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Exam : **070-483**

Title : Programming in C#

Vendor : Microsoft

Version : DEMO

NO.1 An application receives JSON data in the following format:

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

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

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

You need to ensure that the ConvertToName() method returns the JSON input string as a Name object.

Which code segment should you insert at line 10?

- A. Return ser.Deserialize<Name>(json);
- B. Return ser.ConvertToType (json, typeof (Name));
- C. Return ser.Desenalize (json, typeof(Name));
- D. Return ser.ConvertToType<Name>(json);

Answer: A

Explanation:

JavaScriptSerializer.Deserialize<T> - Converts the specified JSON string to an object of type T.
<http://msdn.microsoft.com/en-us/library/bb355316.aspx>

NO.2 You are developing an application.

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

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

Answer: B

NO.3 You have the following code (line numbers are included for reference only):

```
01class Bar
02{
03  public string barColor { get; set; }
04  public string barName { get; set; }
05  private static IEnumerable<Bar> GetBars(string sqlConnectionString)
06  {
07      var bars = new List<Bar>();
08      SqlConnection fooSqlConnection = new SqlConnection();
09      using (fooSqlConnection)
10      {
11          SqlCommand fooSqlCommand = new SqlCommand
12              ("Select sqlName,sqlColor from Animals", fooSqlConnection);
13          fooSqlConnection.Open();
14          using (SqlDataReader fooSqlReader = fooSqlCommand.ExecuteReader())
15          {
16              {
17                  var bar = new Bar();
18                  bar.barName = (String)fooSqlReader["sqlName"];
19                  bar.barColor = (String)fooSqlReader["sqlColor"];
20                  bars.Add(bar);
21              }
22          }
23      }
24      return bars;
25  }
26}
```

You need to identify the missing line of code at line 15. Which line of code should you identify?

- A. while (fooSqlReader.GetBoolean(0))
- B. using (fooSqlConnection.BeginTransaction())
- C. while (fooSqlReader.Read())
- D. while (fooSqlReader.NextResult())

Answer: C

Explanation:

The SqlDataReader.Read method advances the SqlDataReader to the next record.

Example:

```
SqlCommand command =
new SqlCommand(queryString, connection);
connection.Open();
SqlDataReader reader = command.ExecuteReader();
// Call Read before accessing data.
while (reader.Read())
{
    ReadSingleRow((IDataRecord)reader);
}
// Call Close when done reading.
```

```
reader.Close();  
}
```

Reference:

[https://msdn.microsoft.com/en-us/library/system.data.sqlclient.sqldatareader.read\(v=vs.110\).aspx](https://msdn.microsoft.com/en-us/library/system.data.sqlclient.sqldatareader.read(v=vs.110).aspx)

NO.4 You need to write a console application that meets the following requirements:

If the application is compiled in Debug mode, the console output must display Entering debug mode.
If the application is compiled in Release mode, the console output must display Entering release mode.

Which code should you use?

A.

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

B.

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

C.

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

D.

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

A. Option B

B. Option A

C. Option C

D. Option D

Answer: A

Explanation:

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

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

NO.5 You are developing an application by using C#. The application includes a method named `SendMessage`. The `SendMessage()` method requires a string input. You need to replace "Hello" with "Goodbye" in the parameter that is passed to the `SendMessage()` method.

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

A.

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

B.

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

C.

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

D.

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

A. Option D

B. Option A

C. Option B

D. Option C

Answer: C,D

Explanation:

* The first parameter should be Hello.

* String.Replace Method (String, String)

Returns a new string in which all occurrences of a specified string in the current instance are replaced

with another specified string.

This method does not modify the value of the current instance. Instead, it returns a new string in which all occurrences of `oldValue` are replaced by `newValue`.

NO.6 You are developing an application that will be deployed to multiple computers. You set the assembly name.

You need to create a unique identity for the application assembly.

Which two assembly identity attributes should you include in the source code? (Each correct answer presents part of the solution. Choose two.)

- A. `AssemblyKeyNameAttribute`
- B. `AssemblyVersionAttribute`
- C. `AssemblyCultureAttribute`
- D. `AssemblyFileVersion`
- E. `AssemblyTitleAttribute`

Answer: B,C

Explanation:

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

- * Simple name
- * Version number
- * Cryptographic key pair
- * Supported culture

B: `AssemblyCultureAttribute`

Specifies which culture the assembly supports.

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

`AssemblyVersionAttribute` Specifies the version of the assembly being attributed.

The assembly version number is part of an assembly's identity and plays a key part in binding to the assembly and in version policy.

NO.7 You are implementing a library method that accepts a character parameter and returns a string.

