

# TEST KING



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Developing Windows-based Applications  
with Microsoft Visual Basic .NET

**MCSD/MCAD**

Version **3.0**

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**Please Read Carefully**

This product will provide you questions and answers along with detailed explanations carefully compiled and written by our experts. Try to understand the concepts behind the questions instead of just cramming the questions. Go through the entire document at least twice so that you make sure that you are not missing anything.

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**Note:** The book “MCAD/MCSD Self-Paced Training Kit: Developing Windows-Based Applications with Microsoft Visual Basic .NET and Microsoft Visual C# .NET” from Microsoft Press is denoted as “70-306/70-316 Training kit” in references.

Visual Studio .NET online references are also used.

**Question No: 1**

**You use Visual Studio .NET to develop an application for users the intranet of your company TestKing. All client computers use Internet Explorer as their Web browser. You plan to create a setup package to distribute your application.**

**The setup package must fulfill the following requirements:**

- **It is placed in a network folder that is accessible to users.**
- **It is accessible through a link on your company's intranet.**
- **It includes an uninstaller for the application.**

**Which type of project should you create?**

- A. CAB project.
- B. merge module project.
- C. setup project.
- D. Web setup project.

**Answer: D**

**Explanation:** To deploy a Web application to a Web server, you create a Web Setup project, build it, copy it to the Web server computer, and run the installer to install the application on the server using the settings defined in your Web Setup project.

**Reference:**

Visual Studio, Deployment of a Web Setup Project

Visual Studio, CAB File Projects

Visual Studio, Adding Merge Modules to a Deployment Project

Visual Studio, Setup Projects

**Incorrect Answers**

**A:** CAB projects allow you to create a .cab file to package ActiveX controls, not applications however, that can be downloaded from a Web server to a Web browser.

**B:** You don't install merge module projects with Internet Explorer.

**Note:** Merge modules (.msm files) allow you to share components between multiple deployment projects.

**C:** You don't install setup projects with Internet Explorer.

**Note:** Setup projects allow you to create installers in order to distribute an application. The resulting Windows Installer (.msi) file contains the application, any dependent files, information about the application such as registry entries, and instructions for installation.

**Question No: 2**

**You develop a Windows-based application by using Visual Studio .NET. The application included numerous method calls at startup. After optimizing your application code, you test the application on a variety of client computers. However, the startup time is too slow.**

**You must ensure that your application starts as quickly as possible the first time it runs.**

**What should you do?**

- A. Precompile your application by using the Native Image Generator (Ngen.exe).  
Install the precompiled application on the client computers.
- B. Install your application on the client computers.  
Precompile your application by using the Native Image Generator (Ngen.exe).
- C. Precompile your application by using the JIT compiler.  
Install the precompiled application on the client computers.
- D. Install your application on the client computers.  
Precompile your application by using the JIT compiler.

**Answer: A**

**Explanation:** Pre-compiling assemblies with Ngen.exe can improve the startup time for applications, because much of the work required to execute code has been done in advance.

We precompile the application and then install it.

**Reference:**

.NET Framework Tools, Native Image Generator (Ngen.exe)

.NET Framework Developer's Guide, Compiling MSIL to Native Code

**Incorrect Answers**

**B:** We should first precompile the application and then install it.

**C, D:** JIT (just-in-time) compilation occurs at run-time, and cannot be precompiled.

**Question No: 3**

**You use Visual Studio .NET to create an application that will be distributed to employees within your company TestKing Inc.. You create and deploy a distribution package to test a computer running Windows 2000 Professional.**

Later you discover that your name is listed as the support contact for your application by the Add/Remove Programs option of Control Panel. You need to change the support contact to the name of your Help desk administrator.

Which property of the setup project should you change?

- A. Author
- B. Comments
- C. Manufacturer
- D. SupportPhone

**Answer: A**

**Explanation:** The Author property specifies the name of the author of an application or component. Once the application is installed, the property is also displayed in the Contact field of the Support Info dialog box.

**Reference:**

Visual Studio, Deployment Properties

Visual Studio, Author Property

Visual Studio, Manufacturer Property

**Incorrect Answers**

**B:** There is no Deployment property called comments.

**C:** The Manufacturer property specifies the name of the manufacturer of an application or component, usually the name of the company that developed it. Once the application is installed, the Manufacturer property is displayed in the Publisher field of the Support Info dialog box.

**D:** We are not interested in supplying a telephone number-

**Question No: 4**

You use Visual Studio .NET to create an assembly, called TestKingAssembly, that will be used by other applications, including a standard COM client application.

You must deploy your assembly on the COM application to a client computer. You must ensure that the COM application can instantiate components within the assembly as COM components.

What should you do?

- A. Create a strong name of the assembly by using the Strong Name tool (Sn.exe).
- B. Generate a registry file for the assembly by using the Assembly Registration tool (Regasm.exe)  
Register the file on the client computer.
- C. Generate a type library for the assembly by using the Type Library Importer (Tlbimp.exe).  
Register the file on the client computer.
- D. Deploy the assembly to the global assembly cache on the client computer.  
Add a reference to the assembly in the COM client application.

**Answer: B**

**Explanation:** The Assembly Registration tool reads the metadata within an assembly and adds the necessary entries to the registry, which allows COM clients to create .NET Framework classes transparently. Once a class is registered, any COM client can use it as though the class were a COM class.

**Reference:**

- .NET Framework Tools, Assembly Registration Tool (Regasm.exe)
- .NET Framework Tools, Strong Name Tool (Sn.exe)
- .NET Framework Tools, Type Library Importer (Tlbimp.exe)

**Incorrect Answers**

- A:** The Strong Name tool helps sign assemblies with strong names.
- C:** The Type Library Importer, tlbimp.exe, converts the type definitions found within a COM type library into equivalent definitions in a common language runtime assembly. It would not be useful in this scenario however.
- D:** This would not allow the COM application to use the class.

**Question No: 5**

**You develop a Windows-based application called TestKingSecurity by using Visual Studio .NET and Microsoft SQL Server. The application will perform numerous Assert, Deny, and PermitOnly security operations while it is executing. You must ensure that the application is optimized for fast run-time execution.**

**What should you do?**

- A. Perform declarative security checks.
- B. Perform imperative security checks.
- C. Perform all security checks by using SQL Server security.
- D. Implement a custom security class that retrieves security information from the SQL Server database.

**Answer: A**

**Explanation:** Declarative security checks in the application would be the fastest solution.

**Reference:**

- .NET Framework Developer's Guide, Performing Declarative Security Checks [Visual Basic]
- .NET Framework Developer's Guide , Adding Declarative Security Support [Visual Basic]
- Visual Basic and Visual C# Concepts, Adding Imperative Security Checks to Components

**Incorrect Answers**

- A:** Imperative security checks allow you to protect specific blocks of code by requiring appropriate permissions. It cannot be used for Assert, Deny, and PermitOnly security operations.
- C, D:** SQL Server security would be more scalable, but less optimized.

**Question No: 6**

**Another developer in your company uses Visual Studio .NET to create a component named TestKiComponent. You deploy TestKiComponent to a server. When you execute TestKiComponent, you receive the following error message:**

**"System.Security.Policy.PolicyException: Failed to acquire required permissions."**

**As quickly as possible, you need to discover which permissions are required by TestKiComponent. What should you do?**

- A. Request the source code from the developer who created My Component. Examine the source code to find the required permissions.
- B. Run the Microsoft CLR Debugger (DbgCLR.exe) on the server to view the permissions requested by the application at run time.
- C. Run the Runtime Debugger (Cordbg.exe) on the server to view the permissions requested by the application at run time.
- D. Run the Permissions View tool (Permview.exe) on the server to view the permissions required by TestKiComponent.
- E. Run the MSIL Disassembler (Ildasm.exe) on the server to view permissions requested by TestKiComponent that were denied.

**Answer: D**

**Explanation:** Developers can use Permview.exe to verify that they have applied permission requests correctly to their code. Additionally, users can run Permview.exe to determine the permissions an assembly requires to execute.

**Reference:** .NET Framework Tools, Permissions View Tool (Permview.exe)

**Question No: 7**

**You use Visual .NET to develop a Windows-based application whose project name is TestKingMgmt. You create an application configuration file that will be installed on the client computer along with TestKingMgmt.**

**You must ensure that the settings in the application configuration file are applied when TestKingMgmt is executed.**

**What should you do?**

- A. Name the configuration file TestKingMgmt.exe.config and copy it to the Windows\System32 folder.
- B. Name the configuration file TestKingMgmt.config and copy it to the Windows\System32 folder.

- C. Name the configuration file TestKingMgmt.exe.config and copy it to the application folder.
- D. Name the configuration file TestKingMgmt.config and copy it to the application folder.
- E. Name the configuration file TestKingMgmt.exe.config and copy it to the global assembly cache.

**Answer: C**

**Explanation:** The configuration file for an application hosted by the executable host is in the same directory as the application. The name of the configuration file is the name of the application with a .config extension. In this scenario the configuration file should named TestKingMgmt.exe.config and be placed in the application folder.

**Reference:** .NET Framework Developer's Guide, Application Configuration Files

**Question No: 8**

**You use Visual Studio .NET to develop a Windows-based application named Advocate Resource Assistant (ARA). ARA contains a class named Client. The client class is defined by the following code segment:**

```
Namespace Fabrikam.Buslayer
    Public Class Client
        Public Function GetPhone(clientID As Integer) As String
            'More code goes here.
        End Function
        'Other functions go here.
    End Class
End NameSpace
```

The Client class is invoked from ARA by using the following code segment:

```
Public Class ClientForm
    Inherits System.Windows.Forms.Form
    Private Sub SetPhoneNumber(ByVal PostalCode As String)
        Dim client as New Client()
        TextBox1.Text = client.GetPhone(postalCode)
    End Sub
End Class
```

When you try to build your project, you receive the following error message: "Type 'Client' is not defined." What are two possible ways to correct this problem? (Each correct answer presents a complete solution. Choose two.)

- A. Fully qualify the Client class with the Fabrikam.BusLayer namespace.
- B. Fully qualify the Client class with ARA namespace.
- C. Import the Fabrikam.BusLayer namespace in the ClientForm class.



- D. Inherit the Fabrikam.BusLayer namespace in the ClientForm class.
- E. Declare the client object variable by using the WithEvents keyword.
- F. Declare the client object variable by using the Implements keyword.

**Answer: A, C**

**Explanation:**

**A:** We could use a fully qualified name; Fabrikam.Buslayer.Client

**C:** We could import the Fabrikam.BusLayer namespace by creating an alias:  
Imports client = Fabrikam.Buslayer.Client

**Reference:**

Visual Basic Language Concepts, Namespaces

**Question No: 9**

**You develop a Windows-based application. Its users will view and edit employee attendance data. The application uses a DataSet object named customDataSet to maintain the data while users are working with it.**

**After a user edits data, business rule validation must be performed by a middle-tier component named myComponent. You must ensure that your application sends only edited data rows from customDataSet to myComponent.**

**Which code segment should you use?**

- A. 

```
Dim changeDataSet As New DataSet
If customDataSet.HasChanges _
Then myComponent.Validate(changeDataSet)
```
- B. 

```
Dim changeDataSet As New DataSet
If customDataSet.HasChanges _
Then myComponent.Validate(customDataSet)
```
- C. 

```
Dim changeDataSet AS DataSet = customDataSet.GetChanges()
myComponent.Validate(changeDataSet)
```
- D. 

```
Dim changeDataSet As DataSet = customDataSet.GetChanges()
myComponent.Validate(customDataSet)
```

**Answer: C**

**Explanation:** DataSet.GetChanges method gets a copy of the DataSet containing all changes made to it since it was last loaded, or since AcceptChanges was called. It is used to create a second DataSet that features only the changes to the data.

We then validate the changes, the changedDataSet.

**Reference:**

.NET Framework Class Library, DataSet.GetChanges Method [Visual Basic]  
.NET Framework Class Library, DataSet Class [Visual Basic]

**Incorrect Answers**

**A, B:** We should create a dataset which contains only the changes.

**D:** We should validate only the changes, not the whole dataset customerDataSet.

**Question No: 10**

**As a programmer at TestKing inc, you use Visual Studio .NET to create several applications that will be deployed commercially over the Internet. You must ensure that customers can verify the authenticity of your software.**

**Which action or actions should you take? (Choose all that apply.)**

- A. Sign your portable executables by using Signcode.exe.
- B. Generate an X.509 certificate by using Makecert.exe.
- C. Purchase an X.509 certificate from a certificate authority.
- D. Purchase a Software Publisher Certificate from a certificate authority.
- E. Convert your certificate to a Software Publisher Certificate by using Cert2spc.exe.

**Answer: A, D**

**Explanation:**

**D:** We must use a Software Publisher Certificate from a certificate authority.

**A:** We then use this certificate to sign the portable executables with the Signcode.exe utility.

**Reference:**

Visual Basic and Visual C# Concepts, Code Security and Signing in Components

.NET Framework Tools, File Signing Tool (Signcode.exe)

.NET Framework Tools, Certificate Creation Tool (Makecert.exe)

Windows Storage System Technical Articles, Microsoft Windows 2000 Public Key Infrastructure

.NET Framework Tools, Software Publisher Certificate Test Tool (Cert2spc.exe)

**Incorrect Answers**

**B:** The Certificate Creation tool generates X.509 certificates for testing purposes only.

**C:** We should use a Software Publisher Certificate, not a X.509 certificate.

**E:** The Software Publisher Certificate Test tool creates a Software Publisher's Certificate (SPC) from one or more X.509 certificates. Cert2spc.exe is for test purposes only.

**Question No: 11**

You develop a Windows-based time and billing application named TestKingBilling. You create a simple user interface to capture user-entered data.

The application passes an Object array of user-entered values to a function named AddUpDataTimeEntry. This function uses the LoadDataRow method of the Data Table object either to update an existing record in the table or to add a new record.

When you test TestKingBilling, you frequently receive an exception of type InvalidCastException. What is the cause of this error?

- A. You are trying to load a duplicate value into a Data Table column that has a unique constraint.
- B. The number of items in your Object array does not match the number of columns in the Data Table object.
- C. The data that you are trying to load into a column is not the correct data type specified for that column.
- D. The columns in your Data Table object do not have the AllowDBNull property set to **True**.

