a collection.

-> Ensure that the ProcessTheaterCustomer() method processes the TheaterCustomer objects in the reverse order in which they are placed into the collection.

You need to meet the requirements.

What should you do?

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

Answer : C

Explanation:

A stack is the appropriate collection here. In computer science, a stack or LIFO (last in, first out) is an abstract data type that serves as a collection of elements, with two principal operations: push, which adds an element to the collection, and pop, which removes the last element that was added.

Reference:

[https://en.wikipedia.org/wiki/Stack_\(abstract_data_type\)](https://en.wikipedia.org/wiki/Stack_(abstract_data_type))

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Question 213 (Volume B)



DRAG DROP -

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 targets.

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:

Code Segments	Answer Area
static Dictionary<int, WeakReference> _data;	Target 1: Code Segment
static Dictionary<int, Int32> _data;	
_data.Add(i, new WeakReference(new Class(i * 2), false));	Target 2: Code Segment
_data.Add(i, (Int32)(i * 2));	

Answer :

```

Code Segments
static Dictionary<int, Int32> _data;
_data.Add(i, (Int32)(i * 2));
}

Answer Area
Target 1:
static Dictionary<int, WeakReference> _data;

Target 2:
_data.Add(i, new WeakReference(new Class(i * 2), false));

```

Explanation:

WeakReference influences the garbage collector. Most objects that are referenced must be kept in memory until they are unreachable. But with WeakReference, objects that are referenced can be collected.

Example: C# program that uses WeakReference

```

using System;
using System.Text;
class Program
{
    /// <summary>
    /// Points to data that can be garbage collected any time.
    /// </summary>
    static WeakReference _weak;
    static void Main()
    {
        // Assign the WeakReference.
        _weak = new WeakReference(new StringBuilder("perls"));
    }
}

```

Reference:
<http://www.dotnetperls.com/weakreference>

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Question 214 (Volume B)



DRAG DROP -

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. 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.

NOTE: Each correct selection is worth one point.

Select and Place:

Code Segments

```
public class Temperature : IComparable
public class Temperature : IComparer
CompareTo
Equals
this.Fahrenheit.CompareTo(otherTemperature.Fahrenheit);
otherTemperature.Fahrenheit.CompareTo(this.Fahrenheit);
```

Answer Area

Target 1:
Code Segment

Target 2:
Code Segment

Target 3:
Code Segment

Answer :

Code Segments

```
public class Temperature : IComparable
Equals
this.Fahrenheit.CompareTo(otherTemperature.Fahrenheit);
```

Answer Area

Target 1:
public class Temperature : IComparable

Target 2:
CompareTo

Target 3:
otherTemperature.Fahrenheit.CompareTo(this.Fahrenheit);

Explanation:

Note:

Target 1:

The role of IComparable is to provide a method of comparing two objects of a particular type. This is necessary if you want to provide any ordering capability for your object.

Incorrect: The role of IComparer is to provide additional comparison mechanisms. For example, you may want to provide ordering of your class on several fields or properties, ascending and descending order on the same field, or both.

Target 2, Target 3:

Example:

```
// Implement IComparable CompareTo method - provide default sort order. int IComparable.CompareTo(object obj)
{
car c=(car)obj;
return String.Compare(this.make,c.make);
}
```

Reference: How to use the IComparable and IComparer interfaces in Visual C# <https://support.microsoft.com/en-us/kb/320727>

[Next Question](#)

Question 215 (Volume B)



DRAG DROP -

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(
14         string operationName, int numb1, int numb2)
15     {
16         object[] mParam = new object[] { numb1, numb2 };
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 four code blocks should you insert at line 16 to develop the solution? To answer, move the appropriate code blocks from the list of code blocks to the answer area and arrange them in the correct order.

Select and Place:

Code Blocks
MethodInfo myMethodInfo = myTypeObj.GetMethod(operationName);
return myClassObj(mParam).ToString();
return myMethodInfo.Invoke(myClassObj, mParam).ToString();
Type myTypeObj = myClassObj.GetType();
Type myTypeObj = typeof(myClassObj);
MyClass myClassObj = new MyClass();

Answer Area



Answer :

Code Blocks
return myClassObj(mParam).ToString();
Type myTypeObj = typeof(myClassObj);

Answer Area
MyClass myClassObj = new MyClass();
Type myTypeObj = myClassObj.GetType();
MethodInfo myMethodInfo = myTypeObj.GetMethod(operationName);
return myMethodInfo.Invoke(myClassObj, mParam).ToString();



Explanation:

Note:

target 2:

GetType() is a method you call on individual objects, to get the execution-time type of the object.

References: What is the difference of getting Type by using GetType() and typeof()? <http://stackoverflow.com/questions/11312111/when-and-where-to-use-gettype-or-typeof>

[Next Question](#)

Question 216 (Volume B)



HOTSPOT -

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.	<input type="radio"/>	<input checked="" type="radio"/>
If you cast an instance of Class1 into INewInterface, an exception will be thrown.	<input checked="" type="radio"/>	<input type="radio"/>
Class2 uses an implicit implementation of INewInterface.	<input checked="" type="radio"/>	<input type="radio"/>

Answer :

Answer Area

Statement	Yes	No
If you call Method1 from an instance of Class2, an exception will be thrown.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If you cast an instance of Class1 into INewInterface, an exception will be thrown.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Class2 uses an implicit implementation of INewInterface.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

[Next Question](#)

Question 217 (Volume B)



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:

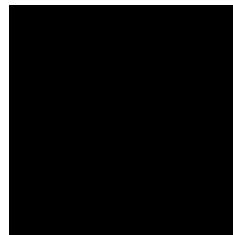
```
protected Connection () {}
```

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

Answer : B

Explanation:

The following list provides the main features of a static class:
Contains only static members.



-> Cannot be instantiated.

-> Is sealed.

-> Cannot contain Instance Constructors.

Creating a static class is therefore basically the same as creating a class that contains only static members and a private constructor. A private constructor prevents the class from being instantiated.

Reference: Static Classes and Static Class Members (C# Programming Guide) <https://msdn.microsoft.com/en-us/library/79b3xss3.aspx>

[Next Question](#)

Question 218 (Volume B)



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

- A.

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

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

Answer : A

Explanation:

The double keyword signifies a simple type that stores 64-bit floating-point values.

The float keyword signifies a simple type that stores 32-bit floating-point values.

References:

<https://docs.microsoft.com/en-us/dotnet/csharp/language-reference/keywords/double>

[Next Question](#)

Question 219 (Volume B)



DRAG DROP -

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().Target3)).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.

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.

NOTE: Each correct selection is worth one point.

Select and Place:

Code Segments	Answer Area
AppDomain	Target 1: <input type="text"/>
Assembly	Target 2: <input type="text"/>
IsClass	Target 3: <input type="text"/>
Select	
SelectMany	
...	