If the lookup succeeds, the method must return the corresponding string value. If the lookup fails, the method must return the value "invalid choice." You need to implement the lookup algorithm.

How should you complete the relevant code? (To answer, select the correct keyword in each drop-down list in the answer area.)

Work Area

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

Work Area

```
public string GetResponse(char letter)
{
    string response;
    (dropdown) (letter)
    {
        case
        if
        switch
    {
        (dropdown) 'a':
        {
            case
            default
            else
            if
            response = "animal";
            break;
        }
        (dropdown) 'm':
        {
            case
            default
            else
            if
            response = "mineral";
            break;
        }
        (dropdown) :
        {
            case
            default
            else
            if
            response = "invalid choice";
            break;
        }
    }
    return response;
}
```

Answer:

Work Area

```
public string GetResponse(char letter)
{
    string response;
    (letter)
    case
    if
    switch
    {
        'a':
        case
        default
        else
        if
        response = "animal";
        break;
        'm':
        case
        default
        else
        if
        response = "mineral";
        break;
        :
        case
        default
        else
        if
        response = "invalid choice";
        break;
    }
    return response;
}
```

Explanation:

```
switch(letter){ case 'a': case 'm': default: }
```

Reference:

[http://msdn.microsoft.com/en-us/library/06tc147t\(v=vs.110\).aspx](http://msdn.microsoft.com/en-us/library/06tc147t(v=vs.110).aspx)

NO.8 You are developing an application that includes a method named `SendMessage`. You need to ensure that the `SendMessage()` method is called with the required parameters. Which two code segments can you use to achieve this goal? (Each correct answer presents a complete solution. Choose two.)

- A.

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

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

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

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

A. Option B

B. Option D

C. Option A

D. Option C

Answer: B,D

Explanation:

D: ExpandoObject

Represents an object whose members can be dynamically added and removed at run time.

/ The ExpandoObject class enables you to add and delete members of its instances at run time and also to set and get values of these members. This class supports dynamic binding, which enables you to use standard syntax like `sampleObject.sampleMember` instead of more complex syntax like `sampleObject.GetAttribute("sampleMember")`.

/ You can pass instances of the ExpandoObject class as parameters. Note that these instances are treated as dynamic objects in C# and late-bound objects in Visual Basic. This means that you do not have IntelliSense for object members and you do not receive compiler errors when you call non-existent members. If you call a member that does not exist, an exception occurs.

Incorrect:

Not A, not B: It tries to get/set From, to properties of type Object. It does not compile.

NO.9 You need to validate whether string strJson is a valid JSON string.

```
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 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.

Code segments

DataContractJsonSerializer
Deserialize
JavaScriptSerializer
ReadObject
SerializationInfo
Serialize
XmlSerializer

Answer Area

Target 1:

Target 2:

Answer:

Code segments

```
DataContractJsonSerializer  
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);
```

NO.10 You have the following code. (Line numbers are included for reference only.)

```
01 double x, y;  
02 x = 0.0;  
03 y = 0.0;  
04 Console.WriteLine(x/y);
```

What is the output of line 04?

- A. null
- B. Error
- C. 0
- D. NaN

Answer: C

NO.11 You are developing a class named Account that will be used by several applications. The applications that will consume the Account class will make asynchronous calls to the Account class to execute several different methods.

You need to ensure that only one call to the methods is executed at a time.

Which keyword should you use?

- A. checked
- B. sealed

C. protected

D. lock

Answer: D

Explanation:

The lock keyword ensures that one thread does not enter a critical section of code while another thread is in the critical section. If another thread tries to enter a locked code, it will wait, block, until the object is released.

Reference:

<https://msdn.microsoft.com/en-us/library/c5kehkcz.aspx>

NO.12 You are developing an application that includes a class named Customer and a generic list of customers. The following code segment declares the list of customers:

```
List<Customer> customersList = new List<Customer> ();
```

You populate the customersList object with several hundred Customer objects.

The application must display the data for five Customer objects at a time.

You need to create a method that will return the correct number of Customer objects.

Which code segment should you use?

- A.

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

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

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

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

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

Answer: A

Explanation:

Note: Something wrong with question as the question is about LINQ, while the answers are about class definitions (and not LINQ method definitions).

NO.13 You plan to implement the following interfaces:

```
interface IFahrenheit
{
    double Temp();
}
interface iCelsius
{
    double Temp();
}
```

You have the following methods:

getCelsiusFromKelvin returns the temperature in Celsius.

getFahrenheitFromKelvin returns the temperature in Fahrenheit.

You need to implement both interfaces within a class named TempControl. The TempControl class must return the Celsius temperature as the default temperature if the following code executes.