**Answer: C**

**Explanation:** InvalidCastException Class implements the exception that is thrown for invalid casting or explicit conversion. An InvalidCastException could be caused by an incorrect data type.

**Question No: 12**

You use Visual Studio .NET to create an assembly that will be consumed by other Visual Studio .NET applications. No Permissions should be granted to this assembly unless the assembly makes a minimum permission request for them.

Which code segment should you use?

- A. `<Assembly: _  
    PermissionSet(SecurityAction.PermiOnly, _  
    Unrestricted := True)>`
- B. `<Assembly: _  
    PermissionSet(SecurityAction.PermiOnly, _  
    Unrestricted := False)>`
- C. `<Assembly: _  
    PermissionSet(SecurityAction.RequestOptional, _  
    Unrestricted := True)>`
- D. `<Assembly: _  
    PermissionSet(SecurityAction.RequestOptional, _  
    Unrestricted := False)>`

**Answer: C**

**Explanation:** The **RequestOptional** SecurityAction requests for additional permissions that are optional (not required to run). This action can only be used within the scope of the assembly. The assembly must have permission to request additional permission.

**Reference:**

.NET Framework Developer's Guide Requesting Optional Permissions [Visual Basic]  
.NET Framework Class Library, SecurityAction Enumeration [Visual Basic]

**Incorrect Answers:**

**A, B:** The **PermitOnly** SecurityAction does not support Assembly as a target, it only supports Class or Method as targets.

**D:** The assembly must be able to request additional permissions.

**Question No: 13**

**Your company TestKing Inc. standardizes on the .NET Framework as its software development platform. Subsequently, virus attacks cause your company to prohibit the execution of any applications downloaded from the Internet.**

**You must ensure that all client computers on your intranet can execute all .NET applications originating from your company. You must also ensure that the execution of .NET applications downloaded from the Internet is prohibited. You must expend the minimum amount of administrative effort to achieve your goal.**

**Which policy should you modify?**

- A. Application Domain.
- B. Enterprise
- C. Machine
- D. User

**Answer: B**

**Explanation:** An Enterprise policy applies to the whole domain of the company. It would require minimal administrative effort to set up.

**Reference:** .NET Framework Developer's Guide Security Policy Administration Overview

**Incorrect Answers:**

**A:** An **Application Domain** policy is defined by the runtime host (any application that hosts the common language runtime) for setting load-time policy. This level cannot be administered.

**C:** A machine policy only applies to a single machine.

**D:** A user policy only applies to a single user.

**Question No: 14**

You create a user control named **ScrollControl**, which you plan to sell to developers. You want to ensure that **ScrollControl** can be used only by developers who purchase a license to use it.

You decide to use a license provider implemented by the **LicFileLicenseProvider** class. Now you need to add code to **ScrollControl** to test for a valid control license.

Which two code segments should you add? (Each correct answer presents part of the solution. Choose two)

- A. <LicenseProvider(GetType(LicFileLicenseProvider))>
- B. <LicenseProvider(GetType(ScrollControl))>
- C. In the Load event handler for **ScrollControl**, place the following code segment:

```
Try
    LicenseManager.Validate(GetType(ScrollControl))
Catch ex As Exception
    'Insert code to disallow use.
End Try
```

- D. In the Load event handler for **ScrollControl**, place the following code segment:

```
Try
Dim ControlLicense As License
    ControlLicense = _
        LicenseManager.Validate(GetType(ScrollControl), Me)
Catch ex As Exception
    'Insert code to disallow use.
End Try
```

- E. In the Load event handler for **ScrollControl**, place the following code segment:

```
Try
Dim bLicensed As Boolean
    bLicensed = _
        LicenseManager.IsValid(GetType(ScrollControl))
Catch ex As Exception
    'Insert code to disallow use.
End Try
```

- F. In the Load event handler for **ScrollControl**, place the following code segment:

```
Try
Dim bLicensed As Boolean
Dim ControlLicense As License
    bLicensed = _
        LicenseManager.IsValid(GetType(ScrollControl), Me, _
            ControlLicense)
```

```
Catch ex As Exception
    'Insert code to disallow use.
End Try
```

**Answer: A, D**

**Explanation:** To enable licensing for your component

1. Apply a LicenseProviderAttribute to the **LicFileLicenseProvider** class. This is A).
2. Call **LicenseManager.Validate** or **LicenseManager.IsValid** in the constructor. This is D).

**A:** When you create a component that you want to license, you must specify the LicenseProvider by marking the component with a LicenseProviderAttribute. This is accomplished by:

```
<LicenseProvider(GetType(LicFileLicenseProvider))>
```

**D:** LicenseManager.Validate produces a license. The correct code to handle this is:

```
Dim ControlLicense As License
```

```
ControlLicense = LicenseManager.Validate(GetType(ScrollControl), Me)
```

**Reference:**

.NET Framework Developer's Guide, Licensing Components and Controls [Visual Basic]

.NET Framework Class Library, LicenseProviderAttribute Class [Visual Basic]

**Incorrect Answers**

**B:** The **LicFileLicenseProvider** class, not ScrollControl class must be used.

**C:** The result of **LicenseManager.Validate** must be caught in a license variable.

**E, F:** The result of **LicenseManager.Validate** must be caught in a license variable, not a Boolean variable

**Question No: 15**

As a software developer at TestKing inc. you use Visual Studio .NET to create a Windows-based application. You need to make the application accessible to users who have low vision. These users navigate the interface by using a screen reader, which translates information about the controls on the screen into spoken words. The screen reader must be able to identify which control currently has focus. One of the TextBox controls in your application enables users to enter their names. You must ensure that the screen reader identifies this TextBox control by speaking the word "name" when a user changes focus to this control.

Which property of this control should you configure?

- A. Tag
- B. Next
- C. Name
- D. AccessibleName
- E. AccessibleRole

**Answer: D**

**Explanation:** The AccessibleName property is the name that will be reported to the accessibility aids.

**Reference:**

Visual Basic and Visual C# Concepts, Providing Accessibility Information for Controls on a Windows Form  
 Visual Basic and Visual C# Concepts, Walkthrough: Creating an Accessible Windows Application

**Incorrect Answers**

**A, B, C:** The Tag, Next and Name properties of a control is not used directly by accessibility aids.

**E:** The AccessibleRole property describes the use of the element in the user interface.

**Question No: 16**

**You develop a Windows-based application that creates XML output from a DataSet object. The XML output is created by using the DataSet.WriteXml method and then is sent to another application. The second application requires the output to appear in the following format:**

```
<employee id="3" name="TestKingSr" age="29" />
```

**You need to write code to specify the format for the XML output. Which code segment should you use?**

- A. `ds.WriteXml(dataFile, _  
    XmlWriteMode.WriteSchema)`
- B. `ds.WriteXml(dataFile, _  
    XmlWriteMode.IgnoreSchema)`
- C. `Dim c As DataColumn  
    For Each C in ds.Tables("employee").Columns  
        c.ColumnMapping = MappingType.Attribute  
    Next`
- D. `Dim c As DataColumn  
    For Each c In ds.Tables("employee").Columns  
        c.ColumnMapping = MappingType.Element  
    Next`

**Answer: C**

**Explanation:** We want to produce an attribute list with no tags.

The WriteSchema XmlWriteMode writes the current contents of the DataSet as XML data with the relational structure as inline XML Schema as is required in this scenario.

**Reference:**

.NET Framework Class Library, MappingType Enumeration  
 .NET Framework Developer's Guide, Writing a DataSet as XML Data [Visual Basic]  
 .NET Framework Class Library. DataSet.WriteXml Method [Visual Basic]

**Incorrect Answers**

All the other proposed solutions are inadequate since they would produce a tagged output:

```
<employee>
  <id>3</id>
  <name>Paul</name>
  <age>29</age>
</employee>
```

**Question No: 17**

You are developing a Windows-based application that logs hours worked by your employees. Your design goals require you to maximize application performance and minimize impact on server resources. You need to implement a SqlCommand object that will send a SQL INSERT action query to a database each time a user makes a new entry.

To create a function named LineItemInser, you write the following code: (Line numbers are included for reference only.)

```
01 Function LineItemInsert(ByVal empid As Integer, _
02     ByVal projectID As Integer, ByVal hrs As Decimal, _
03     ByVal cnn As SqlConnection) As Integer
04     Dim SQL As String
05     Dim Ret As Integer
06     SQL = "INSERT INTO TimeEntries " & _
07         "(EmpID, ProjectID, Hours) VALUES " & _
08         "(" & empID & projectID & ", " & hrs & ") "
09     Dim cmd As New SqlCommand(SQL, cnn)
10
11         'Insert new code.
12
13 End Function
```

Your code must execute the SQL INSERT action query and verify the number of database records that are affected by the query.

Which code segment should you add on line 11?

A. cnn.Open()



```

Ret = Cmd.ExecuteNonQuery()
cnn.Close()
Return Ret
B. cnn.Open()
Ret = cmd.ExecuteNonQuery()
cnn.Close()
Return Ret
C. Dim reader as SqlDataReader
cnn.Open()
reader = cmd.ExecuteReader()
cnn.Close()
Return reader.RecordsAffected
D. Dim reader As SqlDataReader
cnn.Open()
reader = cmd.ExecuteReader()
cnn.Close()
Return reader.GetValue()

```

**Answer: A**

**Explanation:** The SqlCommand.ExecuteNonQuery Method Executes a Transact-SQL statement against the Connection and returns the number of rows affected. This is the most effective solution.

**Reference:**

.NET Framework Class Library, SqlCommand.ExecuteNonQuery Method [Visual Basic]  
.NET Framework Class Library, SqlCommand.ExecuteScalar Method [Visual Basic]  
.NET Framework Class Library, SqlDataReader Class [Visual Basic]  
.NET Framework Class Library, SqlDataReader.RecordsAffected Property [Visual Basic]

**Incorrect Answers**

**B:** The SqlCommand.ExecuteScalar method executes the query, and returns the first column of the first row in the resultset returned by the query. Extra columns or rows are ignored.

**C:** There is no need use the ExecuteReader() method.

**Note:** The SqlDataReader.RecordsAffected property gets the number of rows changed, inserted, or deleted by execution of the Transact-SQL statement.

**D:** There is no need use the ExecuteReader() method.

**Question No: 18**

**You use Visual Studio .NET to develop a Windows-based application. You implement security by using the security classes of the .NET Framework.**

**Your application includes the following procedure. (Line numbers are included for reference only)**

```

01 Public Sub ApproveVacation(ByVal user 1 As String, -
02     ByVal role1 As string, ByVal, user 2 As String, _
03     ByVal role2 As String)
04     Dim PrincipalPerm1 As _
05         New PrincipalPermission(user1, role1)
06     Dim principalPerm2 As _
07         New PrincipalPermission(user2, role2)
08         'Insert new code.
09         'Additional procedure code goes here
10 End Sub

```

**You must ensure that both User1 and User2 are members of the same security roles. Which code segment should you insert on line 8?**

- A. `principalPerm1.IsUnrestricted`  
`principalPerm2.IsUnrestricted`
- B. `principalPerm1.IsSubsetOf(principalPerm2)`
- C. `principalPerm1.Intersect(principalPerm2).Demand()`
- D. `principalPerm1.Union(principalPerm2).Demand()`

**Answer: B**

**Explanation:** The **IsSubsetOf** method returns true only if the identities and roles match exactly (or one of them are NULL).

**Reference:** .NET Framework Developer's Guide, Combining PrincipalPermission Objects [Visual Basic]

#### **Incorrect Answers**

- A:** We must compare the PrincipalPermission objects with each other.
- C:** The **Intersect** method, used to intersect two **PrincipalPermission** objects, return a PrincipalPermission object that represents the identity and role common to the intersected objects.
- D:** Performing a union operation on two PrincipalPermission objects can be useful when you want to compactly represent a set of conditions that you want to test. This is not the case here however.

#### **Question No: 19**

**You use Visual Studio .NET to create an application that uses an assembly. The assembly will reside on the client computer when the application is installed. You must ensure that any future applications installed on the same computer can access the assembly.**

**Which two actions should you take? (Each correct answer presents part of the solution. Choose two)**

- A. Use XCOPY to install the assembly in the global assembly cache.
- B. Use XCOPY to install the assembly in the Windows\Assembly folder.

- C. Create a strong name for the assembly.
- D. Recompile the assembly by using the Native Image Generator (Ngen.exe).
- E. Modify the application configuration file to include the assembly.
- F. Use a deployment project to install the assembly in the global assembly cache.
- G. Use a deployment project to install the assembly in the Windows\System32 folder.

**Answer: C, F**

**Explanation:**

The global assembly cache stores assemblies specifically designated to be shared by several applications on the computer.

**C:** An assembly must have a strong name to be installed in the global assembly cache.

**F:** There are two ways to install an assembly into the global assembly cache:

- Using Microsoft Windows Installer 2.0. This could be achieved by a deployment project.
- Using the Global Assembly Cache tool (Gacutil.exe). This is not an option here.

**Reference:**

.NET Framework Developer's Guide, Working with Assemblies and the Global Assembly Cache

.NET Framework Developer's Guide, Installing an Assembly into the Global Assembly Cache

**Question No: 20**

**You use Visual Studio .NET to develop a Windows-Bases application named PatTrac. It uses the security class libraries of the .NET Framework to implement security. PatTrac will run within the context of a Windows 2000 domain named MedicalOffice. Calls to a remote Windows 2000 domain named TestKing will occur during the execution of PatTrac.**

**You want PatTrac to log on to the TestKing domain by using a generic user account.**

**What should you do?**

- A. Create a new instance of the WindowsImpersonationContext class by calling the Impersonate method of the Genericidentity object and passing the token of the user whom you want to impersonate.
- B. Create a new instance of the WindowsImpersonationContext class by calling the Impersonate method of the WindowsIdentify object and passing the token of the user whom you want to impersonate.
- C. Create a new instance of the ZoneIdentifyPermission class by calling the Impersonate method of the GenericPrincipal object and passing the token of the user whom you want to impersonate.
- D. Create a new instance of the ZoneIdentifyPermission class by calling the Impersonate method of the WindowsPrincipal object and passing the token of the user whom you want to impersonate.