Answer :

Code Segments	Answer Area
<input type="text"/>	Target 1: <input type="text"/> AppDomain
<input type="text"/>	Target 2: <input type="text"/> SelectMany
IsClass	Target 3: <input type="text"/> Assembly
Select	
...	

Explanation:

The AppDomain.CurrentDomain.GetAssemblies() gives you all assemblies loaded in the current application domain.
The Assembly class provides a GetTypes() method to retrieve all types within that particular assembly.

Example: Using Linq:

```
IEnumerable<Type> types =
from a in AppDomain.CurrentDomain.GetAssemblies()
from t in a.GetTypes()
```

select t;

Reference:

<http://stackoverflow.com/questions/4692340/find-types-in-all-assemblies>

[Next Question](#)



Question 220 (Volume B)

You have the following C# code.

```
int c = 3, d = 4, e = 5;
Console.WriteLine(--c * d - ++e);
```

What is the output of the code?

- A. -4
- B. -3
- C. 2
- D. 3
- E. 7

Answer : C

[Next Question](#)

Question 221 (Volume B)



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

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

You need to ensure that the method extracts a list of URLs that match the following pattern:

@[http://\(www\.\)?\(\[^\.\]+\.\com](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>();`

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

Answer : A

Explanation:

The `MatchCollection.GetEnumerator` method returns an enumerator that iterates through a collection.

Note:

The MatchCollection Class represents the set of successful matches found by iteratively applying a regular expression pattern to the input string.

Reference: MatchCollection.GetEnumerator Method

[https://msdn.microsoft.com/en-us/library/system.text.regularexpressions.matchcollection.getenumerator\(v=vs.110\).aspx](https://msdn.microsoft.com/en-us/library/system.text.regularexpressions.matchcollection.getenumerator(v=vs.110).aspx)

[Next Question](#)

Question 222 (Volume B)



You are creating an application that reads from a database.

You need to use different databases during the development phase and the testing phase by using conditional compilation techniques.

What should you do?

- A. Configure the Define TRACE constant setting in Microsoft Visual Studio.
- B. Specify the /define compiler option.
- C. Run the Assembly Linker tool from the Windows Software Development Kit (Windows SDK).
- D. Decorate the code by using the [assembly:AssemblyDelaySignAttribute(true)] attribute.

Answer : B

Explanation:

You can specify the compiler settings for your application in several ways:

- > The property pages
- > The command line

-> #CONST (for Visual Basic) and #define (for C#)

Note: You can have either the Trace or Debug conditional attribute turned on for a build, or both, or neither. Thus, there are four types of build:

Debug, Trace, both, or neither. Some release builds for production deployment might contain neither; most debugging builds contain both.

Reference: How to: Compile Conditionally with Trace and Debug [https://msdn.microsoft.com/en-us/library/64yx344\(v=vs.110\).aspx](https://msdn.microsoft.com/en-us/library/64yx344(v=vs.110).aspx)

[Next Question](#)

Question 223 (Volume B)



You are creating a console application named Appl.

App1 retrieves data from the Internet by using JavaScript Object Notation (JSON).

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

```

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

You need to ensure that the code validates the JSON string.

Which code should you insert at line 03?

- A. `XmlSerializer serializer = new XmlSerializer();`
- B. `var serializer = new JavaScriptSerializer();`
- C. `DataContractSerializer serializer = new DataContractSerializer();`
- D. `NetDataContractSerializer serializer = new NetDataContractSerializer();`

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

Answer : B

Explanation:

JavaScriptSerializer().Deserialize

Converts the specified JSON string to an object of type T.

Example:

```
string json = File.ReadAllText(Environment.CurrentDirectory + @"\JSON.txt");
```

```
Company company = new System.Web.Script.Serialization.JavaScriptSerializer().Deserialize<Company>(
```

Reference: C# - serialize object to JSON format using JavaScriptSerializer <http://matijabozicevic.com/blog/csharp-net-development/csharp-serialize-object-to-json-format-using-javascriptserialization>

[Next Question](#)

Question 224 (Volume B)



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.

NOTE: Each correct selection is worth one point.

Insert the following code segment at line 01:

`#region DEBUG`

Insert the following code segment at line 10:

`#endregion`

A.

Insert the following code segment at line 01:

`[Conditional("DEBUG")]`

B.

Insert the following code segment at line 05:

```
#region DEBUG
```

Insert the following code segment at line 07:

```
#endregion
```

C.

Insert the following code segment at line 10:

```
[Conditional("DEBUG")]
```

D.

Insert the following code segment at line 01:

```
#if DEBUG
```

Insert the following code segment at line 10:

```
#endif
```

E.

Insert the following code segment at line 10:

```
[Conditional("RELEASE")]
```

F.

Insert the following code segment at line 05:

```
#if DEBUG
```

Insert the following code segment at line 07:

```
#endif
```

G.

Answer : DG

Explanation:

D: Also, it's worth pointing out that you can use [Conditional("DEBUG")] attribute on methods that return void to have them only executed if a certain symbol is defined. The compiler would remove all calls to those methods if the symbol is not defined:

```
[Conditional("DEBUG")]
void PrintLog() {
    Console.WriteLine("Debug info");
}
void Test() {
    PrintLog();
}
```

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

```
#define DEBUG
#if DEBUG
    Console.WriteLine("Debug version");
#endif
```

References:

<http://stackoverflow.com/questions/2104099/c-sharp-if-then-directives-for-debug-vs-release>

[Next Question](#)

Question 225 (Volume B)

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?

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

A.

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

B.

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

C.

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

D.

Answer : D

Explanation:

If you want to check if it's an instance of a generic type:

return list.GetType().IsGenericType;

If you want to check if it's a generic List<T>:

return list.GetType().GetGenericTypeDefinition() == typeof(List<T>);

Reference: Testing if object is of generic type in C#

<http://stackoverflow.com/questions/982487/testing-if-object-is-of-generic-type-in-c-sharp>[Next Question](#)

Question 226 (Volume B)

DRAG DROP -

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:

Code Blocks

```
byte[] HashValue = SHhash.ComputeHash(MessageBytes);
SHA1Managed SHhash = new SHA1Managed();
UnicodeEncoding UE = new UnicodeEncoding();
MessageBytes.GetHashCode();
byte[] MessageBytes = UE.GetBytes(MessageString);
```

Answer Area

Answer :

The interface consists of two main panes: 'Code Blocks' on the left and 'Answer Area' on the right. The 'Code Blocks' pane contains a scrollable list of code snippets, with the bottom one being 'MessageBytes.GetHashCode();'. The 'Answer Area' pane contains the following C# code:

```

    UnicodeEncoding UE = new UnicodeEncoding();
    byte[] MessageBytes = UE.GetBytes
        (MessageString);
    SHA1Managed SHash = new SHA1Managed();
    byte[] HashValue = SHash.ComputeHash
        (MessageBytes);
  
```

Below the panes are four circular buttons: a top-left arrow, a top-right arrow, a bottom-left arrow, and a bottom-right arrow.

[Next Question](#)

Question 227 (Volume B)



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?

- A. OutOfMemoryException
- B. MemoryStream
- C. PerformanceCounter
- D. DiagnosticsConfigurationHandler

Answer : C

[Next Question](#)

Question 228 (Volume B)



DRAG DROP -

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. 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.

NOTE: Each correct selection is worth one point.

Select and Place:

The screenshot shows a user interface for a programming question. On the left, under 'Code Segments', there are five input fields containing the words 'double', 'out', 'Parse', 'ref', and 'TryParse'. On the right, under 'Answer Area', there are three target fields labeled 'Target 1', 'Target 2', and 'Target 3', each represented by a dashed rectangular box.

Answer :

The screenshot shows the same interface after answers have been entered. 'Target 1' contains 'double', 'Target 2' contains 'double', and 'Target 3' contains 'out'.

Next Question

Question 229 (Volume B)



HOTSPOT -

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.WriteLine("LogData1");
    }
    public void RunTestClass()
    {
        this.LogData();

#if (DEBUG)
        Trace.WriteLine("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.	<input type="radio"/>	<input checked="" type="radio"/>
When RunTestClass executes, LogData2 will be written if the application starts in DEBUG mode.	<input checked="" type="radio"/>	<input type="radio"/>
When RunTestClass executes, LogData2 will be written if the application starts in RELEASE mode.	<input type="radio"/>	<input checked="" type="radio"/>

Answer :

Statement	Yes	No
When RunTestClass executes, LogData1 will be written if the application starts in DEBUG mode.	<input type="radio"/>	<input checked="" type="radio"/>
When RunTestClass executes, LogData2 will be written if the application starts in DEBUG mode.	<input checked="" type="radio"/>	<input type="radio"/>
When RunTestClass executes, LogData2 will be written if the application starts in RELEASE mode.	<input type="radio"/>	<input checked="" type="radio"/>

[Next Question](#)

Question 230 (Volume B)



HOTSPOT -

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; }
    }
    public Class2(List<string> _values)
    {
        values = _values;
    }
    public Class2()
    {
    }
}
```

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

NOTE: Each correct selection is worth one point.

Hot Area:

Statement	Yes	No
Class1 can be serialized by using the BinaryFormatter class.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Class2 can be serialized by using the BinaryFormatter class.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Class2 can be serialized by using the DataContractSerializer class.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Answer :

Statement	Yes	No
Class1 can be serialized by using the BinaryFormatter class.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Class2 can be serialized by using the BinaryFormatter class.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Class2 can be serialized by using the DataContractSerializer class.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Next Question

Question 231 (Volume B)



DRAG DROP -

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. 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.

NOTE: Each correct selection is worth one point..

Select and Place:

Code Segments

- ==
- =>
- Any
- Join
- Select
- Where

Answer Area

Target 1:

Target 2:

Target 3:

Target 4:

Answer :

Code Segments

-
-
- Any
-
- Select
-

Answer Area

Target 1:

Target 2:

Target 3:

Target 4:

Next Question

Question 232 (Volume B)



HOTSPOT -

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].

false
true
null

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

false
true
null

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

false
true
null

Answer :

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

false
true
null

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

false
true
null

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

false
true
null

Next Question

Question 233 (Volume B)



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?

- A. ArrayList
- B. Dictionary
- C. List
- D. Array

Answer : B

[Next Question](#)



Question 234 (Volume B)

HOTSPOT -

You have a C# application named Application1 that contains the following code:

```
protected class Customer
{
    public string FirstName { get; set; }
    public string LastName { get; set; }
}
protected static List<Customer> customers = new List<Customer>();
```

The customers object is populated with data.

You need to create a LINQ query that will group Customer objects by the first letter of the customers' last name. The query must return Customer objects.

How should you complete the LINQ query? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

```
var queryGroup = from c in customers
group c
      customers
      FirstLetter
new { FirstLetter =
c.LastName
c.LastName[0]
customers[0].LastName
customers[0].LastName[0]
}
into customersGroup
orderby customersGroup
.customers[0].LastName[0]
.FirstOrDefault().LastName[1]
.Key.FirstLetter
select customersGroup;
```

Answer :

Answer Area

```
var queryGroup = from c in customers
group c
      customers
      FirstLetter
new { FirstLetter =
c.LastName
c.LastName[0]
customers[0].LastName
customers[0].LastName[0]
}
into customersGroup
orderby customersGroup
.customers[0].LastName[0]
.FirstOrDefault().LastName[1]
.Key.FirstLetter
select customersGroup;
```

References:

<https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/concepts/linq/basic-linq-query-operations> <https://docs.microsoft.com/en-us/dotnet/csharp/language-reference/keywords/group-clause> <https://docs.microsoft.com/en-us/dotnet/csharp/language-reference/keywords/orderby-clause>

[Next Question](#)**Question 235 (Volume B)**

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?

- A. GC
- B. Handle
- C. Cache
- D. WeakReference

Answer : D

References:

<https://msdn.microsoft.com/en-us/library/ms404247.aspx>

[Next Question](#)**Question 236 (Volume B)**

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?

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

A.

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

B.

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

C.

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

D.

Answer : B

[Next Question](#)

Question 237 (Volume B)



DRAG DROP -

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:

Code segments

DataContractJsonSerializer
Deserialize
JavaScriptSerializer
ReadObject
SerializationInfo
Serialize
XmlSerializer

Answer Area

Target 1:	[Empty]
Target 2:	[Empty]

Answer :

Code segments

Deserialize
JavaScriptSerializer
ReadObject
SerializationInfo
Serialize
XmlSerializer

Answer Area

Target 1:	DataContractJsonSerializer
Target 2:	ReadObject

Explanation:

```
serializer = new DataContractJsonSerializer();
var result = serializer.ReadObject<Dictionary<string, object>>(StrJson);
```

[Next Question](#)

Question 238 (Volume B)



You need to write a console application that meets the following requirements:
If the application is compiled in Debug mode, the console output must display Entering debug mode.

If the application is compiled in Release mode, the console output must display Entering release mode.
Which code should you use?

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

A.

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

B.

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

C.

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

D.

Answer : B

[Next Question](#)

Question 239 (Volume B)



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?

- A. Modify the AssemblyInfo.cs file.
- B. Copy .exe files to the Symbols folder on the local computer.
- C. Copy .cs files to the remote server.
- D. Use .NET Remote Symbol Loading.