```
TempControl t = new TempControl();
var celsiusTemp = t.Temp();
```

How should you implement the interfaces? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

```
partial class TempControl:
{
    double kelvin;

    public double
    {
        return getCelsiusFromKelvin();
    }

    double
```

ICelsius
IFahrenheit
IFahrenheit, ICelsius

ICelsius.Temp()
IFahrenheit.Temp()
Temp()

ICelsius.Temp()
IFahrenheit.Temp()
Temp()

Answer:

```

partial class TempControl:
{
    double kelvin;

    public double
    {
        ICelsius.Temp()
        IFahrenheit.Temp()
        Temp()

        return getCelsiusFromKelvin();
    }
}
double
    ICelsius.Temp()
    IFahrenheit.Temp()
    Temp()

```

NO.14 You write the following method (line numbers are included for reference only):

```

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

```

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

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

Which code should you insert at line 07?

- A. `result = (List<string>) myMatches.GetEnumerator();`
- B. `result = (List<string>) myMatches.SyncRoot;`
- C. `result = (from System.Text.RegularExpressions.Match m in myMatches
select m.Value).ToList<string>();`
- D. `result = (from System.Text.RegularExpressions.Match m in myMatches
where !m.Success
select m.Value).ToList<string>();`

A. Option B

B. Option D

C. Option C

D. Option A

Answer: D

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.

Incorrect:

Not B: The ICollection.SyncRoot property gets an object that can be used to synchronize access to the ICollection.

Reference:

[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)

NO.15 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)
```

```
{
```

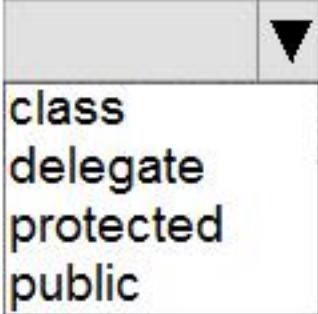
```
return x + y;
```


```
};
```

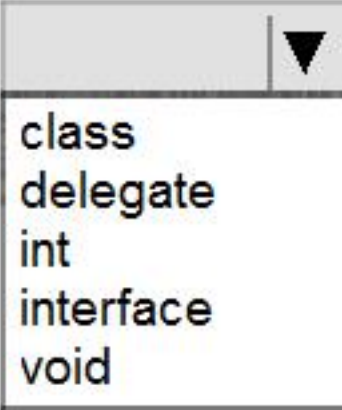
How should you complete the code? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area

Target 1: 

Target 2: 

Target 3: 

Answer:

Answer Area

Target 1:

	▼
class	
delegate	
protected	
public	

Target 2:

	▼
class	
delegate	
int	
void	

Target 3:

	▼
class	
delegate	
int	
interface	
void	

Explanation:

Target 1: delegate

Target 2: void

Target 3: delegate

NO.16 You are creating a class named Data that includes a dictionary object named `_data`. You need to allow the garbage collection process to collect the references of the `_data` object. How should you complete the relevant code? (To answer, drag the appropriate code segments to the correct locations in the answer area. Each code segment may be used once, more than once, or not

at all. You may need to drag the split bar between panes or scroll to view content.)

<code>staticDictionary<int, WeakReference> _data;</code>	<code>public class Data</code>
<code>staticDictionary<int, Int32> _data;</code>	{
<code>_data.Add(i, new WeakReference(new Class(i * 2), false));</code>	<code>public Data(int count)</code>
<code>_data.Add(i, (Int32) (i * 2));</code>	{
	<code>for (int i = 0; i < count; i++)</code>
	{
	}
	}
	}

Answer:

<code>staticDictionary<int, WeakReference> _data;</code>	<code>public class Data</code>
<code>staticDictionary<int, Int32> _data;</code>	{
<code>_data.Add(i, new WeakReference(new Class(i * 2), false));</code>	<code>staticDictionary<int, WeakReference> _data;</code>
<code>_data.Add(i, (Int32) (i * 2));</code>	<code>public Data(int count)</code>
	{
	<code>for (int i = 0; i < count; i++)</code>
	{
	<code>_data.Add(i, new WeakReference(new Class(i * 2), false));</code>
	}
	}
	}

NO.17 You are creating a method that saves information to a database.

You have a static class named LogHelper. LogHelper has a method named Log to log the exception. You need to use the LogHelper Log method to log the exception raised by the database server. The solution must ensure that the exception can be caught by the calling method, while preserving the original stack trace.

How should you write the catch block? (Develop the solution by selecting and ordering the required code snippets. You may not need all of the code snippets.)