**Answer: B**

**Explanation:** We must impersonate another user. The WindowsImpersonationContext Class, not ZoneIdentifyPermission class, should be used. Furthermore the Impersonate method must be used on a Windowsidentity object, not on a Genericidentity object.

**Reference:** .NET Framework Class Library, WindowsImpersonationContext Class [Visual Basic]

**Question No: 21**

**You use Visual Basic .NET to develop a Windows-based application. You plan to reuse a procedure written in Visual Basic 6.0. The procedure includes the following array declaration:**

```
Dim Employees(1 to 10) As String
```

**You copy and paste the array declaration from the Visual Basic 6.0 project into the new Visual Basic .NET project. Now you must ensure that the Employees array will compile in the Visual Basic .NET application.**

**What should you do?**

- A. Include the Option Base 1 statement in the Declaration section of the module.
- B. Include the Option Base 0 statement in the Declaration section of the module.
- C. Replace the Dim statement with the following code segment:  
`Dim Employees(0 to 9) As String`
- D. Replace the Dim statement with the following code segment:  
`Dim Employees(9) As String`
- E. After the Dim statement, add the following code segment:  
`ReDim Employees(0 to 9) As String`
- F. After the Dim statement, add the following code segment:  
`ReDim Employees(9) As String`

**Answer: D**

**Explanation:** Array lower bounds is supported in Visual Basic 6.0, but not in Visual Basic .Net.

**Reference:** Visual Basic Language Reference, Dim Statement

**Question No: 22**

**You develop a Windows Form that provides online help for users. You want the help functionality to be available when users press the F1 key. Help text will be displayed in a pop-up window for the text box that has focus.**

**To implement this functionality, you need to call a method of the HelpProvider control and pass the text box and the help text.**

**Which method should you call?**

- A. SetShowHelp

- B. SetHelpString
- C. SetHelpKeyword
- D. ToString

**Answer: B**

**Explanation:**

To associate a specific Help string with another control, use the SetHelpString method. The string that you associate with a control using this method is displayed in a pop-up window when the user presses the F1 key while the control has focus.

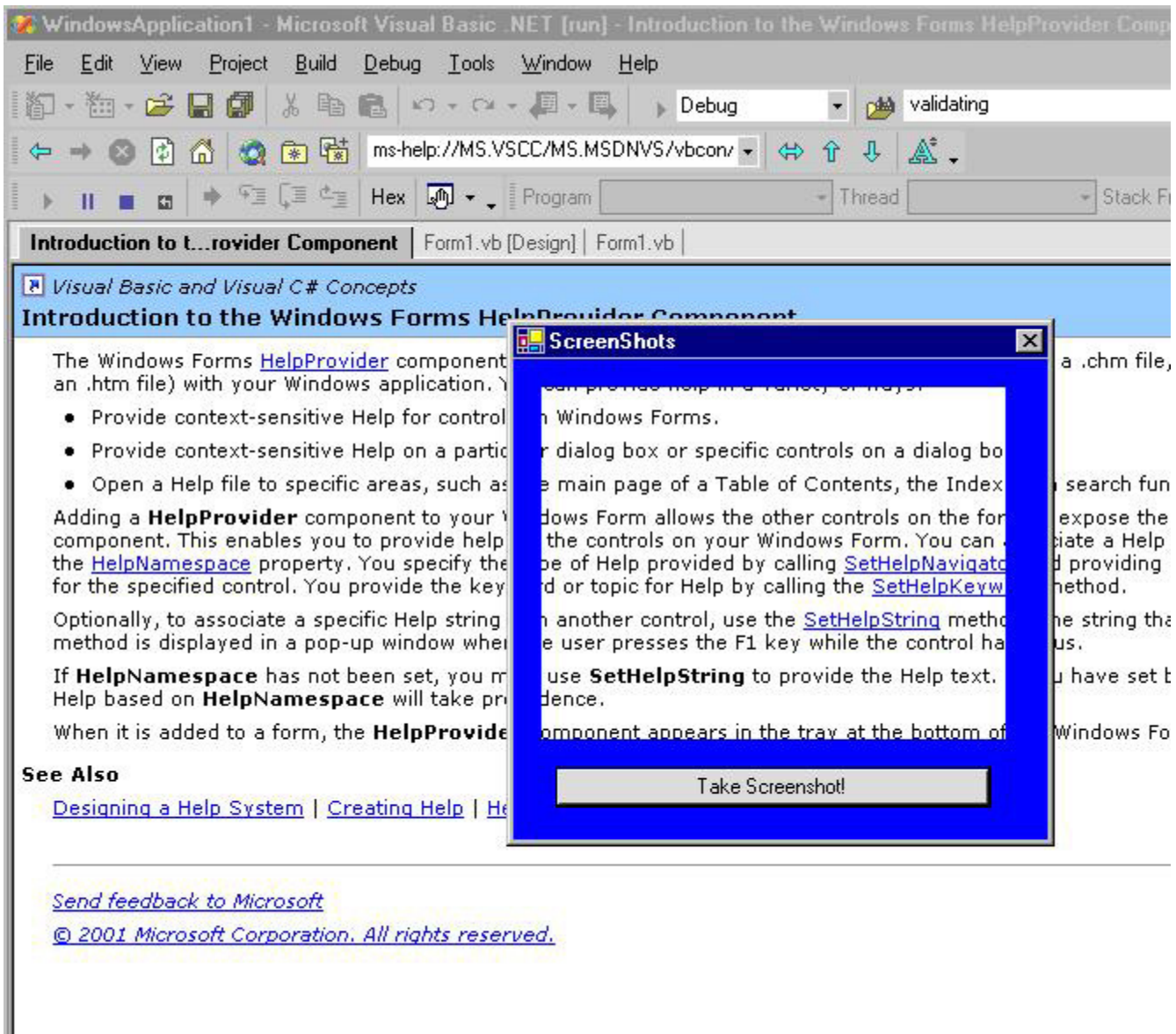
**Reference:** Visual Basic and Visual C# Concepts, Introduction to the Windows Forms HelpProvider Component

**Question No: 23**

**You use Visual Studio .NET to create a Windows-based application. The application captures screen shots of a small portion of the visible screen.**

**You create a form named TestKingCameraForm. You set the TestKingCameraForm.BackColor property to Blue. You create a button on the form to enable users to take a screen shot.**

**Now, you need to create a transparent portion of TestKingCameraForm to frame a small portion of the screen. Your application will capture an image of the screen inside the transparent area. The resulting appearance of TestKingCameraForm is shown in the exhibit:**



You add a Panel control to TestKingCameraForm and name it transparentPanel. You must ensure that any underlying applications will be visible within the panel.

Which two actions should you take? (Each correct answer presents part of the solution. Choose two.)

- A. Set transparentPanel.BackColor to **Red**.
- B. Set transparentPanel.BackColor to **Blue**.
- C. Set transparentPanel.BackgroundImage to **None**.
- D. Set transparentPanel.Visible to **False**.
- E. Set CameraForm.Opacity to **0%**.
- F. Set CameraForm.TransparencyKey to **Red**.
- G. Set CameraForm.TransparencyKey to **Blue**.

**Answer: A, F**

**Explanation:**

**A:** We set the Background color of the Panel to Red.

**F:** We then the transparency color of the Form to Red as well.

This will make only the Panel transparent, since the background color of the form is Blue.

**Question No: 24**

**You develop an inventory management application called TestKingManagement that will call a Microsoft SQL Server stored procedure named sp\_GetDailyTestKingSales. The stored procedure will run a query that returns your daily sales total as an output parameter.**

**This total will be displayed to users in a message box.**

**Your application uses a SqlCommand object to run sp\_GetDailyTestKingSales. You write the following code to call sp\_GetDailyTestKingSales:**

```
Dim cnn As SqlConnection = New SqlConnection(myConnString)
Dim cmd As SqlCommand = New _
    SqlCommand("sp_GetInventoryLevel", cnn)
cmd.CommandType = CommandType.StoredProcedure
Dim parm As SqlParameter = cmd.Parameters.Add( ___
    "@ItemTotal", SqlDbType.Int)
parm.Direction = ParameterDirection.Output
cnn.Open()
cmd.ExecuteNonQuery()
```

**Now you must write additional code to access the output parameter.**

**Which code segment should you use?**

- A. `MessageBox.Show("Total is: " & _  
cmd.Parameters("@Output").Value.ToString())`
- B. `MessageBox.Show("Total is: " & _  
cmd.Parameters("@Output").ToString())`
- C. `MessageBox.Show("Total is: " & _  
cmd.Parameters("@ItemTotal").Value.ToString())`
- D. `MessageBox.Show("Total is: " & _  
cmd.Parameters("@ItemTotal").ToString())`

**Answer: C**

**Explanation:** The @ItemTotal parameter is declared as an output parameter with SQL Server data type INT. We use the Value property of the SqlParameter class to retrieve the value of this parameter. We must also

convert the INT value to a string value with the ToString method. We then supply this string to the MessageBox.Show method.

**Reference:**

- .NET Framework Class Library, SqlParameter Class [Visual Basic]
- .NET Framework Class Library, SqlParameter.Direction Property [Visual Basic]
- .NET Framework Class Library, SqlParameter.SqlDbType Property [Visual Basic]
- .NET Framework Class Library, SqlParameter.Value Property [Visual Basic]

**Incorrect Answers**

- A, B:** The @ItemTotal parameter is the output parameter. Using @Output this way is incorrect. Output is a keyword and no variable named @Output has been declared.
- D:** We must use the Value method to retrieve the value of the parameter.

**Question No: 25**

**You develop a Windows-based application to manage business contacts. The application retrieves a list of contacts from a central database called TestKingDB. The list of contacts is managed locally in a DataSet object named contactDataSet.**

**To set the criteria for retrieval, your user interface must enable users to type a city name into a TextBox control.**

**The list of contacts that match this name must be displayed in a DataGrid control.**

**Which code segment should you use?**

- A. `Dim dv As New DataView()  
With dv  
.Table = contactDataSet.Tables(0)  
.RowFilter = TextBox1.Text  
End With  
DataGrid1.DataSource = dv`
- B. `Dim dv As New DataView()  
With dv  
.Table = contactDataSet.Tables(0)  
.RowFilter = "City = '" & TextBox1.Text & "'"`  
End With  
DataGrid1.DataSource = dv
- C. `Dim dv As New DataView()  
With dv  
.Table = contactDataSet.Tables(0)  
.Sort = TextBox1.Text  
End With  
DataGrid1.DataSource = dv`
- D. `Dim dv As New DataView()`



```

With dv
    .Table = contactDataSet.Tables(0)
    .Sort = "city = '" & TextBox1.Text & "'"
End With
DataGridView1.DataSource = dv

```

**Answer: B**

**Explanation:** To form a RowFilter value, specify the name of a column followed by an operator and a value to filter on. The value must be in quotes. Here we use construct the rowfilter with the = operator, string concatenation (&) and the TextBox1.Text property.

**Reference:** .NET Framework Class Library, DataView.RowFilter Property [Visual Basic]

**Incorrect Answers**

**A:** We must use the = operator and construct an expression. We cannot just use a value.

**C, D:** We want to filter the Dataset, not to sort it.

**Question No: 26**

**You develop a Windows-based application named TestKingPurchase that exchanges data with an accounting application. Purchase receives purchase order data from the accounting application in XML format. Users of TestKingPurchase review and edit the data.**

**TestKingPurchase maintains the data in a DataSet object while users are working. When they are finished making changes, TestKingPurchase must create an output file that will be returned to the accounting application. For verification and auditing purposes, the accounting application must receive both the user changes and the original values.**

**Now you need to write code that will create the output file.**

**What should you do?**

- A. Call the DataSet.WriteXmlSchema method and specify a TextWriter object as the argument.
- B. Call the DataSet.WriteXmlSchema method and specify an XmlWriter object as the argument.
- C. Call the DataSet.WriteXml method and specify WriteSchema as the XmlWriteMode parameter.
- D. Call the DataSet.WriteXml method and specify DiffGram as the XmlWriteMode parameter.

**Answer: D**

**Explanation:** A DiffGram is an XML format that is used to identify current and original versions of data elements. Here we use the DataSet.WriteXml method with the Diffgram XmlWriteMode to write the entire DataSet as a DiffGram, including original and current values.

**Reference:**

.NET Framework Developer's Guide, DiffGrams

.NET Framework Developer's Guide, Writing a DataSet as XML Data [Visual Basic]

### Incorrect Answers

**A, B:** We want to write the Dataset in XML format, not as an XML schema.

**C:** The WriteSchema XmlWriteMode writes only the current contents of the DataSet as XML data (with the relational structure as inline XML Schema).

### Question No: 27

You develop an application that enables users to enter and edit purchase order details. The application includes a Windows Form named DisplayTestKingForm. The application uses a client-side DataSet object to manage data.

The DataSet object contains a Data Table object named TestKingDetails. This object includes one column named Quantity and another named UnitPrice. For each item on a purchase order, your application must display a line item total in a DataGrid control on DisplayTestKingForm. The line item is the product of Quantity times UnitPrice. Your database design does not allow you to store calculated values in the database.

You need to add code to your Form\_Load procedure to calculate and display the line item total. Which code segment should you use?

- A. `Dim totalColumn As New DataColumn("Total", _  
Type.GetType("System.Decimal"))  
TestKingDetails.Columns.Add(totalColumn)  
totalColumn.Expression = "Quantity * UnitPrice"`
- B. `Dim totalColumn As New DataColumn("Total", _  
Type.GetType("System.Decimal"))  
TestKingDetails.Columns.Add(totalColumn)  
totalColumn.Equals("Quantity * UnitPrice")`
- C. `TestKingDetails.DisplayExpression("Quantity * UnitPrice")`
- D. `TestKingDetails.DisplayExpression("quantityColumn + _  
unitPriceColumn")`

**Answer: A**

**Explanation:** We use the Expression property of the DataColumn object calculate the values in the column.

### Reference:

.NET Framework Developer's Guide, Creating Expression Columns [Visual Basic]

.NET Framework Class Library, DataColumn Class [Visual Basic]

.NET Framework Class Library, Object.Equals Method (Object) [Visual Basic]

.NET Framework Class Library, DataTable.DisplayExpression Property [Visual Basic]

**Incorrect Answers**

- B:** The Equals method cannot be used in this way. The equals method is used to test if different objects are equal.
- C, D:** The DisplayedExpression would be set to a string value, not a calculated value.