Answer : A

References:

<https://msdn.microsoft.com/en-us/library/y7f5zaaa.aspx>

[Next Question](#)

Question 240 (Volume B)



DRAG DROP -

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.

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.

NOTE: Each correct selection is worth one point.

Select and Place:

Code Segments	Answer Area
async	Target 1:
await	Target 2:
GetString	Target 3:
GetStringAsync	Target 4:
Task	

Answer :

Code Segments	Answer Area
	Target 1: async
	Target 2: Task
GetString	Target 3: await
	Target 4: GetStringAsync

References:

<https://docs.microsoft.com/en-us/dotnet/csharp/async>

[Next Question](#)



Question 241 (Volume B)

HOTSPOT -

You are developing an application in C#.

You need to implement a custom exception for the application.

You have the following code.

```
Public class CustomException : Target_1
{
    public CustomException(string msg) : Target_2(msg)
    {
        MessageBox.Show(msg);
    }
}
```

How should you complete the code? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Target 1:

base
delegate
Exception
inherit
this

Target 2:

base
ErrorProvider
Exception
inherit
SystemException
this

Answer :

Target 1:

base
delegate
Exception
inherit
this

Target 2:

base
ErrorProvider
Exception
inherit
SystemException
this

[Next Question](#)**Question 242 (Volume B)**

You are creating an assembly named Assembly1 by using the Class Library project template in Microsoft Visual Studio. Assembly1 is used by a C# application named App1.

You do not have access to the Visual Studio project for App1.

You need to ensure that you can debug Assembly1.

What should you configure in the project properties?

- A. On the Application page, set the Output type to Windows Application.
- B. On the Build page, click Allow unsafe code.
- C. On the Debug page, set the Start external program option for App1.
- D. On the Debug page, click Enable native code debugging.

Answer : C

Reference:

<https://msdn.microsoft.com/en-us/library/2wcdezs5.aspx>

[Next Question](#)**Question 243 (Volume B)**

You are creating an application that reads from a database.

You need to use different databases during the development phase and the testing phase by using conditional compilation techniques.

What should you do?

- A. Specify the /define compiler option.
- B. Decorate the code by using the [DebuggerDisplay("Mydebug")] attribute.
- C. Decorate the code by using the [Assembly:AssemblyDelaySignAttribute(true)] attribute.
- D. Run the Assembly Linker tool from the Windows Software Development Kit (Windows SDK).

Answer : A

Next Question

Question 244 (Volume B)



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);

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

Answer : B

Next Question

Question 245 (Volume B)



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?

- A. Func<string, string>
- B. Action< string, string>
- C. Func< string>
- D. Action< string>

Answer : A

Next Question

Question 246 (Volume B)



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?

- A. for (int i = 0; i <= myData.Count; i++) myData.RemoveAt(i);
- B. while (myData.Count != 0) myData.RemoveAt(0);
- C. foreach(string currentString in myData) myData.Remove(currentString);
- D. for (int i = 0; i <= myData.Count; i++) myData.RemoveAt(0);

Answer : A

Next Question

Question 247 (Volume B)



DRAG DROP -

You have the following code.

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

Code Segments	Answer Area
&	Target 1: Code element
:	Target 2: Code element
?	Target 3: Code element
<	Target 4: Code element
>	
0	
input	

Answer :

Code Segments	Answer Area
&	Target 1: input
:	Target 2: >
	Target 3: 0
<	Target 4: ?

References:

<http://kb.itvedant.com/c>

Next Question

Question 248 (Volume B)



DRAG DROP -

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 targets. 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.

NOTE: Each correct selection is worth one point.

Select and Place:

Answer area

ReadLineAsync() ();	Target 1:	Object
ReadToEndAsync() ();	Target 2:	Object
await	Target 3:	Object
async		
ReadLine();		
ReadToEnd();		
ToString();		

Answer :

Answer area

ReadLineAsync() ();	Target 1:	async
	Target 2:	await
	Target 3:	ReadToEndAsync() ();
ReadLine();		
ReadToEnd();		
ToString();		

[Next Question](#)

Question 249 (Volume B)



HOTSPOT -

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

```
01 int a = 1;
02 int b = 2;
03 Console.WriteLine(a == --b && a == b++);
04 Console.WriteLine(a == --b || a == b++);
05 Console.WriteLine(a == --b && a == b++);
```

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

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statements	Yes	No
The output of line 03 is True.	<input type="radio"/>	<input type="radio"/>
The output of line 04 is True.	<input type="radio"/>	<input type="radio"/>
The output of line 05 is True.	<input type="radio"/>	<input type="radio"/>

Answer :

Answer Area

Statements	Yes	No
The output of line 03 is True.	<input type="radio"/>	<input checked="" type="radio"/>
The output of line 04 is True.	<input checked="" type="radio"/>	<input type="radio"/>
The output of line 05 is True.	<input type="radio"/>	<input checked="" type="radio"/>

[Next Question](#)

Question 250 (Volume B)



HOTSPOT -

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.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Rethrow the original exception and keep the exception type.

throw;	▼
throw ex;	
throw new Exception();	

Rethrow the original exception type and reset the exception stack trace.

throw;	▼
throw ex;	
throw new Exception();	

Reset the exception stack trace and reset the exception type.

throw;	▼
throw ex;	
throw new Exception();	

Answer :

Answer Area

Rethrow the original exception and keep the exception type.

throw;	▼
throw ex;	
throw new Exception();	

Rethrow the original exception type and reset the exception stack trace.

throw;	▼
throw ex;	
throw new Exception();	

Reset the exception stack trace and reset the exception type.

throw;	▼
throw ex;	
throw new Exception();	

References:

<https://blogs.msdn.microsoft.com/perfworld/2009/06/15/how-can-i-throw-an-exception-without-losing-the-original-stack-trace-information-in-.net/>

[Next Question](#)

Question 251 (Volume B)



DRAG DROP -

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 : Contoso.Exception {...}
public class ContosoValidationException : Contoso.Exception {...}
```

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 method. ex)
- > 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 Target1
{
    Log(ex);
}
catch Target2
{
    Log(ex);
}
catch Target3
{
    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:

Code Segments	
(ContosoValidationException ex)	
(ContosoException ex)	
(Exception ex)	
(ContosoDbException ex)	

Answer Area	
Target 1:	Code Segment
Target 2:	Code Segment
Target 3:	Code Segment

Answer :

Code Segments
<input type="text"/>	
<input type="text"/>	
<input checked="" type="text"/> (Exception ex)	
<input type="text"/>	

Answer Area
Target 1: <input type="text"/> (ContosoValidationException ex)
Target 2: <input type="text"/> (ContosoDbException ex)
Target 3: <input type="text"/> (ContosoException ex)

Catch the most specific exception first.

[Next Question](#)

Question 252 (Volume B)



Note: This question is part 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 list.

Solution: You insert the following code segment at line 02:

```
int sum = 0;  
for (int i=0; i < intArray.Length;)  
{  
    sum += intArray[i];  
    intArray[i++] = sum;  
    Console.WriteLine(sum);  
}
```

Does this meet the goal?

- A. Yes
- B. No

Answer : B

Explanation:
Console.WriteLine is repeated twice.

[Next Question](#)

Question 253 (Volume B)



HOTSPOT -

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.	<input type="radio"/>	<input type="radio"/>
A new property named ProductName is added to the Order constructor.	<input type="radio"/>	<input type="radio"/>
OrderId and OrderDate are required parameters when you create OrderDetails objects.	<input type="radio"/>	<input type="radio"/>

Answer :

Answer Area

Statement	Yes	No
The OrderId property is inherited by OrderDetails.	<input checked="" type="radio"/>	<input type="radio"/>
A new property named ProductName is added to the Order constructor.	<input type="radio"/>	<input checked="" type="radio"/>
OrderId and OrderDate are required parameters when you create OrderDetails objects.	<input checked="" type="radio"/>	<input type="radio"/>

References:

<https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/classes-and-structs/inheritance>

[Next Question](#)

**Question 254 (Volume B)**

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

- A. enumeration
- B. Language-Integrated Query (LINQ) query expressions
- C. interface
- D. optional parameters
- E. named parameters

Answer : D

[Next Question](#)

Question 255 (Volume B)**DRAG DROP -**

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:

Code Segments	Answer Area
public static class ExtensionMethods	Target 1: <input type="text"/> Code Segment
public class ExtensionMethods	Target 2: <input type="text"/> Code Segment
this String str	
String str	
protected static class ExtensionMethods	

Answer :

Code Segments	Answer Area
public class ExtensionMethods	Target 1: <input type="text"/> public static class ExtensionMethods
String str	Target 2: <input type="text"/> this String str
protected static class ExtensionMethods	

[Next Question](#)

Question 256 (Volume B)



You are creating a console application named App1.

App1 will validate user input for order entries.

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

```
01 Console.WriteLine("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))`

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

Answer : D

Explanation:

Regex.IsMatch Method (String, String)

Indicates whether the specified regular expression finds a match in the specified input string.

[Next Question](#)

Question 257 (Volume B)



HOTSPOT -

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

```
01 int a = 1;
02 int b = 2;
03 Console.WriteLine(a == --b && a == b++);
04 Console.WriteLine(a == --b || a == b++);
05 Console.WriteLine(a == --b && b == a++);
```

For each of the following statements, select Yes if the statement is true. Otherwise, select False.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statements	Yes	No
The output of line 03 is True.	<input type="radio"/>	<input type="radio"/>
The output of line 04 is True.	<input type="radio"/>	<input type="radio"/>
The output of line 05 is True.	<input type="radio"/>	<input type="radio"/>

Answer :

Answer Area

Statements	Yes	No
The output of line 03 is True.	<input type="radio"/>	<input checked="" type="radio"/>
The output of line 04 is True.	<input checked="" type="radio"/>	<input type="radio"/>
The output of line 05 is True.	<input type="radio"/>	<input checked="" type="radio"/>

Next Question

Question 258 (Volume B)

**DRAG DROP -**

You have an application that uses paging. Each page displays five items from a list.

You need to display the second page.

Which three code blocks should you use to develop the solution? To answer, move the appropriate code blocks from the list of code blocks to the answer area and arrange them in the correct order.

Select and Place:

Code Snippets

```
.Take(1)
.Skip(2)
.First(5)
.Skip(5)
.Skip(1)
.Take(5)
var page = items
int page = items
```

Answer Area

1
 2
 3

**Answer :****Code Snippets**

```
.Take(1)
.Skip(2)
.First(5)
.Skip(1)
.Skip(1)
var page = items
```

Answer Area

1 int page = items
 2 .Skip(5)
 3 .Take(5)

**References:**
<https://stackoverflow.com/questions/2380413/paging-with-linq-for-objects>
[Next Question](#)
Question 259 (Volume B)

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 Application1.

You need to record the memory usage of each build.

What should you use from Visual Studio?

- A. IntelliTrace
- B. Memory Usage from Performance Profiler
- C. Performance Wizard from Performance Profiler
- D. Code Analysis

Answer : B**Reference:**
[https://msdn.microsoft.com/en-US/library/dn645469\(VS.140\).aspx](https://msdn.microsoft.com/en-US/library/dn645469(VS.140).aspx)
[Next Question](#)



Question 260 (Volume B)

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

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

You need to populate the Customer class with the data returned from the web service.

Which code segment should you use?

```
IFormatter formatter = new BinaryFormatter();
Stream stream = new FileStream(CustomerAsJson, FileMode.Open, FileAccess.Read, FileShare.Read);
Customer customerFromJson = (Customer)formatter.Deserialize(stream);
stream.Close();
```

A.

```
DataContractJsonSerializer jsSerializer = new DataContractJsonSerializer(typeof(Customer));
using (MemoryStream stream = new MemoryStream(Encoding.UTF8.GetBytes(CustomerAsJson)))
{
    Customer customerFromJson = (Customer)jsSerializer.readObject(stream);
}
```

B.

```
XmlSerializer xmlSerializer = new XmlSerializer(typeof(Customer));
using (MemoryStream stream = new MemoryStream(Encoding.UTF8.GetBytes(CustomerAsJson)))
{
    Customer customerFromJson = (Customer)xmlSerializer.Deserialize(stream);
}
```

C.

```
DataContractJsonSerializer jsSerializer = new DataContractJsonSerializer(typeof(Customer));
using (MemoryStream stream = new MemoryStream(Encoding.UTF8.GetBytes(CustomerAsJson)))
{
    Customer customerFromJson = new Customer();
    jsSerializer.WriteObject(stream, customerFromJson);
}
```

D.

Answer : B

[Next Question](#)



Question 261 (Volume B)

DRAG DROP -

You need to write code that will display value1, and then value2 in the console.

You write the following code:

```
string settings = "value1,value2";
foreach (Target_1 val Target_2 settings. Target_3 (Target_4))
{
    Console.WriteLine(val);
```

How should you complete the code? To answer, drag the appropriate code elements to the correct targets. 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.

NOTE: Each correct selection is worth one point.

Select and Place:

Code Segments	Answer Area
";"	Target 1: <input type="text"/>
`;"	Target 2: <input type="text"/>
current	Target 3: <input type="text"/>
in	Target 4: <input type="text"/>
Intersect	
Split	
string	

Answer :

Code Segments	Answer Area
<input type="text"/>	Target 1: <input type="text"/> string
`;"	Target 2: <input type="text"/> in
current	Target 3: <input type="text"/> Split
<input type="text"/>	Target 4: <input type="text"/> `;"
Intersect	
<input type="text"/>	
<input type="text"/>	

Next Question

Question 262 (Volume B)



DRAG DROP -

You are creating a method by using C#. The method will accept three strings as parameters. The parameters are named string1, string2, and string3. The parameter values range from 5,000 to 15,000 characters.