<code>catch {</code>	
<code>catch (SqlException ex) {</code>	
<code>catch (FileNotFoundException ex) {</code>	
<code>throw;</code>	
<code>}</code>	
<code>throw new FileNotFoundException();</code>	
<code>throw ex;</code>	
<code>LogHelper.Log(ex);</code>	
<code>throw new SqlException();</code>	

Answer:

<code>catch {</code>	<code>catch (SQLException ex) {</code>
<code>catch (SQLException ex) {</code>	<code>LogHelper.Log(ex);</code>
<code>catch (FileNotFoundException ex) {</code>	<code>throw;</code>
<code>throw;</code>	<code>}</code>
<code>}</code>	
<code>throw new FileNotFoundException();</code>	
<code>throw ex;</code>	
<code>LogHelper.Log(ex);</code>	
<code>throw new SQLException();</code>	

Explanation:

Note:

Catch the database exception, log it, and then rethrow it.

* SQLException

An exception that provides information on a database access error or other errors.

Example:

```
catch (SQLException ex)
```

```
{
  LogHelper.Log(ex);
```

```
  throw;
```

```
}
```

NO.18 You have an assembly named Assenbly1 that is written in C#. Assembly1 has a method named Hethodl.

You add a new method named Method2 to Assembly1. Hethod2 is a newer version of Methodl and must be used by applications in the future.

You need to ensure that if a developer builds a project that uses Hethodl, the developer is notified that Method1 is deprecated.

What should you do?

- A. Mark Method1 with an ObsoleteAttribute attribute.
- B. Mark Method1 with a Conditional attribute that is set to WARNING.
- C. Modify Method1 to return an exception.
- D. Set a #pragma warning disable preprocessor inside of Method1.

Answer: A

NO.19 You are developing an application by using C#. The application includes the following code segment. (Line numbers are included for reference only.)

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

The DoWork() method must not throw any exceptions when converting the obj object to the IDataContainer interface or when accessing the Data property.

You need to meet the requirements. Which code segment should you insert at line 07?

- A. dynamic dataContainer = obj;
- B. var dataContainer = obj as IDataContainer;
- C. var dataContainer = (IDataContainer)obj;
- D. var dataContainer = obj is IDataContainer;

Answer: B

Explanation:

As - The as operator is like a cast operation. However, if the conversion isn't possible, as returns null instead of raising an exception.

[http://msdn.microsoft.com/en-us/library/cscsdfbt\(v=vs.110\).aspx](http://msdn.microsoft.com/en-us/library/cscsdfbt(v=vs.110).aspx)

NO.20 You are testing an application. The application includes methods named CalculateInterest and LogLine. The CalculateInterest() method calculates loan interest. The LogLine() method sends diagnostic messages to a console window.

You have the following requirements:

The CalculateInterest() method must run for all build configurations.

The LogLine() method must be called only for debug builds.

You need to ensure that the methods run correctly.

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

```

[Conditional("DEBUG")]
[Conditional("RELEASE")]
#if DEBUG
#region DEBUG
#endif
#endregion

```

```

private static decimal CalculateInterest(decimal loanAmount, int loanTerm, decimal loanRate)
{
    decimal interestAmount = loanAmount * loanRate * loanTerm;

    LogLine("Interest Amount : ", interestAmount.ToString("c"));

    return interestAmount;
}

public static void LogLine(string message, string detail)
{
    Console.WriteLine("Log: {0} = {1}", message, detail);
}

```

Answer:

```

[Conditional("DEBUG")]
[Conditional("RELEASE")]
#if DEBUG
#region DEBUG
#endif
#endregion

```

```

private static decimal CalculateInterest(decimal loanAmount, int loanTerm, decimal loanRate)
{
    decimal interestAmount = loanAmount * loanRate * loanTerm;

    #if DEBUG
    LogLine("Interest Amount : ", interestAmount.ToString("c"));
    #endif

    return interestAmount;
}

public static void LogLine(string message, string detail)
{
    Console.WriteLine("Log: {0} = {1}", message, detail);
}

```

Explanation:

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

```

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

```

NO.21 You are developing an application in C#.

The application uses exception handling on a method that is used to execute mathematical calculations by using integer numbers.

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

```

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

```

You need to add the following code to the method:

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

At which line should you insert the code?

- A. 01
- B. 03

C. 07

D. 05

Answer: A

Explanation:

Use the most specific exception first.

NO.22 You are developing a method named GenerateHash that will create the hash value for a file. The method includes the following code. (Line numbers are included for reference only.)

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

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

Which code segment should you insert at line 05?

- A.

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

```
signatureAlgo.ComputeHash(fileBuffer);
return signatureAlgo.GetHashCodes();
```
- C.

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

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

A. Option C

B. Option A

C. Option D

D. Option B

Answer: C

Explanation:

The ComputeHash(Byte[]) method computes the hash value for the specified byte array.