**Question No: 28**

**Your company TestKing, uses Visual Studio .NET to develop internal applications. You create a Windows control that will display custom status bar information.**

**Many different developers at TestKing will use the control to display the same information in many different applications. The control must always be displayed at the bottom of the parent form in every application. It must always be as wide as the form. When the form is resized, the control should be resized and repositioned accordingly.**

**What should you do?**

- A. Create a property to allow the developers to set the Dock property of the control. Set the default value of the property to AnchorStyle.Bottom.
- B. Create a property to allow the developer to set the Anchor property of the control. Set the default value of the property to AnchorStyle.Bottom.
- C. Place the following code segment in the UserControl\_Load event:  
`Me.Dock = DockStyle.Bottom`
- D. Place the following code segment in the UserControl\_Load event:  
`Me.Anchor = AnchorStyle.Bottom`

**Answer: C**

**Explanation:**

DockStyle.Bottom docks the control to the bottom of the form. This will force the control to be as wide as to form. Furthermore the control will be resized automatically.

**Reference:**

Visual Basic and Visual C# Concepts, Aligning Your Control to the Edges of Forms  
NET Framework Class Library, AnchorStyles Enumeration [Visual Basic]

**Incorrect Answers**

- A:** There is no need to the other developers to set the Dock property.
- B:** The Dock property should be used.
- D:** The Anchorstyle class specifies how a control anchors to the edges of its container. Not how a control is docked.

**Question No: 29**

You use Visual Studio .NET to develop applications for your human resources department. You create the following interfaces:

```
Public Interface IEmployee
    Property Salary() As Double
End Interface
Public Interface IExecutive
    Inherits IEmployee
    Property AnnualBonus() As Double
End Interface
```

The IEmployee interface represents a generic Employee concept. All actual employees in your company should be represented by interfaces that are derived from IEmployee.

Now you need to create a class named Manager to represent executives in your company. You want to create this class by using the minimum amount of code. You write the following code:

```
Public Class Manager
End class
```

Which additional code segment or segments should you include in Manager? (Choose all that apply)

- A. Implements IExecutive
- B. Implements IEmployee, IExecutive
- C. Inherits IExecutive
- D. Inherits IEmployee, IExecutive
- E. Property Salary() As Double Implements IExecutive.Salary
- F. Property AnnualBonus() As Double Implements \_  
IExecutive.AnnualBonus

**Answer: C**

**Explanation:** The Manager Class only needs to inherit from the IExecutive class. The Manager class inherits the AnnualBonus property from the IExecutive class and the Salary property from the IEmployee class (since IExecutive inherits from IEmployee).

There is no need to define any properties for the new class.

**Reference:** Visual Basic Language Concepts, Inheritance Basics

**Question No: 30**

Your development team is creating a new Windows-based application for the TestKing company. The application consists of a user interface and several XML Web services. You develop all XML Web services and perform unit testing. Now you are ready to write the user interface code. Because some of your servers are being upgraded, the XML Web service that provides mortgage rates is currently offline. However, you have access to its description file. You must begin writing code against this XML Web service immediately. What should you do?

- A. Generate the proxy class for the XML Web service by using Disco.exe.
- B. Generate the proxy class for XML Web service by using Wsdl.exe.
- C. Obtain a copy of the XML Web service assembly and register it on your local development computer.
- D. Add the description file for the XML Web service to your Visual Studio .NET project.

**Answer: B**

**Explanation:**

Ordinarily to access an XML Web service from a client application, you first add a Web reference, which is a reference to an XML Web service. When you create a Web reference, Visual Studio creates an XML Web service proxy class automatically and adds it to your project.

However, you can manually generate a proxy class using the XML Web services Description Language Tool, Wsdl.exe, used by Visual Studio to create a proxy class when adding a Web reference. This is necessary when you are unable to access the XML Web service from the machine on which Visual Studio is installed, such as when the XML Web service is located on a network that will not be accessible to the client until run time. You then manually add the file that the tool generated to your application project.

**Reference:**

Visual Basic and Visual C# Concepts, Locating XML Web Services

Visual Basic and Visual C# Concepts, Generating an XML Web Service Proxy

**Question No: 31**

**You develop a Windows-based application that includes the following code segment. (Line numbers are included for reference only.)**

```
01 Public Sub password_Validating (ByVal sender As _
02     Object, ByVal e As _
03     System.ComponentModel.CancelEventArgs)
04     Handles password.Validating
05     If ValidPassword() = False Then
06         'Insert new code.
07     End If
08 End Sub
```

**You must ensure that users cannot move control focus away from textPassword if ValidPassword returns a value of False. You will add the required code on line 6. Which code segment should you use?**

- A. `e.Cancel = True`
- B. `sender = textName`
- C. `password.AcceptsTab = False`
- D. `password.CausesValidation =False`

**Answer: A**

**Explanation:** We cancel the validation of the control.

**Reference:**

Visual Basic Reference, CausesValidation Property (ActiveX Controls)

Visual Basic Reference, Validate Event (ActiveX Controls)

**Incorrect Answers**

**B:** This assignment does not make much sense.

**C:** Does not apply.

**D:** Setting Causevalidation to False would disable the Validate event. This will not prevent the focus to moved away from the control.

**Question No: 32**

**You develop a Windows-based application that contains a class named Contact. Contact contains an event named ContactSaved. Many Contact objects will be created from the Contact class and inserted into an array named Contacts.**

**You create a custom method named HandleContactSaved in your application. You must ensure that your application calls HandleContactSaved whenever the ContactSaved event is fired for any of the Contact objects.**

**What should you do?**

- A. Use the WithEvents keyword to declare each Contact object.  
Add each Contact object to the Contacts array as it is created.
- B. Add each Contact object to the Contacts array as it is created.  
Add the Handles keyword to HandleContactSaved.
- C. Add each Contact object to the Contacts array as it is created.  
Assign HandleContactSaved to the Handle property of the HandleRef structure.
- D. Add each Contact Object to the Contacts array as it is created.  
Call the AddHandler statement and pass the new Contact object and the address of HandleContactSaved.

**Answer: D**

**Explanation:** The standard way to create an event handler is to use the Handles keyword with the WithEvents keyword. You can use the AddHandler statement to dynamically connect events with event handler procedures.

### To handle events using AddHandler

1. Declare an object variable of the class that is the source of the events you want to handle.
2. Use the **AddHandler** statement to specify the name of the event sender, and the **AddressOf** statement to provide the name of your event handler.

**Reference:** Visual Basic Language Concepts, Writing Event Handlers

### Incorrect Answers

- A:** We would have to use a Handles clause for the HandleContactSaved method as well. Only declaring WithEvents is not sufficient.
- B:** The Handles keyword is used to declare that a procedure handles a specified event. We must however specify the event.
- C:** This proposed solution does not work.

### Question No: 33

You develop an enterprise application, called TestKingApplication that includes a Windows Forms presentation layer, middle-tier components for business logic and data access, and a Microsoft SQL Server database.

You are in the process of creating a middle-tier component that will execute the data access routines in your application. When data is passed to this component, the component will call several SQL Server stored procedures to perform database updates. All of these procedure calls run under the control of a single transaction.

The code for the middle-tier will implement the following objects:

```
Dim cn As New SqlConnection()
Dim tr As SqlTransaction
```

If two users try to update the same data concurrently, errors will occur. You must add code to your component to specify the highest possible level of protection against such errors.

Which code should you use?

- A. `tr = cn.BeginTransaction("ReadCommitted")`
- B. `tr = cn.BeginTransaction(IsolationLevel.ReadCommitted)`
- C. `tr = cn.BeginTransaction(IsolationLevel.Serializable)`
- D. `tr = cn.BeginTransaction("Serializable")`

**Answer: C**

**Explanation:** Serializable is the highest isolation transaction level. It provide the highest possible level of protection against concurrent data errors. The correct syntax to begin a transaction with this transaction isolation level is: `cn.BeginTransaction(IsolationLevel.Serializable)`

**Reference:**

.NET Framework Class Library, SqlConnection.BeginTransaction Method (IsolationLevel) [Visual Basic]

.NET Framework Class Library, IsolationLevel Enumeration [Visual Basic]

**Incorrect Answers**

**A:** Incorrect syntax.

**B:** The ReadCommitted transaction isolation level can result in in non-repeatable reads or phantom data. It does not give the highest possible protection from parallel updates.

**D:** Incorrect syntax.

**Question No: 34**

**You develop a Windows-based application TestK. TestK uses a DataSet object that contains two DataTable objects. TestK will display data from two data tables. One table contains customer information, which must be displayed in a data-bound ListBox control. The other table contains order information, which must be displayed in a DataGrid control.**

**You need to modify TestK to enable the list box functionality.**

**What should you do?**

- A. Use the DataSet.Merge method.
- B. Define primary keys for the Data Table objects.
- C. Create a foreign key constraint on the DataSet object.
- D. Add a DataRelation object to the Relations collection of the DataSet object.

**Answer: D**

**Explanation:** We want to use data from both DataTable object. We must relate the DataTable objects.

A DataRelation is used to relate two DataTable objects to each other through DataColumn objects. DataRelation objects are contained in a DataRelationCollection, which you can access through the Relations property of the DataSet.

**Reference:**

.NET Framework Class Library, DataRelation Class [Visual Basic]

.NET Framework Class Library, DataSet.Merge Method (DataSet) [Visual Basic]

.NET Framework Class Library, ForeignKeyConstraint Class [Visual Basic]



**Incorrect Answers**

- A:** The Merge method is used to merge two DataSet objects that have largely similar schemas. In this scenario we want combine the information from the DataTable objects, not merge them
- B:** Creating a primary key for each Data Table object would not relate the DataTable objects.
- C:** We should use a Datarelation, not a foreign key constraint, to relate the DataTable objects.  
**Note:** A foreign key constraint represents an action restriction enforced on a set of columns in a primary key/foreign key relationship when a value or row is either deleted or updated.

**Question No: 35**

**You develop a Windows-based application called TestKingApplication by using Visual Studio .NET. TestKingApplication receives XML data files from various external suppliers. An XML Schema file defines the format and the data types for the XML data files.**

**TestKingApplication must parse the incoming XML data files to ensure that they conform to the schema. What should you do?**

- A. Implement a DataSet object and code an event handler to process its events.
- B. Implement a DataSet object and set its Enforce Constraints property to **True**.
- C. Implement an XmlValidatingReader object and code an event handler to process its events.
- D. Implement an XmlValidatingReader object and examine its ReadState property after reading the XML data file.

**Answer: C**

**Explanation:** The XmlValidatingReader class, an implementation of the XmlReader class, provides support for XML validation. The ValidationEventHandler event is used to set an event handler for receiving information about schema validation errors.

**Reference:**

.NET Framework Developer's Guide, Validation of XML with XmlValidatingReader

.NET Framework Developer's Guide, XmlValidatingReader Validation Event Handler Callback [Visual Basic]

**Question No: 36**

**You use Visual Studio .NET to create an application. Your application contains two classes, Region and City, which are defined in the following code segment. (Line numbers are included for reference only.)**

```
01 Public Class Region
02     Public Overridable Sub CalculateTax()
03         'Code to calculate tax goes here.
04     End Sub
```

```

05 End Class
06 Public Class City
07     Inherits Region
08     Public Overrides Sub CalculateTax()
09         'Insert new code.
10     End Sub
11 End Class

```

**You need to add code to the CalculateTax method of the City class to call the CalculateTax method of the Region class.**

**Which code segment should you add on line 9?**

- A. CalculateTax()
- B. Me.CalculateTax()
- C. MyBase.CalculateTax()
- D. MyClass.CalculateTax()

**Answer: C**

**Explanation:** The MyBase keyword to call methods in a base class when overriding methods in a derived class.

**Reference:**

Visual Basic Language Concepts, Inheritance Basics

Visual Basic Language Specification, 4.5.1 Overriding Methods

**Question No: 37**

**You are maintaining a Visual Studio .Net application that was developed by a colleague at TestKing inc. The application calculates interest and penalties for financial transactions. All variables that contain financial data are defined as type Double.**

**When users enter financial data, the application periodically fails during execution. Failure occurs in response to a variety of actions. The application returns the following error message: "Arithmetic operation resulted in an overflow"**

**You need to identify as many potential exceptions as possible in the application code.**

**What should you do?**

- A. Set Option Explicit to **On**.
- B. Set Option Explicit to **Off**.
- C. Set Option Strict to **On**.
- D. Set Option Strict to **Off**.
- E. Set Option Compare to **Binary**.
- F. Set Option Compare to **Text**.

**Answer: C**

**Explanation:** The Options Strict statement concerns which conversions are allowed. Option Strict **ON** disallows any data type conversions in which data loss would occur and any conversion between numeric types and strings. In short it helps to identify potential arithmetic exceptions.

**Reference:**

Visual Basic Language Reference, Option Strict Statement

Visual Basic Compiler Options, /optionexplicit

Visual Basic Language Reference, Option Compare Statement

**Incorrect Answers**

**A:** The /optionexplicit causes the compiler to report errors if variables are not declared prior to use. It would not help finding potential exceptions however.

**B:** Disabling variable declaration checking will not help finding exceptions.

**D:** Setting Options Strict to **Off** disables type conversion checks. We should enable these checks.

**E, F:** The Option Compare statement is used at file level to declare the default comparison method to use when string data is compared. This setting would not help finding exceptions.