The method will have the following signature.

```
public bool StringCompare(string string1, string string2, string string3)
{
}
```

You need to ensure that StringCompare only returns true if string1 concatenated to string2 is equal to string3. The comparison must be case-insensitive. The solution must ensure that StringCompare executes as quickly as possible.

Which three code blocks should you use to develop the solution? To answer, move the appropriate code blocks

from the list of code blocks to the answer area and arrange them in the correct order.

NOTE: Each correct selection is worth one point.

Select and Place:

Code Blocks

```
string concatStrings = string1 + string2;

bool result = concatStrings.ToString().Equals(string3, StringComparison.CurrentCultureIgnoreCase);

StringBuilder concatStrings = new StringBuilder(string1); concatStrings.Append(string2);

bool result = (concatStrings.ToString().ToUpper() == string3.ToUpper());

return result;

bool result = (String.Compare(concatStrings.ToString(), string3, false) == 0);
```

Answer Area



Answer :

Code Blocks

```
bool result = concatStrings.ToString().Equals(string3, StringComparison.CurrentCultureIgnoreCase);

StringBuilder concatStrings = new StringBuilder(string1); concatStrings.Append(string2);

bool result = (String.Compare(concatStrings.ToString(), string3, false) == 0);
```

Answer Area



References:

<https://docs.microsoft.com/en-us/dotnet/csharp/how-to/compare-strings>

[Next Question](#)

Question 263 (Volume B)



Note: This question is part 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.

Solution: You insert the following code at line 02:

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

Does this meet the goal?

- A. Yes
- B. No

Answer : B

[Next Question](#)

Question 264 (Volume B)



Note: This question is part 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.

Solution: You insert the following code at line 02:

```
int sum = 0;
for (int i=0; i < intArray.Length;)
{
    sum += intArray[i];
    intArray[i++] = sum;
}
```

Does this meet the goal?

- A. Yes
- B. No

Answer : A

[Next Question](#)

Question 265 (Volume B)



Note: This question is part 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.

Solution: You insert the following code at line 02:

```

for (int i=0; i < intArray.Length; i++)
{
    intArray[i] += intArray[i];
}
```

Does this meet the goal?

- A. Yes
- B. No

Answer : B

Explanation:

Doubles intArray values: 2,4,6,8,10

[Next Question](#)

Question 266 (Volume B)



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

```

01 class Tree
02 {
03     public string Description { get; set; }
04     public string Color { get; set; }
05     public int Id { get; set; }
06     public decimal Height { get; set; }
07 }
08 Dictionary<int, Tree> trees = new Dictionary<int, Tree>
09 {
10     { 111, new Tree { Description = "Fern", Color = "Green", Id = 211, Height = 22.23m } },
11     { 112, new Tree { Description = "Evergreen", Color = "Green", Id = 317, Height = 11.13m } },
12     { 113, new Tree { Description = "Birch", Color = "White", Id = 198, Height = 7.91m } },
13     { 114, new Tree { Description = "Ash", Color = "Gray", Id = 192, Height = 17.13m } },
14     { 115, new Tree { Description = "Crabapple", Color = "Pink", Id = 196, Height = 8.45m } }
15 };
16
17 trees.Add(115, new Tree { Description = "Maple", Color = "Red", Id = 214, Height = 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. `foreach (Tree tree in trees.Values.Where(t => t.Id != 115))`
- B. `if (!trees.ContainsKey(115))`
- C. `foreach (int key in trees.Keys.Where(k => k != 115))`
- D. `foreach (KeyValuePair<int, Tree> key in trees.Where(t => t.Key != 115))`

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

Answer : B

Explanation:

Use if statement with ContainsKey method to check if dictionary already contains the specified key.

References:

[https://msdn.microsoft.com/en-us/library/kw5aaea4\(v=vs.110\).aspx](https://msdn.microsoft.com/en-us/library/kw5aaea4(v=vs.110).aspx) <https://www.c-sharpcorner.com/UploadFile/mahesh/how-to-find-a-key-in-a-dictionary-with-C-Sharp/>

[Next Question](#)

Question 267 (Volume B)



You have two assemblies named Assembly1 and Assembly2 that are written in C#. Assembly1 loads Assembly2 by executing the following code.

```
Assembly myDll = Assembly.Load(  
    "Assembly2, Version=1.0.2.4, Culture=neutral, PublicKeyToken=7e35aa32c18d3d61"  
>);
```

You create a new project in Microsoft Visual Studio to build a new assembly that will replace Assembly2. The new assembly has the same name and version as the original Assembly2 assembly.

When you execute the code, Assembly1 cannot load Assembly2.

What should you do to ensure that Assembly1 can load Assembly2?

- A. Modify the project properties. Click Sign the assembly and select a new key file.
- B. Run the sn.exe command to create a new key file. Run the al.exe command to sign Assembly2 by using the generated key file.
- C. Use the sn.exe command to create a new key file. Set the assembly:AssemblyKeyFileAttribute attribute to the new key file.
- D. Run the al.exe command to sign Assembly2. Use the same key file used for the original Assembly2 assembly.
- E. Modify the project properties. Click Delay sign only.
- F. Add the new Assembly2 assembly to the global assembly cache.

Answer : D

Reference:

<https://docs.microsoft.com/en-us/dotnet/framework/app-domains/how-to-sign-an-assembly-with-a-strong-name> <https://docs.microsoft.com/en-us/dotnet/framework/tools/al-exe-assembly-linker>

[Next Question](#)

Question 268 (Volume B)



Note: This question is part 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 list.

Solution: You insert the following code at line 02:

```
for (int i = 1; i < intArray.Length; i++)
{
    intArray[i] += intArray[i-1];
}
```

Does this meet the goal?

- A. Yes
- B. No

Answer : B

[Next Question](#)

Question 269 (Volume B)



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

```

01 static int Count(System.Threading.CancellationToken ct)
02 {
03     var countSoFar = 0;
04     while (!ct.IsCancellationRequested)
05         countSoFar++;
06     return countSoFar;
07 }
08 static void Main(string[] args)
09 {
10     var cancellationTokenSource = new
System.Threading.CancellationTokenSource();
11     var task =
System.Threading.Tasks.Task.Factory.StartNew<int>(() 
=>Count(cancellationTokenSource.Token));
12     Console.WriteLine("Press[Enter] to stop counting.");
13     Console.ReadLine();
14
15     Console.WriteLine("Counting stopped at (0)",
task.GetAwaiter().GetResult());
16     Console.ReadLine();
17 }

```

You need to ensure that the application cancels counting when the user presses the Enter key.

Which code segment should you insert at line 14?

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

Answer : A

Explanation:

CancellationTokenSource.Dispose() releases all resources used by the current instance of the CancellationTokenSource class.

Reference:

[https://docs.microsoft.com/en-us/previous-versions/windows/silverlight/dotnet-windows-silverlight/dd321629\(v=vs.95\)](https://docs.microsoft.com/en-us/previous-versions/windows/silverlight/dotnet-windows-silverlight/dd321629(v=vs.95))

[Next Question](#)

Question 270 (Volume B)



HOTSPOT -

You are evaluating the following C# method.