**Question No: 38**

**You use Visual Studio .NET to create a Windows Form named TestKingForm. You add a custom control named BarGraph, which displays numerical data. You create a second custom control named DataBar. Each instance of DataBar represents one data value in BarGraph.**

**BarGraph retrieves its data from a Microsoft SQL Server database. For each data value that it retrieves, a new instance of DataBar is added to BarGraph. BarGraph also includes a Label control named DataBarCount, which displays the number of DataBar controls currently contained by BarGraph.**

**You must add code to one of your custom controls to ensure that DataBarCount is always updated with the correct value.**

**What are two possible ways to achieve this goal? (Each correct answer presents a complete solution. Choose two)**

- A. Add the following code segment to the ControlAdded event handler for DataBar:  
Me.DataBarCount.Text = Me.Controls.Count()
- B. Add the following code segment to the ControlAdded event handler for DataBar:  
Me.DataBarCount.Text = Parent.Controls.Count()
- C. Add the following code segment to the ControlAdded event handler for BarGraph:  
DataBarCount.Text = Me.Controls.Count()
- D. Add the following code segment to the constructor for BarGraph:  
Me.Parent.DataBarCount.Text = Me.Controls.Count()
- E. Add the following code segment to the constructor for DataBar:  
Me.Parent.DataBarCount.Text = Me.Controls.Count()
- F. Add the following code segment to the AddDataPoint method of BarGraph:

```
DataBarCount.Text = Me.Controls.Count()
```

**Answer: C, E**

**Explanation:** We could either catch the ControlAdded event, or add code the constructor.

**C:** The Control.ControlAdded Event occurs when a new control is added to the Control.ControlCollection.

When a control is added to BarGraph we could set the count of controls to the number of current controls in BarGraph.

**E:** Every time a new DataBar is constructed we could set the counter.

**Reference:** .NET Framework Class Library, Control.ControlAdded Event [Visual Basic]

#### **Incorrect Answers**

**A, B:** Controls are added to BarGraph not to the DataBar.

**D:** DataBars, not BarGraphs, are constructed.

**F:** The AddDataPoint method does not apply.

#### **Question No: 39**

**You use Visual Studio .NET to develop a Windows-based application called TestKingApp. Your application will display customer order information from a Microsoft SQL Server database. The orders will be displayed on a Windows Form in a data grid named DataGrid1. DataGrid1 is bound to a DataView object.**

**The Windows Form includes a button control named displayBackOrder. When users click this button, DataGrid1 must display only customer orders whose BackOrder value is set to True.**

**How should you implement this functionality?**

- A. Set the RowFilter property of the DataView object to "**BackOrder = True**".
- B. Set the RowStateFilter property of the DataView object to "**BackOrder = True**".
- C. Set the Sort property of the DataView object to "**BackOrder = True**".
- D. Set the ApplyDefaultSort property of the DataView object to **True**.

**Answer: A**

**Explanation:** Using the RowFilter property of a data view, you can filter records in a data table to make available only records you want to work with.

#### **Reference:**

Visual Basic and Visual C# Concepts, Introduction to Filtering and Sorting in Datasets

Visual Basic and Visual C# Concepts, Filtering and Sorting Data Using Data Views

#### **Incorrect Answers**

**B:** To filter based on a version or state of a record, set the RowStateFilter property. It does not apply here.

**C, D:** We want to filter, not sort the data view.

**Question No: 40**

You develop a Windows-based application for tracking telephone calls. The application stores and retrieves data by using a Microsoft SQL Server database.

You will use the SQL Client managed provider to connect and send commands to the database. You use integrated security to authenticate users. Your server is called TestKing30 and the database name is CustomerService.

You need to set the connection string property of the SQL Connection object.

Which code segment should you use?

- A. "Provider=SQLOLEDB.1;Data Source=TestKing30; Initial Catalog=CustomerService"
- B. "Provider=MSDASQL;Data Source= TestKing30; Initial Catalog=CustomerService"
- C. "Data Source= TestKing30;Initial Catalog=Master"
- D. "Data Source= TestKing30; Initial Catalog=CustomerService"

**Answer: D**

**Explanation:** We simply specify the name of the server as **Data Source**, and the name of database as **Initial Catalog**.

**Reference:** .NET Framework Class Library, OleDbConnection.ConnectionString Property [Visual Basic]

**Incorrect Answers**

- A:** We are using SQL Client Object so we cannot use a **Provider** tag. We are not connecting to a MS SQL Server database.
- B:** We are using SQL Client Object so we cannot use a **Provider** tag. Furthermore, the MSDASQL provider is used for Oracle databases, not for Microsoft SQL Server databases.
- C:** The database name is CustomerService, not Master.

**Question No: 41**

You are maintaining a Visual Studio .NET application that was created by another developer. The application functions as expected for several months. Then users report that it sometimes calculates tax amounts incorrectly.

An examination of the source code leads you to suspect that the errors are caused by a function named CalculateTestKingSales. To test your hypothesis, you place a breakpoint on the following line of code:

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```
decTax = CalculateTestKingSales(decRate, decSaleAmount)
```

**However, when you run the application to create a test invoice, the breakpoint is not invoked. How should you correct this problem?**

- A. Select **Enable All Breakpoints** from the **Debug** menu.
- B. Select **Configuration Manager** from the **Build** menu.  
Set the Activate Solution Configuration option to **Debug**.  
Set the Configuration property of the project to **Debug**.
- C. Select **Options** from the **Tools** menu and then select the General object from the Debugging folder.  
Choose the option **In break mode, only stop execution of the current process**.
- D. Select **Exceptions** from the **Debug** menu.  
Under the heading **If the exception is not handles**, select **Break into the Debugger**.

**Answer: B**

**Explanation:** If the **Active Solution Configuration** is set to Release, no Breakpoints would apply. This could cause the behavior described in this scenario. If we should change this setting to **Debug** the breakpoints would be applied.

**Reference:**

Visual Studio, Configuration Manager Dialog Box

Visual Studio, Exceptions Dialog Box

**Incorrect Answers**

- A:** There is no **Enable All Breakpoints** command on the **Debug** menu.
- C:** There is no option **In break mode, only stop execution of the current process**, or any other debugging configuration, in the General options.
- D:** We are not interested in exceptions. We just want to breakpoints to apply.

**Question No: 42**

**You company TestKing assigns you to modify a Visual Studio .NET application that was created by a former colleague. However, when you try to build the application, you discover several syntax errors. You need to correct the syntax errors and compile a debug version of the code so the application can be tested.**

**Before compiling, you want to locate each syntax error as quickly as possible.**

**What should you do?**

- A. Select each error listed in the Task List window.
- B. Open the Application event log from the Visual Studio .NET Server Explorer window. Select each error listed.

- C. Run the application in Debug mode. Each time an error is encountered, correct it and continue debugging the application.
- D. Select **Build Solution** from the **Build** menu. When the build fails, correct each error listed in the Output window.
- E. Select **Build Comment Web Pages** from the **Tools** menu. Select each function listed in the report that is generated.

**Answer: A**

**Explanation:** The task list window contains information which helps you to organize and manage the work of building your application. Among other things it will include each syntax error of the application.

**Reference:**

Visual Studio, Task List Window

Visual Studio, Build Comment Web Pages Dialog Box

**Incorrect Answers**

**B:** Event logs would not contain information on syntactical errors.

**C:** Syntax errors are corrected in Debug mode.

**D:** The errors are listed in the Task List windows. The text in the Output windows is more extensive, and the syntax errors are harder to spot.

**E:** Build Comment Web Pages would not list the syntax errors. It allows you to create a series of .htm pages that display the code structure within projects and solutions, objects and interfaces defined in a project, and members. The .htm pages also display information you have included in your code using the code comment syntax.

**Question No: 43**

**You use Visual Studio .NET to create a Windows-based application. The application includes a form named TestKingProcedures (TKP). TKP allows users to enter very lengthy text into a database. When users click the Print button located on TKP, this text must be printed by the default printer. You implement the printing functionality by using the native .NET System Class Libraries with all default settings.**

**Users report that only the first page of the text is being printed.**

**How should you correct this problem?**

- A. In the BeginPrint event, set the HasMorePages property of the PrintEventArgs object to **True**.
- B. In the EndPrint event, set the HasMorePages property of the PrintEventArgs object to **True**.
- C. In the PrintPage event, set the HasMorePages property of the PrintPageEventArgs object to **True**.
- D. In the QueryPageSettings event, set the HasMorePages property of the QueryPageSettingEventArgs object to **True**.

**Answer: C**

**Explanation:** PrintDocument.PrintPage Event occurs when the output to print for the current page is needed. This event has the HasMorePages property which gets or sets a value indicating whether an additional page should be printed.

**Reference:**

.NET Framework Class Library, PrintDocument Class [Visual Basic]

.NET Framework Class Library, PrintDocument.PrintPage Event [Visual Basic]

**Question No: 44**

**You develop a Windows-based application named TestKing3 by using Visual Studio .NET. TestKing3 consumes an XML Web service named MortgageRate and exposes a method named GetCurrentRate. TestKing3 uses GetCurrentRate to obtain the current mortgage interest rate.**

**Six months after you deploy TestKing3, users begin reporting errors. You discover that MortgageRate has been modified. GetCurrentRate now requires you to pass a postal code before returning the current mortgage interest rate.**

**You must ensure that TestKing3 consumes the most recent version of MortgageRate. You must achieve this goal in the most direct way possible.**

**What should you do?**

- A. Use Disco.exe to generate a new proxy class for MortgageRate.
- B. Modify the TestKing3 code to pass the postal code to GetCurrentRate.
- C. Use the **Update Web Reference** menu item to update the reference to MortgageRate in TestKing3.
- D. Use the **Add Reference** dialog box to recreate the reference to MortgageRate in TestKing3.
- E. Remove the reference to MortgageRate in TestKing3. Use the **Add Web Reference** dialog box to create the reference.

**Answer: C**

**Explanation:** If your application contains a Web reference to an XML Web service that has been recently modified on the server, you may need to update the reference in your project.

**To update a project Web reference**

1. In Solution Explorer, access your project's **Web References** folder and select the node for the Web reference you want to update.
2. Right-click the reference and click **Update Web Reference**.

**Reference:** Visual Basic and Visual C# Concepts, Managing Project Web References



**Question No: 45**

Your development team is creating a Windows-based application for the TestKing company. The application asynchronously calls the ProcessLoan method of an XML Web service. The XML Web service will notify your code when it finished executing ProcessLoan.

You must ensure that your code can continue processing while waiting for a response from the XML Web service. Your code must establish when ProcessLoan finished executing.

What should your application do?

- A. Use the WaitHandle.WaitAny method of the IAsyncResult.AsyncWaitHandle object.  
Examine the value of IAsyncResult.IsCompleted to see if ProcessLoan is finished executing.
- B. Use the WaitHandle.WaitAll method of the IAsyncResult.AsyncWaitHandle object.  
Examine the value of IAsyncResult.IsCompleted to see if ProcessLoan is finished executing.
- C. Supply a callback delegate to the BeginProcessLoan method of the XML Web service.  
After the XML Web service returns its response, a thread will invoke the callback from the threadpool.
- D. Supply a callback delegate to the EndProcessLoan method of the XML Web service.  
After the XML Web service returns its response, a thread will invoke the callback from the threadpool.

**Answer: C**

**Explanation:** Calling an XML Web service asynchronously is a two-step operation. The first step, calling the Begin method, initiates the XML Web service call. The second step, calling the End method, completes the XML Web service call and returns the XML Web service response.

There are different methods to determine when the asynchronous XML Web service call has completed. The preferred and most efficient method is to supply a callback delegate to the Begin method.

**Reference:** Visual Basic and Visual C# Concepts, Accessing an XML Web Service Asynchronously in Managed Code

**Incorrect Answers**

**A, C:** It is possible to use IAsyncResult.AsyncWaitHandle object to determine when the asynchronous XML Web service call has completed. This is less efficient though.

**D:** The callback delegate should be supplied to the Begin method, not the End method.

**Question No: 46**

Your development team uses Visual Studio .NET to create an accounting application, which contains a class named TestKingAccounts. This class instantiates several classes from a COM component that was created by using Visual Basic 6.0 Each COM component class includes a custom method named ShutdownObject that must be called before terminating references to the class.

Software testers report that the COM component appears to remain in memory after the application terminates. You must ensure that the ShutdownObject method of each COM component class is called before TestKingAccounts is terminated.

**What should you do?**

- A. Add code to the Terminate event of TestKingAccounts to call the ShutDownObject method of each COM component class.
- B. Find each location in your code where a reference to TestKingAccounts is set to Nothing or goes out of scope. Add code after each instance to manually invoke the Visual Studio .NET garbage collector.
- C. Add the procedure Protected Overrides Finalize() to TestKingAccounts. Add code to the procedure to call the ShutDownObject method of each COM component class.
- D. Add the procedure Private Sub Finally() to TestKingAccounts. Add code to the procedure to call the ShutDownObject method of each COM component class.

**Answer: C**

**Explanation:** The Sub Finalize procedure in Visual Basic .NET is a destructor and it destroys objects. It could be useful when destroying Visual Basic 6.0 COM objects.

**Reference:** Visual Basic Language Concepts, Object Lifetime: How Objects Are Created and Destroyed

**Question No: 47**

**Your project team uses Visual Studio .NET to create an accounting application. Each team member uses the Write method of both the Debug class and the Trace class to record information about application execution in the Windows 2000 event log.**

**You are performing integration testing for the application. You need to ensure that only one entry is added to the event log each time a call is made to the Write method of either the Debug class or the Trace class.**

**What are two possible code segments for you to use? (Each correct answer presents a complete solution. Choose two)**

- A. 

```
Dim myTraceListener As New _
    EventLogTraceListener("myEventLogSource")
Trace.Listeners.Add(myTraceListener)
```
- B. 

```
Dim myDebugListener AS New _
    EventLogTraceListener("myEventLogSource")
Debug.Listernes.Add(myDebugListener)
```
- C. 

```
Dim myTraceListener As New _
    EventLogTraceListener("myEventLogSource")
Debug.Listeners.Add(myTraceListener)
Trace.Listeners.Add(myTraceListener)
```
- D. 

```
Dim myDebugListener As New _
    EventLogTraceListener("myEventLogSource")
Dim myTraceListener As New _
    EventLogTraceListener("myEventLogSource")
```

```
Debug.Listeners.Add(myDebugListener)
Trace.Listeners.Add(myTraceListener)
```

**Answer: A, B**

**Explanation:** An EventLogTraceListener redirects output to an event log. Debug and trace share the same Listeners collection, so if you add a listener object to a Debug.Listeners collection in your application, it gets added to the Trace.Listeners collection as well, and vice versa.

**Reference:**

Visual Basic and Visual C# Concepts, Trace Listeners

Visual Basic and Visual C# Concepts, Creating and Initializing Trace Listeners

**Incorrect Answers**

**C:** Add a listener to both the Debug.Listeners collection and the Trace.Listeners collection the listener would receive duplicate messages.

**D:** If we create a separate listener for trace messages and debug messages we would get duplicate messages

**Question No: 48**

**You use Visual Studio .NET to create a Windows-based data management application named MyApp. You implement the following code segment:**

```
Dim oSwitch As New _
    TraceSwitch("MySwitch", "My TraceSwitch")
Dim oWriter As New
    IO.StreamWriter(IO.File.Open("c:\MyApp.txt", _
    IO.FileMode.Append))
Dim oListener As New _
    TextWriterTraceListener(oWriter)
Trace.Listeners.Add(oListener)
Try
    CustomerUpdate()
Catch oEx As Exception
    Trace.WriteLineIf(oSwitch.TraceError, _
        "Error: " & oEx.Message)
Finally
    Trace.Listeners.Clear()
    oWriter.Close()
    oWriter = Nothing
End Try
```

**You compile a debug version of the application and deploy it to a user's computer. The user reports errors, which are generated within the CustomerUpdate procedure.**

**You decide to enable logging of the error messages generated by CustomerUpdate. You want to use the minimum amount of administrative effort.**

**What should you do?**

- A. Start the application with the following command line:  
/TRACE MySwitch 1.
- B. Start the application with the following command line:  
/d:TRACE=True.
- C. Start the application with the following command line:  
/XML <switch="MySwitch" value="1">
- D. Create an environment variable on the user's computer. Name the variable MySwitch and assign it a value of 1.
- E. Edit your application's config file to set the value of MySwitch to 1.

**Answer: E**

**Explanation:** After your application has been distributed, you can still enable or disable trace output by configuring the trace switches in your application. You can change the values of the switch objects using the configuration file. In addition to specifying the name of a switch to configure, you must also specify a value for the switch. This value is an Integer. For BooleanSwitch, a value of 0 corresponds to Off, and any nonzero value corresponds to On.

**Reference:**

Visual Basic and Visual C# Concepts, Trace Switches

Visual Basic and Visual C# Concepts, Configuring Trace Switches

**Question No: 49**

**You use Visual Studio .NET to create a Windows-based application for online gaming. Each user will run the client version of the application on his or her local computer. In the game, each user controls two groups of soldiers, Group 1 and group 2.**

**You create a top-level menu item whose caption is Groups. Under this menu, you create two submenus. One is named group1Submenu, and its caption is Group 1. The other is named group2Submenu, and its caption is Group2. When the user selects the Groups menu. The two submenus will be displayed. The user can select only one group of soldiers at a time.**

**You must ensure that a group can be selected either by clicking the appropriate submenu item or by holding down the ALT key and pressing 1 or 2. You must also ensure that the group currently select will be indicated by a dot next to the corresponding submenu item. You do not want to change the caption text of any of your menu items.**

**Which for actions should you take? (Each correct answer presents part of the solution. Choose four)**

- A. Set group1Submenu.Text to "**Group &1**".  
Set group2Submenu.Text to "**Group &2**".
- B. Set Group1.ShortCut to "**ALT1**".  
Set Group2.ShortCut to "**ALT2**".
- C. In the group1Submenu.Click event, place the following code segment:  
`group1Submenu.DefaultItem = True`  
In the group2Submenu.Click event, place the following code segment:  
`group2Submenu.DefaultItem = True`
- D. In the group1Submenu.Click event, place the following code segment:  
`group2Submenu.DefaultItem = False`  
In the group2Submenu.Click event, place the following code segment:  
`group1Submenu.DefaultItem = False`
- E. In the group1Submenu.Click event, place the following code segment:  
`group1Submenu.Checked = True`  
In the group2Submenu.Click event, place the following code segment:  
`group2Submenu.Checked = True`
- F. In the group1Submenu.Click event, place the following code segment:  
`group2Submenu.Checked = False`  
In the group2Submenu.Click event, place the following code segment:  
`group1Submenu.Checked = False`
- G. Set group1Submenu.RadioCheck to **True**.  
Set group2Submenu.RadioCheck to **True**.
- H. Set group1Submeny.RadioCheck to **False**.  
Set group2Submenu.RadioCheck to **False**.

**Answer: A, E, F, G**

**Explanation:**

**A:** The & sign is used to define the required Access key.

**E, F:** The menu item's Checked property is either true or false, and indicates whether the menu item is selected. We should set the clicked Submenu Checked property to True, and the other Submenu Checked property to False.

**G:** The menu item's RadioCheck property customizes the appearance of the selected item: if RadioCheck is set to true, a radio button appears next to the item;

**Reference:**

Visual Basic and Visual C# Concepts, Adding Menu Enhancements to Windows Forms

Visual Basic and Visual C# Concepts, Introduction to the Windows Forms MainMenu Component

**Incorrect Answers**

**B:** This is not the way to define Access keys. The & sign must be used.

**C, D:** We are not interested in defining default items. We want to mark items as checked.

**H:** The RadioCheck property must be set to True for both menu items.

**Question No: 50**

You use Visual Studio .NET to develop a Windows-based application that interacts with a Microsoft SQL Server database. Your application contains a form named CustomerForm. You add the following design-time components to the form:

- SqlConnection object named NorthwindConnection
- SqlDataAdapter object named NorthwindDataAdapter.
- DataSet object named NorthwindDataSet.
- Five TextBox controls to hold the values exposed by NorthwindDataSet.

At design time, you set the DataBindings properties of each TextBox controls to the appropriate column in the DataTable object of NorthwindDataSet. When you test the application, you can successfully connect to the database. However, no data is displayed in any text boxes.

You need to modify your application code to ensure that data is displayed appropriately. Which behavior should occur while the CustomerForm.Load event handler is running?

- A. Execute the Add method of the TextBoxes DataBindings collection and pass in NorthwindDataSet.
- B. Execute the BeginInit method of NorthwindDataSet.
- C. Execute the Open method of NorthwindConnection.
- D. Execute the FillSchema method of NorthwindDataAdapter and pass in NorthwindDataSet.
- E. Execute the Fill method of NorthwindDataAdapter and pass in NorthwindDataSet.

**Answer: E**

**Explanation:** Dataset is a container; therefore, you need to fill it with data. You can populate a dataset by calling the Fill method of a data adapter.

**Reference:** Visual Basic and Visual C# Concepts, Introduction to Datasets

**Question No: 51**

You are a developer for a TestKing inc that provides free software over the Internet. You are developing an e-mail application that users all over the world can download.

The application displays text strings in the user interface. At run time, these text strings must appear in the language that is appropriate to the locale setting of the computer running the application.

You have resources to develop version of the application for only four different cultures. You must ensure that your application will also be usable by people of other cultures.

How should you prepare the application for deployment?

- A. Package a different assembly for each culture.

- B. Package a different executable file for each culture.
- C. Package a main assembly for source code and the default culture.  
Package satellite assemblies for the other cultures.
- D. Package a main assembly for source code. Package satellite assemblies for each culture.

**Answer: C**

**Explanation:** When you build a project, the resource files are compiled and then embedded in satellite assemblies, or assemblies which contain only the localized resources. The fallback resources are built into the main assembly, which also contains the application code.

**Reference:**

Visual Basic and Visual C# Concepts, What's New in International Applications

Visual Basic and Visual C# Concepts, Introduction to International Applications in Visual Basic and Visual C#

**Incorrect Answers**

**A:** A main assembly is needed.

**B:** Assemblies not executables are used.

**D:** The main assembly contains the fallback resources (including default culture).

**Question No: 52**

**You use Visual Studio .NET to create an application that interact with a Microsoft SQL Server database. You create a SQL Server stored procedure named TestKOrderDetails and save it in the database. Other developers on your team frequently debug other stored procedures.**

**You need to verify that your stored procedure is performed correctly. You need to step through CustOrderDetails inside the Visual Studio .NET debugger.**

**What should you do?**

- A. Run TestKOrderDetails by using the Visual Studio .NET Server Explorer.
- B. Step into TestKOrderDetails by using the Visual Studio .NET Server Explorer.
- C. From the Command window, use Ctrl+E to run CustOrderDetails.
- D. Move TestKOrderDetails from the Visual Studio .NET Server Explorer window to a Windows Form.  
Run the application in Debug mode and step though CustOrderDetails.

**Answer: B**

**Explanation:**

To debug a stored procedure from Server Explorer

1. Establish a connection to a database using Server Explorer.
2. Expand the database name node.
3. Expand the Stored Procedures node.

4. Right-click the stored procedure you want to debug and choose **Step Into Stored Procedure** from the shortcut menu.

**Reference:** Visual Studio, Debugging SQL Stored Procedures

**Question No: 53**

**You use Visual Studio .NET to create a Windows-based application. The application includes a form named GraphForm, which displays statistical data in graph format. You use a custom graphing control that does not support resizing.**

**You must ensure that users cannot resize, minimize, or maximize GraphForm. Which three actions should you take? (Each answer presents part of the solution. Choose three)**

- A. Set GraphForm.MinimizeBox to **False**.
- B. Set GraphForm.MaximizeBox to **False**.
- C. Set GraphForm.ControlBox to **False**.
- D. Set GraphForm.ImeMode to **Disables**.
- E. Set GraphForm.WindowState to **Maximized**.
- F. Set GraphForm.FormBorderStyle to one of the Fixed styles.
- G. Set GraphForm.GridSize to the appropriate size.

**Answer: A, B, F**

**Explanation:** We disable the Minimize and Maximize buttons with the GraphForm.Minimizebox and the GraphForm.Maximizebox properties. Furthermore we should use a fixed FormBorderStyle to prevent the users from manually resizing the form.

**Reference:**

Visual Basic and Visual C# Concepts, Changing the Borders of Windows Forms  
.NET Framework Class Library, Form.MinimizeBox Property [Visual Basic]  
.NET Framework Class Library, Form.MaximizeBox Property [Visual Basic]

**Question No: 54**

**You develop a Windows-based application named TestKingOrders. You implement the Trace object within your application code. You will use this object to record application information, such as errors and performance data, in a log file.**

**You must have the ability to enable and disable Trace logging. This functionality must involve the minimum amount of administrative effort.**

**What should you do?**



- A. Create a Boolean constant in your application named #TraceLogging and set it to **False**. Each time your code uses Trace logging, use a #if...#Then statement to evaluate your #TraceLogging constant.
- B. On each computer that will host your application, create an environment variable named CustOrders.Trace. Set the environment variable to **True** when you want to enable Trace logging. Set it to **False** when you want to disable Trace logging.
- C. On each computer that will host your application, edit the shortcut used to start your application. Add /d:TRACE=True to the Target property.
- D. Use the TraceSwitch class within your code. Each time your code uses Trace logging, consult the TraceSwitch level to verify whether to log information. Change the TraceSwitch level by editing your applications .config file.

**Answer: D**

**Explanation:** By placing Trace Switches in your code, you can control whether tracing occurs and how extensive it is.

**Reference:**

Visual Basic and Visual C# Concepts, Introduction to Instrumentation and Tracing  
 Visual Basic and Visual C# Concepts, Trace Switches

**Question No: 55**

**You use Visual Studio .NET to create a component named Request. This component includes a method named AcceptRequest, which tries to process new user requests for services. AcceptRequest calls a private function named Validate.**

**You must ensure that any exceptions encountered by Validate are bubbled up to the parent form of Request. The parent form will then be responsible for handling the exceptions. You want to accomplish this goal by writing the minimum amount of code.**

**What should you do?**

- A. Use the following code segment in AcceptRequest:  

```
Me.Validate()
```
- B. Use the following code segment in AcceptRequest:  

```
Try
    Me.Validate()
Catch ex As Exception
    Throw ex
End Try
```
- C. Use the following code segment in AcceptRequest:  

```
Try
    Me.Validate()
Catch ex As Exception
    Throw new Exception ("Exception in AcceptRequest", ex)
```

End Try

D. Create a customer Exception class named RequestException by the following code segment:

```
Public Class RequestException
    Inherits System.ApplicationException
    Public Sub New()
    End Sub
    Public Sub New (message As String)
        MyBase.New(message)
    End Sub
    Public Sub New (message As String, inner As Exception)
        MyBase.New(message, inner)
    End Sub
End class
```

In addition, use the following code segment in AcceptRequest:

```
Try
    Me.Validate()
Catch ex As Exception
    Throw new RequestException("Exception in _
    AcceptRequest", ex)
End Try
```

**Answer: B**

**Explanation:**

We use a Try...Catch statement to catch any exceptions from the Validate function. We then throw any exceptions, without adding any further information (not C), to the parent form of Request.

**Reference:**

Visual Basic and Visual C# Concepts, Throwing Exceptions from Components

**Question No: 56**

**You develop a Windows-Based application that accesses a Microsoft SQL Server database named TestKing1. Users must supply a user name and password when they start the application. This information is then used to dynamically build a connection string.**

**When you test the application, you discover that it is not using the SqlConnection pooling feature.**

**You must reduce the time needed to retrieve information.**

**How should you modify the connection string?**

- A. to use the Windows user logon when connection to the TestKing1 database.
- B. to use the SQL Server used login when connection to the TestKing1 database.
- C. to use the same application logon ID and password for every connection to the TestKing1 database.

D. to use the guest login ID and password for every connection to the TestKing1 database.

**Answer: C**

**Explanation:** We must use the same connection string to only use one connection pool.

**Note:** The performance of the application can be enhanced by having the application share, or "pool," connections to the data source. When a connection is opened, a connection pool is created based on an exact matching algorithm that associates the pool with the connection string in the connection. Each connection pool is associated with a distinct connection string. When a new connection is opened, if the connection string is not an exact match to an existing pool, a new pool is created.

**Reference:**

.NET Framework Developer's Guide, Connection Pooling for the SQL Server .NET Data Provider  
Visual Basic and Visual C# Concepts, Introduction to ADO.NET Connection Design Tools

**Incorrect Answers**

**A, C:** If we use different connection strings for different users we would not be using the same connection pool.

**D:** Using the guest login ID is not good out of security reasons.

**Question No: 57**

**You use Visual Studio .NET to create a component TestKingShared that will be shared by two client applications. Eventually, you plan to deploy new version of TestKingShared. However, not all of the new versions will be compatible with both client applications.**

**When you deploy TestKingShared and the client applications, you must ensure that you can upgrade the TestKingShared for a single client application. You must also minimize the need for configuration changes when you deploy new version of the component.**

**What are two possible ways to achieve your goal? (Each correct answer presents a complete solution. Choose two)**

- A. Deploy each client application to its own folder.  
Deploy TestKingShared to its own folder.  
Register TestKingShared by using RegSvr32 with the /s option.
- B. Deploy each client application to its own folder.  
Deploy a separate copy of TestKingShared to each client application folder.  
When you deploy a new version of TestKingShared, replace the older version only if the new version remains compatible with the client application in the same folder.
- C. Compile the client applications with reference to TestKingShared.  
Deploy both client applications and TestKingShared to a single folder.  
When you deploy a new version of TestKingShared, increment its version number.
- D. Create a strong name of TestKingShared and specify a version number.

Compile each client application and bind it to TestKingShared.  
Deploy TestKingShared to the global assembly cache on the client computer.  
Deploy each client application to its own folder.  
When you deploy a new version of TestKingShared, increment its version number.

**Answer: B, D**

**Explanation:**

**B:** We keep two separate copies of the shared component. And we only replace the shared copy of the component if compatibility is still maintained.

**D:** You can install multiple versions of the same assembly to the Global Assembly Cache, and applications can locate and use the appropriate version.

**References:** 70-306/70-316 Training kit, Understanding Private and Shared Assemblies, Pages 433-434

**Incorrect Answers**

**A:** RegSrv32 was used in Visual Basic 6.0 and Visual C++ 6.0 and earlier. It is no longer used in Visual Studio .Net.

**C:** The shared component might be compatible with both client applications. We should use the global assembly cache, not put TestKingShared and the client applications in the same folder.

**Question No: 58**

**You use Visual Studio .NET to develop a data entry form for a Windows-based application. The form will display one record at a time from a database. The form must include four Button controls. Each control will be used to navigate through the data in the database.**

**You decide to create one procedure to handle the Click event for all four controls.**

**What should you do?**

- A. Create a control array consisting of four Button controls.  
Your code will inspect the Index argument that is passed into the Click event.
- B. Create a control array consisting of four Button controls.  
Your code will inspect the Index property of the sender parameter of the Click event.
- C. Create four individual Button controls.  
Create a procedure named NavButtons\_Click to handle the Click event for all four controls by using the AddHandler keyword.
- D. Create four individual Button controls.  
Create a procedure named NavButtons\_Click to handle the Click event for all four controls by using the Implements keyword.

**Answer: C**

**Explanation:** The AddHandler statement is similar to the Handles clause in that both allow you to specify an event handler that will handle an event. We can use the AddHandler statement to add the four events to the event handler, the NavButtons\_clock procedure.

**Reference:**

Visual Basic Language Concepts, AddHandler and RemoveHandler  
Visual Basic Concepts, Control Array Changes in Visual Basic .NET  
Visual Basic Language Concepts, Implements Keyword

**Incorrect Answers**

**A, B:** Control arrays could be used in Visual Basic 6.0, but they are no longer supported in Visual Basic .NET.  
**D:** The Implements keyword is used to signify that a class member implements a specific interface. We should not implement an interface in this scenario however. We want to configure events for an event handler.

**Question No: 59**

**You use Visual Studio .NET to create a Windows-based application. On the main application form, TestKingFormMain, you create a TextBox control named textConnectionString. Users can enter a database connection string in this box to access customized data from any database in your company. You also create a Help file to assist users in creating connection strings. The Help file will reside on your company intranet.**

**Your application must load the Help file in a new browser window when the user presses F1 key, but only of textConnectionString has focus. You must create this functionality by using the minimum amount of code.**

**In which event should you write the code to display the Help file?**

- A. textConnectionString\_KeyPress
- B. textConnectionString\_KeyDown
- C. textConnectionString\_KeyUp
- D. textConnectionString\_GiveFeedback
- E. textConnectionString HelpRequested

**Answer: E**

**Explanation:** The Control.HelpRequested Event occurs when the user requests help for a control. The HelpRequested event is commonly raised when the user presses the F1 key or an associated context-sensitive help button is clicked. This would be the most straightforward solution and would require minimal code.

**Note:** Key events occur in the following order:

1. KeyDown
2. KeyPress
3. KeyUp

**Reference:**

.NET Framework Class Library, Control.HelpRequested Event [Visual Basic]  
.NET Framework Class Library, Control.KeyDown Event [Visual Basic]

**Incorrect Answers**

- A:** The KeyPress event occurs when a key is pressed while the control has focus. The KeyPress event could be used to provide a solution, but it would require more code.
- B:** The KeyDown event occurs when a key is pressed while the control has focus.
- C:** The KeyUp occurs when a key is released while the control has focus.
- D:** The Control.GiveFeedback does not apply here. It occurs during a drag operation.

**Question No: 60**

**Your company uses Visual Studio .NET to create a Windows-based application for TestKing. The application is named CustomerTracker, and it calls an assembly named Schedule.**

**Six months pass. The hospital asks your company to develop a new Windows-based application. The new application will be named EmployeeTracker, and it will also call Schedule. Because you anticipate future revisions to this assembly, you want only one copy of Schedule to serve both applications.**

**Before you can use Schedule in EmployeeTracker, you need to complete some preliminary tasks.**

**Which three actions should you take? (Each correct answer presents part of the solution. Choose three)**

- A. Create a strong name for Schedule.
- B. Use side-by-side execution to run Schedule.
- C. Install Schedule in the global assembly cache.
- D. Move Schedule to the Windows\System32 folder.
- E. Create a reference in EmployeeTracker to Schedule.
- F. Create a reference in EmployeeTracker to CustomerTracker.

**Answer: A, C, E**

**Explanation:**

**A:** An assembly must have a strong name to be installed in the global assembly cache.

**C:** You intend to share an assembly among several applications, you can install it into the global assembly cache.

**E:** We must create a reference from the application (EmployeeTracker) to the assembly (Schedule).

**Reference:**

.NET Framework Developer's Guide, Working with Assemblies and the Global Assembly Cache  
.NET Framework Developer's Guide, Side-by-Side Execution

**Incorrect Answers**

**B:** Side-by-side execution is the ability to run multiple versions of the same assembly simultaneously. It is not required in this scenario.

- D:** The assembly should be moved to the global assembly cache, not to the Windows\System32 folder.  
**F:** The application should reference the assembly, not the first application.

**Question No: 61**

**You use Visual Studio .NET to create a Windows-based application. The application includes a form named ConfigurationForm.**

**ConfigurationForm contains 15 controls that enable users to set basic configuration options for the application. You design these controls to dynamically adjust when users resize ConfigurationForm. The controls automatically update their size and position on the form as the form is resized. The initial size of the form should be 650 x 700 pixels.**

**If ConfigurationForm is resized to be smaller than 500 x 600 pixels, the controls will not be displayed correctly. You must ensure that users cannot resize ConfigurationForm to be smaller than 500 x 600 pixels.**

**Which two actions should you take to configure ConfigurationForm? (Each correct answer presents part of the solution. Choose two.)**

- A. Set the MinimumSize property to “500,600”.
- B. Set the MinimumSize property to “650,700”.
- C. Set the MinimizeBox property to **True**.
- D. Set the MaximumSize property to “500,600”.
- E. Set the MaximumSize property to “650,700”.
- F. Set the MaximizeBox property to **True**.
- G. Set the Size property to “500,600”.
- H. Set the Size property to “650,700”.

**Answer: A, H**

**Explanation:**

**A:** The Form.MinimumSize Property gets or sets the minimum size the form can be resized to. It should be set to "500, 600".

**H:** We use the size property to set the initial size of the form. The initial size should be set to "650, 700".

**Reference:**

.NET Framework Class Library, Form.MinimumSize Property [Visual Basic]

.NET Framework Class Library, Form.Size Property [Visual Basic]

**Incorrect Answers**

**B:** The initial size is 650 x 750. The minimal size should be set to "500,600".

**C:** The minimize button will be displayed, but it will not affect the size of the form.

**D, E:** There is no requirement to define a maximum size of the form.

**F:** The maximize button will be displayed, but it will not affect the size of the form.

**G:** The initial size should be 650 x 700, not 500 x 600.

**Question No: 62**

**You are preparing a localized version of a Windows Form named TestKingLocal. Users of TestKingLocal speak a language that prints text from right to left. User interface elements on the form need to conform to this alignment.**

**You must ensure that all user interface elements are properly formatted when the localized Windows Form runs. You must also ensure that TestKingLocal is easy to update and maintain.**

**What should you do?**

- A. Set the RightToLeft property of each control on the form to **Yes**.
- B. Set the RightToLeft property of the form to **Yes**.
- C. Set the Language property of the form to the appropriate language.
- D. Set the Localizable property of the form to **True**.

**Answer: B**

**Explanation:** The RightToLeft property is used for international applications where the language is written from right to left

**Reference:**

Visual Basic and Visual C# Concepts, Displaying Right-to-Left Text in Windows Forms for Globalization

**Incorrect Answers**

- A:** The RightToLeft property can be set either to controls or to the form. The best solution is to set the property only for the form.
- C:** The Language property is not used to format text.
- D:** The Localizable property is not used to format text.

**Question No: 63**

**You create an assembly by using Visual Studio .NET. The assembly is consumed by other .NET applications to manage the creation and deletion of XML data files.**

**The assembly includes a method named DeleteTestKXMLFile that uses the Win32 API to delete the XML data files. A security exception is thrown when DeleteTestKXMLFile is called from another .NET application.**

**You must modify DeleteXMLFile to ensure that this method can execute functions exposed by the Win32 API. To do so, you create a SecurityPermission object that represents the right to call unmanaged code. Which method of the SecurityPermission object should you call?**

- A. Assert
- B. Demand



- C. PermitOnly
- D. RevertDeny

**Answer: A**

**Explanation:**

The CodeAccessPermission.Assert Method asserts that calling code can access the resource identified by the current permission through the code that calls this method, even if callers higher in the stack have not been granted permission to access the resource.

**Reference:**

- .NET Framework Class Library, SecurityPermission Class [Visual Basic]
- .NET Framework Class Library, SecurityPermission Methods
- .NET Framework Class Library, CodeAccessPermission.Assert Method [Visual Basic]

**Incorrect Answers**

- B:** The CodeAccessPermission.Demand method will not grant proper permission to other .NET applications. It forces a SecurityException at run time if all callers higher in the call stack have not been granted the permission specified by the current instance.
- C:** The CodeAccessPermission.PermitOnly method will not grant proper permission to other .NET applications. It prevents callers higher in the call stack from using the code that calls this method to access all resources except for the resource specified by the current instance.
- D:** RevertDeny is not a SecurityPermission method.

**Question No: 64**

**You develop a Windows-based application that contains a form named ContactTestKing. You need to write code to initialize all class-level variables in ContactTestKing as soon as ContactTestKing is instantiated. You will place your code in a public procedure in the ContactTestKing class. Which public procedure should you use?**

- A. Create
- B. Initialize
- C. Load
- D. New

**Answer: C**

**Explanation:** The Form.Load Event occurs before a form is displayed for the first time. You can use this event to perform tasks such as allocating resources used by the form.

**Reference:**

- .NET Framework Class Library, Form.Load Event [Visual Basic]

Visual Basic Concepts, Form Event Changes in Visual Basic .NET

**Incorrect Answers**

**A:** Create does not apply here.

**B:** In Visual Basic 6.0, the Initialize event was used to execute code before a form was loaded. There is not such event in Visual Basic .NET.

**D:** New is not a public procedure. It is a class constructor.

**Question No: 65**

**You use Visual Studio .NET to develop a Windows-based application. You implement the security classes of the .NET Framework.**

**As users interact with your application, role-based validation will frequently be performed. You must ensure that only validated Windows NT or Windows 2000 domain users are permitted to access your application.**

**You add the appropriate Imports statements for the System.Security.Principal namespace and the System.Threading namespace.**

**Which additional code segment should you use?**

- A. `AppDomain.CurrentDomain.SetPrincipalPolicy( _  
PrincipalPolicy.WindowsPrincipal)  
Dim principal As WindowsPrincipal = _  
CType(Thread.CurrentPrincipal, WindowsPrincipal)`
- B. `AppDomain.CurrentDomain.SetThreadPrincipal( _  
PrincipalPolicy.WindowsPrincipal)  
Dim principal As WindowsPrincipal = _  
CType(Thread.CurrentPrincipal, WindowsPrincipal)`
- C. `Dim identity As WindowsIdentity =  
WindowsIdentity.GetCurrent()  
Dim principal As New WindowsPrincipal(identity)`
- D. `Dim identity As WindowsIdentity = _  
WindowsIdentity.GetAnonymous()  
Dim principal As New WindowsPrincipal(identity)`

**Answer: A**

**Explanation:** The **WindowsPrincipal** Class allows code to check the Windows group membership of a Windows user. In particular we can check if the user belongs to domain users group.

Furthermore, the **SetPrincipalPolicy** method specifies how principal and identity objects should be attached to a thread

**Reference:**

.NET Framework Class Library, WindowsPrincipal Class [Visual Basic]

.NET Framework Class Library, WindowsIdentity Class [Visual Basic]

### Incorrect Answers

**B:** We should use the **SetPrincipalPolicy** method, not the **SetThreadPrincipal** Method.

**Note:** The AppDomain.SetThreadPrincipal Method sets the default principal object to be attached to threads

**C:** WindowsIdentity Class represents a Windows user. The GetCurrent method is used to create a WindowsIdentity object that represents the current user. However, we must the WindowsPrincipal class to test if the users are valid domain users.

**D:** The WindowsIdentity.GetAnonymous Method returns a WindowsIdentity object that represents an anonymous Windows user. This will not help in validating the current user.

### Question No: 66

You develop a Windows-based application for your payroll department. The application will include a procedure named Signin, which must allow users to report that they are present in their offices. The procedure must also allow each user to sign in other users. The procedure must return a Boolean variable indicating success or failure.

In most cases, the procedure will be called with no parameters. When no parameters are passed in, the procedure should recognize the user by the information stored in global variables. When one user signs in another user, the procedure should accept a string variable parameter that represents the user name of the user who is signed in.

You want to define your procedure to present the most efficient contract to the consumer. Which two code segments should you use? (Each correct answer presents part of the solution. Choose two)

- A. `Public Function SignIn() As Boolean.`
- B. `Public Function SignIn(userName As String) As Boolean`
- C. `Public Function SignIn(userName As String, _  
Success As Boolean)  
As Boolean`
- D. `Public Function SignInWithName(userName As String) _  
As Boolean`
- E. `Public SignIn(username As String)`
- F. `Public Sub SignInWithName(userName As String)`

**Answer: A, B**

**Explanation:** We must overload the definition of Signin. We should implement Signin as functions, not as sub procedures, since we want Signin to return a value.

**A:** One Signin function with no parameters.

**B:** One Signin function with a string parameter.

**Reference:** Visual Basic Language Specification, Overloading and Signatures

**Incorrect Answers**

**C:** The function should only have one parameter, not two.

**D:** When overloading we must identical named identities.

**E, F:** Functions is better in this scenario. Furthermore to overload a Sub procedure we need at least two Sub procedures with the same name.

**Question No: 67**

**You use Visual Studio .NET to create a Windows-based application called TestKingMortgage. The main form of the application contains several check boxes that correspond to application settings. One of the CheckBox controls is named advancedCheckBox. The caption for advancedCheckBox is Advanced. You must enable users to select or clear this check box by pressing ALT+A.**

**Which two actions should you take? (Each correct answer presents part of the solution. Choose two)**

- A. Set advancedCheckBox.AutoCheck to **True**.
- B. Set advancedCheckBox.AutoCheck to **False**.
- C. Set advancedCheckBox.Text to “**&Advanced**”.
- D. Set advancedCheckBox.Tag to “**&Advanced**”.
- E. Set advancedCheckBox.CheckState to **Unchecked**.
- F. Set advancedCheckBox.CheckState to **Indeterminate**.
- G. Set advancedCheckBox.Apperance to **Button**.
- H. Set advancedCheckBox.Apperance to **Normal**.

**Answer: A, C**

**Explanation:**

**A:** The AutoCheck property must be set to True so that the CheckBox automatically is changed when the check box is accessed.

**C:** The Text property contains the text associated with this control. By using the &-sign we define a shortcut command for this control. "@Advanced" defines the shortcut ALT+A.

**Reference:**

.NET Framework Class Library, CheckBox Properties

.NET Framework Class Library, CheckBox.AutoCheck Property [Visual Basic]

**Incorrect Answers**

**B:** If AutoCheck is set to false, you will need to add code to update the Checked or CheckState values in the Click event handler.

**D:** The Tag property only contains data about the control.

**E, F:** The CheckState property only contains the state of the check box.

**G, H:** The appearance property only determines the appearance of a check box control.

**Question No: 68**

You use Visual Studio .NET to create several Windows-based applications. All use a common class library assembly named TestKingCustomers. You deploy the application to client computers on your company intranet.

Later, you modify TestKingCustomers. Any application that uses version 1.0.0.0 must now use version 2.0.0.0.

What should you do?

- A. Modify the machine configuration file on your client computers.
- B. Modify the application configuration file for Customers.
- C. Modify the Publisher Policy file containing a reference to Customers.
- D. Modify the reference patch for Customers.

**Answer: C**

**Explanation:** When an assembly vendor releases a new version of an assembly, the vendor can include a publisher policy so applications that use the old version now use the new version.

**Reference:**

.NET Framework General Reference, <publisherPolicy> Element

**Question No: 69**

You develop a Windows-based application that will retrieve employee vacation data and display it in a DataGrid control. The data is managed locally in a DataSet object named employeeDataSet.

You need to write code that will enable users to sort data by department.

Which code segment should you use?

- A. 