```

static void ProtectData(byte[] messageBytes, RSAParameters
RSAKeys)
{
    RSACryptoServiceProvider RSA = new RSACryptoServiceProvider();
    RSA.ImportParameters(RSAKeys);
    RSAPKCS1SignatureFormatter RSAFormatter = new
RSAPKCS1SignatureFormatter(RSA);
    RSAFormatter.SetHashAlgorithm("SHA1");
    byte[] ProtectedValue =
    RSAFormatter.CreateSignature(messageBytes);
    SendDataToReceiver(ProtectedValue);
}

```

The receiver of the data has a copy of the public key.

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

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statements	Yes	No
A third-party can alter the message in transit without the knowledge of the receiver.	<input type="radio"/>	<input checked="" type="radio"/>
The receiver can validate the identity of the sender.	<input checked="" type="radio"/>	<input type="radio"/>
The receiver can view the original data that passed into the <code>messageBytes</code> variable after the <code>SendDataToReceiver</code> method is called.	<input type="radio"/>	<input checked="" type="radio"/>

Answer :

Answer Area

Statements	Yes	No
A third-party can alter the message in transit without the knowledge of the receiver.	<input type="radio"/>	<input checked="" type="radio"/>
The receiver can validate the identity of the sender.	<input checked="" type="radio"/>	<input type="radio"/>
The receiver can view the original data that passed into the <code>messageBytes</code> variable after the <code>SendDataToReceiver</code> method is called.	<input checked="" type="radio"/>	<input type="radio"/>

Explanation:

[Next Question](#)

Question 271 (Volume B)



HOTSPOT -

You have the following class definitions.

```
class Shape { }
class Rectangle : Shape
{
    public Rectangle(int width, int height)
    {
        Width = width;
        Height = height;
    }
    public int Width { get; set; }
    public int Height { get; set; }
}
```

There might be other classes derived from Shape.

You are creating an application that evaluates whether an object is a square, a rectangle, or another shape.

You need to implement a switch statement that meets the following requirements:

- > If the shape variable is of the Rectangle type, and the width and the height are NOT equal, the output must be Rectangle.
- > If the shape variable is of the Rectangle type, and the width and the height are equal, the output must be Square.
- > If the shape variable is of any other Shape derived type, the output must be Unknown.
- > If the shape variable does NOT refer to an object, the output must be Empty.

How should you complete the code? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

```
switch (shape)
{
    case Rectangle s
        if
        is
        when
        where

        Console.WriteLine("Square");
        break;

    case Rectangle _:
        Rectangle r when (!r.Width.Equals(r.Height))
        Rectangle r when (r.Width != r.Height):
        Rectangle r when (r.Width == r.Height):
        Rectangle r when (r.Width.Equals(r.Height)):

        Console.WriteLine("Rectangle");
        break;

    case default:
    case void:
    default:
    null:

        Console.WriteLine("Unknown");
        break;
}

case default:
case null:
null:
void:

Console.WriteLine("Empty");
break;
```

Answer :

Answer Area

```

switch (shape)
{
    case Rectangle s
        if
        is
        when
        where
            (s.Width == s.Height):

        Console.WriteLine("Square");
        break;

    case Rectangle _:
        Rectangle r when (!r.Width.Equals(r.Height))
        Rectangle r when (r.Width != r.Height):
        Rectangle r when (r.Width == r.Height):
        Rectangle r when (r.Width.Equals(r.Height)):

        Console.WriteLine("Rectangle");
        break;

    case default:
    case void:
    default:
    null:
        Console.WriteLine("Unknown");
        break;
}

case default:
case null:
null:
void:

```

Console.WriteLine("Empty");
break;

}

Explanation:

Reference:

<https://docs.microsoft.com/en-us/dotnet/csharp/language-reference/keywords/switch>

[Next Question](#)

Question 272 (Volume B)



HOTSPOT -

You are developing an application in C#.

You need to create an anonymous method.

You write the following code segment.

Target 1 Target 2 AddNumbers(int x, int y);
 AddNumbers add = Target 3(int x, int y)
 {
 return x + y;
 };

How should you complete the code? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area**Target 1:**

	▼
class	
delegate	
protected	
public	

Target 2:

	▼
class	
delegate	
int	
void	

Target 3:

	▼
class	
delegate	
int	
interface	
void	

Answer :

Answer Area

Target 1:

	▼
class	
delegate	
protected	
public	

Target 2:

	▼
class	
delegate	
int	
void	

Target 3:

	▼
class	
delegate	
int	
interface	
void	

Explanation:

Reference:

<https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/statements-expressions-operators/anonymous-methods>

Next Question

Question 273 (Volume B)



DRAG DROP -

You have an application that contains the following class definitions.

```

public class Customer
{
    public string Name;
    public int Age;
}
public class Customers : IEnumerable<Customer>
{
    private List<Customer> customers = new List<Customer>();
    public void AddCustomer(Customer c)
    {
        customers.Add(c);
    }
    public IEnumerator<Customer> GetEnumerator()
    {
        return ((IEnumerable<Customer>)customers)
            .GetEnumerator();
    }
    IEnumerator IEnumerable.GetEnumerator()
    {
        return ((IEnumerable<Customer>)customers).GetEnumerator();
    }
}

```

You need to ensure that the Customers class can be initialized by using the following code.

```

var customers = new Customers()
{
    new Customer{Name="Neil", Age=45 },
    new Customer{Name="Jon", Age=43 },
    new Customer{Name="Peter", Age=98 }
};

```

Which code should you add to the application? To answer, drag the appropriate values to the correct targets. Each value 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.

NOTE: Each correct selection is worth one point.

Select and Place:

Code Segments	Answer Area
Add	
AddCustomer	
AddItem	
Customer	
Customers	

Answer Area

```

public static class CustomersExtensions
{
    public static void Value (this Customers cs, Customer c) => cs. Value (c);
}

```

Drag the 'Value' placeholder from the 'AddCustomer' segment to the first 'Value' placeholder in the answer area. Drag the 'Value' placeholder from the 'Customer' segment to the second 'Value' placeholder in the answer area.

Answer :

Code Segments

Add
Customer
Customers

Answer Area

```
public static class CustomersExtensions
{
    public static void AddCustomer (this Customers cs, Customer c) => cs.AddItem (c);
```

Question 274 (Volume B)

You have a collection of Product objects named products. Each Product has a category.
You need to determine the longest name for each category.
You write the following code.

```
var longestNamesByCategory = products.GroupBy(p => p.Category).
    Select(g => new {Category = g.Key, LongestName = g.Select
    (p => p.Name).Target 1 ((s, t) => t.Length > s.Length ? t : s)});
```

Which keyword should you use for Target 1?

- A. Group
- B. Where
- C. Aggregate
- D. Select

Answer : B

Next Question

Question 275 (Volume B)

You have the following C# code that manipulates a string.

```
string str = "This is a random sentence.";
string result = str.Substring(0,str.LastIndexOf("is")) +
str.Substring(str.IndexOf("random"));
```

What is the value of result after the code executes?

- A. This is a sentence.
- B. Thrandom random a random sentence.
- C. This is a is sentence.
- D. This random sentence.

Answer : D

Reference:

<https://docs.microsoft.com/en-us/dotnet/api/system.string.substring?view=netframework-4.7.2>

[Next Question](#)

Question 276 (Volume B)



DRAG DROP -

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.

You have the following code:

```
public class LoanCollection Target 1
{
    private readonly Loan[] _LoanCollection;
    public LoanCollection(Loan[] loanArray)
    {
        _loanCollection = new Loan[loanArray.Length];
        for (int i = 0; i < loanArray.Length; i++)
        {
            _loanCollection[i] = loanArray[i];
        }
    }
}

Target 2
{
    Target 3
}
```

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. 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.

NOTE: Each correct selection is worth one point.

Select and Place:

Code Segments
: IComparable
: IEnumerable
: IDisposable
public IEnumerator GetEnumerator()
public int CompareTo(object obj)
public void Dispose()
_loanCollection[0].Amout++;
return obj == null ? 1 : _loanCollection.Length;
return _loanCollection.GetEnumerator();

Answer Area
Target 1: Code Segment
Target 2: Code Segment
Target 3: Code Segment



Answer :

Code Segments	Answer Area
: IComparable	
: IDisposable	
<pre>public int CompareTo(object obj)</pre>	
<pre>public void Dispose()</pre>	
<pre>_loanCollection[0].Amout++;</pre>	
<pre>return obj == null ? 1 : _loanCollection.Length;</pre>	

(
)
↑
↓

Target 1:
: IEnumerable

Target 2:
public IEnumerator
GetEnumerator()

Target 3:
return _loanCollection.
GetEnumerator();

Explanation:

[Next Question](#)

Question 277 (Volume B)



You need to write a method that retrieves data from a Microsoft Access 2013 database. The method must meet the following requirements:

- > It must be read-only.
 - > You must be able to use the data before the entire data set is retrieved.
 - > You must minimize the amount of system overhead and the amount of memory usage.
- Which type of object should you use in the method?

- A. DataContext
- B. DbDataAdapter
- C. SqlDataAdapter
- D. DbDataReader
- E. unTyped DataSet
- F. OleDbDataAdapter

Answer : D

Explanation:

The DbDataReader class reads a forward-only stream of rows from a data source.

References: DbDataReader Class -
[https://msdn.microsoft.com/en-us/library/system.data.common.dbdatareader\(v=vs.110\).aspx](https://msdn.microsoft.com/en-us/library/system.data.common.dbdatareader(v=vs.110).aspx)

Next Question

Question 278 (Volume B)



DRAG DROP -

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.

You have the following code:

Target 1

```
public class Customer
{
```

Target 2

```
  public Guid Id { get; set; }
```

Target 3

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

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

Target 4

```
  public int Tin {get;set;}
```

```
}
```

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. 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:

Code Segments

```
[XmlRoot("Customer",
Namespace =
"http://customer")]
[XmlRoot("Customer",
Namespace =
"http://prospect")]
[XmlAttribute("ProspectId")]
[XmlElement("ProspectId")]
[XmlChoiceIdentifier]
[XmlIgnore]
[XmlAttributeItem]
[XmlElement("FullName")]
```

Answer Area

Target 1:

Code Segment

Target 2:

Code Segment

() ()

Target 3:

Code Segment

Target 4:

Code Segment

Answer :

Code Segments

```
[XmlRoot("Customer",
Namespace =
"http://customer")]
[XmlElement("ProspectId")]
[XmlChoiceIdentifier]
[XmlAttributeItem]
```

Answer Area

Target 1:

[XmlRoot("Customer",
Namespace =
"http://prospect")]

Target 2:

[XmlAttribute("ProspectId")]

() ()

Target 3:

[XmlElement("FullName")]

Target 4:

[XmlIgnore]

Explanation:

[Next Question](#)

Question 279 (Volume B)



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

- Configure the assembly metadata to use the pre-existing public key for the assembly identity by using the AssemblySignatureKeyAttribute attribute.
- Decorate the code by using the [DebuggerDisplay("Mydebug")] attribute.

- C. Decorate the code by using the [assembly:AssemblyDelaySignAttribute(true)] attribute.
- D. Configure the Define DEBUG constant setting in Microsoft Visual Studio.

Answer : D

[Next Question](#)

Question 280 (Volume B)



A public class named Message has a method named SendMessage. The SendMessage() method is leaking memory.

```
public class Message
{
    private unsafe IntPtr _IntPtr;

    public unsafe void SendMessage(string messageToSend)
    {
        try
        {
            byte[] msg = Encoding.Unicode.GetBytes(messageToSend);
            _IntPtr = Marshal.AllocHGlobal(msg.Length);
            byte* memBytePtr = (byte*)_IntPtr.ToPointer();
            UnmanagedMemoryStream writeStream = new UnmanagedMemoryStream
                (memBytePtr, msg.Length, msg.Length, FileAccess.Write);
            writeStream.Write(msg, 0, msg.Length);
            writeStream.Close();
        }
        catch (Exception e)
        {
            Console.WriteLine(e);
        }
    }
}
```

A tryâ€|catch block in the SendMessage() method does not release resources after the method returns.
You need to ensure that the method releases all resources properly.

What should you do?

- A. Add a finally statement and implement the gc.collect() method.
- B. Modify the Message class to use the IDisposable interface.
- C. Remove the tryâ€|catch block and allow the errors to propagate.
- D. Replace the tryâ€|catch block with a using statement.

Answer : A

Reference:

https://docs.microsoft.com/en-us/dotnet/api/system.gc.collect?redirectedfrom=MSDN&view=netframework-4.7.2#System_GC_Collect

[Next Question](#)

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