```
Dim dvDept As New DataView()  
dvDept.Table = employeeDataSet.Tables(0)  
dvDept.Sort = "ASC"  
DataGrid1.DataSource = dvDept
```
- B. 

```
Dim dvDept As New DataView()  
dvDept.Table = employeeDataSet.Tables(0)  
dvDept.Sort = "Department"  
DataGrid1.DataSource = dvDept
```
- C. 

```
Dim dvDept As New DataView()  
dvDept.Table = employeeDataSet.Tables(0)  
dvDept.ApplyDefaultSort = True  
DataGrid1.DataSource = dvDept
```
- D. 

```
Dim dvDept As New DataView()  
dvDept.Table = employeeDataSet.Tables(0)
```

```
dvDept.ApplyDefaultSort = False
DataGrid1.DataSource = dvDept
```

**Answer: B**

**Explanation:** The `DataView.Sort` Property gets or sets the sort column or columns. The sort string contains the column name followed by "ASC" (ascending) or "DESC" (descending). Columns are sorted ascending by default. Multiple columns can be separated by commas.

The `dvDept.Sort = "Department"` assignment sorts the view on the Department column.

**Reference:**

.NET Framework Class Library, `DataView.Sort` Property [Visual Basic]

**Incorrect Answers**

**A:** We must specify the column name, not just the sort order.

**C:** We don't want to use the default sort. We want to sort on the Department column.

**D:** Disabling the default sort will not sort on the Department column.

**Question No: 70**

You develop a Windows control named `FormattedTextBox`, which will be used by many developers in your company. `FormattedTextBox` will be updated frequently.

You create a custom bitmap image named `CustomControl.bmp` to represent `FormattedTextBox` in the Visual Studio .NET toolbox. The bitmap contains the current version number of the control, and it will be updated each time the control is updated. The bitmap will be stored in the application folder.

If the bitmap is not available, the standard `TextBox` control bitmap must be displayed instead.

Which class attribute should you add to `FormattedTextBox`?

- A. `<ToolboxBitmap(GetType(TextBox))< _  
Class FormattedTextBox`
- B. `<ToolboxBitmap("CustomControl.bmp")> _  
Class FormattedTextBox`
- C. `<ToolboxBitmap(GetType(TextBox), _  
" CustomControl.bmp")> _  
Class FormattedTextBox`
- D. `<ToolboxBitmap(GetType(TextBox))> _  
<ToolboxBitmap("CustomControl.bmp")> _  
Class FormattedTextBox`

**Answer: C**

**Explanation:** We specify the standard `Textbox` control bitmap with `(GetType(TextBox))`. Then we supply the file name of the custom bitmap image.

**Reference:**

Visual Basic and Visual C# Concepts, Providing a Toolbox Bitmap for Your Control  
.NET Framework Class Library, ToolboxBitmapAttribute Class [Visual Basic]

**Incorrect Answers**

- A:** We must use the CustomControl.bmp bitmap image.
- B:** We must specify the default image with GetType(TextBox)
- D:** Incorrect syntax.

**Question No: 71**

**You use Visual Studio .NET to create a Windows-based application. The application includes a form named TestKing. You implement print functionality in TestKing by using the native .NET System Class Libraries.**

**TestKing will print a packing list on tractor-fed preprinted forms. The packing list always consists of two pages. The bottom margin of page 2 is different from the bottom margin of page 1.**

**You must ensure that each page is printed within the appropriate margins.**

**What should you do?**

- A. When printing page 2, set the bottom margin by using the PrintPageEventArgs object.
- B. When printing page 2, set the bottom margin by using the QueryPageSettingEventArgs object.
- C. Before printing, set the bottom margin of page 2 by using the PrintSetupDialog object.
- D. Before printing, set the bottom margin of page 2 by using the PrinterSettings object.

**Answer: A**

**Explanation:** The **PrintPageEventArgs** Class provides data for the **PrintPage** event. The Printpage event occurs when the output to print for the current page is needed. Using the **PrintPageEventArgs** Class we can provide individual settings for a printed page, as is required in this scenario,.

It is possible to print each page of a document using different page settings. You set page settings by modifying individual properties of the QueryPageSettingsEventArgs.PageSettings property. Changes made to the PageSettings affect only the current page, not the document's default page settings.

The PageSettings Class specifies settings that apply to a single, printed page. It is used to specify settings that modify the way a page will be printed.

**Reference:**

.NET Framework Class Library, PrintDocument.PrintPage Event  
.NET Framework Class Library, PrintDocument.QueryPageSettings Event [Visual Basic]  
.NET Framework Class Library, PrintDocument.PrintPage Event [Visual Basic]

**Incorrect Answers**

- B:** QueryPageSettingsEventArgs Class Provides data for the QueryPageSettings event. However, the PrintDocument.QueryPageSettings Event occurs immediately before each PrintPage event, not when a page is printed.
- C:** PrintSetupDialog object cannot be used to specify specific print settings of page 2.
- D:** The PrinterSettings object sets general Printer properties. It does no apply here.

**Question No: 72**

**You develop a customer contact application TestKingContact, that will enable users to view and update customer data in a Windows Form. Your application uses a DataTable object and a DataAdapter object to manage the data and interact with a central database.**

**Your application design must fulfill the following requirements:**

- **After a user completes a set of updates, the changes must be written in the database.**
- **The data stored in the DataTable object must indicate that the database updates are complete.**

**What code segment should you use?**

- A. `DataTable.AcceptChanges ()`  
`DataAdapter.Update (DataTable)`
- B. `DataAdapter.Update (DataTable)`  
`DataTable.AcceptChanges ()`
- C. `DataTable.Reset ()`  
`DataAdapter.Update (DataTable)`
- D. `DataAdapter.Update (DataTable)`  
`DataTable.Reset ()`

**Answer: B**

**Explanation:** First we resolve the changes (update) and then we commit them (AcceptChanges).

**Note:** The Update method of the DataAdapter is called to resolve changes from a DataSet back to the data source. The DataAdapter analyzes the changes that have been made and executes the appropriate command (INSERT, UPDATE, or DELETE).

The DataTable.AcceptChanges Method commits all the changes made to this table since the last time AcceptChanges was called.

**Reference:**

.NET Framework Class Library, DataTable.AcceptChanges Method [Visual Basic]

.NET Framework Developer's Guide, Updating the Database with a DataAdapter and the DataSet [Visual Basic]

.NET Framework Class Library, DataTable.Reset Method [Visual Basic]



**Incorrect Answers**

- A:** We must first update the changes to the DataTable before we commit the data source. We must swap the commands.
- C, D:** The DataTable.Reset Method resets the DataTable to its original state. We should instead commit all changes with the AcceptChanges method.

**Question No: 73**

**You develop a Windows-Based application that interacts with a Microsoft SQL Server database. The application inserts new rows into the database by calling the following stored procedure. (Line numbers are included for reference only.)**

```

01 ALTER PROCEDURE dbo.sp_UpdateTestKingPrice
02 (
03 @category int,
04 @totalprice money OUTPUT
05 (
06 AS
07 SET NOCOUNT ON
08 UPDATE Products SET UnitPrice = UnitPrice * 1.1
      WHERE CategoryID = @category
09 SELECT @totalprice = sum(UnitPrice) FROM Products
10 SELECT ProductName FROM Products
      WHERE CategoryID = @category
11 RETURN @totalprice

```

**Your application uses the ExecuteReader method of the SqlCommand object to call the stored procedure and create a SqlDataReader object. After the stored procedure runs, your code must examine the SqlDataReader.RecordsAffected property to verify that the correct number of records is successfully updated.**

**However, when you execute the stored procedure, the SqlDataReader.RecordsAffected property always returns 1.**

**How should you correct this problem?**

- A. Change line 7 to  
SET ROWCOUNT 0
- B. Change line 7 to  
SET NOCOUNT OFF
- C. Change line 11 to  
RETURN 0
- D. Change line 11 to  
RETURN @category

**Answer: B**

**Explanation:** SqlDataReader.RecordsAffected Property gets the number of rows changed, inserted, or deleted by execution of the Transact-SQL statement.

The Transact-SQL SET NOCOUNT command stops the message indicating the number of rows affected by a Transact-SQL statement from being returned as part of the results. When SET NOCOUNT is ON, the count (indicating the number of rows affected by a Transact-SQL statement) is not returned. When SET NOCOUNT is OFF, the count is returned.

**Reference:**

SQL Server Books Online, SET NOCOUNT

.NET Framework Class Library, SqlDataReader.RecordsAffected Property [Visual Basic]

**Incorrect Answers**

**A:** The SET NOCOUNT 0 is incorrect. We should use OFF instead of =.

**C, D:** We cannot change the functionality of the stored procedure by changing the RETURN statement. Furthermore, returning = or the value of @Category value does not achieve the desired result.

**Question No: 74**

**You use Visual Studio .NET to create a custom control named TestKingStats. TestKingStats will operate by periodically polling your network and updating the network statistics displayed to each user.**

**TestKingStats contains a Timer control named Timer1. You set the control's Interval property to 500 milliseconds. You write code in the Tick event handler for Timer1 to poll the network status. You also create a procedure named RedrawControl to update the statistics displayed in TestKingStats.**

**When the form that contains TestKingStats is minimized or hidden behind another window, the control should not consume unnecessary resources by updating the display. You must ensure that this condition is met. In addition, you want to write the minimum amount of code needed to finish developing Stats.**

**Which two actions should you take? (Each correct answer presents part of the solution. Choose two)**

- A. Place the following code segment in the Tick event handler for Timer1:  
RedrawControl()
- B. Place the following code segment in the Tick event handler for Timer1:  
Me.Invalidate()
- C. Place the following code segment in the Tick event handler for Timer1:  
If Me.Visible = True Then Me.Invalidate()
- D. Place the following code segment in the Tick event handler for Time1:  
If Me.Visible = True Then Me.Invalidate()
- E. Place the following code segment in the Paint event handler for Stats:  
RedrawControl(1)
- F. Place the following code segment in the Paint event handler for Stats:  
Me.Invalidate

**Answer: D, E**

**Explanation:**

**D:** We test if the form is visible (`Me.Visible = True`) and then invalidate the form.

**Note:** The `Invalidate` method invalidates a specific region of the control and causes a paint message to be sent to the control. It will cause the `Paint` event of the `Stats` control to fire.

**E:** The `Invalidate` method of the form will cause a paint event of the `Stats` control. We handle this by adding the `RedrawControl()` method to the `Paint` Event of the `Stats` control.

**Reference:**

.NET Framework Developer's Guide, Rendering a Windows Forms Control [Visual Basic]

.NET Framework Class Library, `Control.Invalidate` Method () [Visual Basic]

**Incorrect Answers**

**A:** We should only use `RedrawControl` if the form is visible. Furthermore we should put `RedrawControl()` in the `Paint` event handler for `stats`, not in `Tick` event for `Timer1`.

**B:** We should only use `RedrawControl` if the form is visible.

**C:** We should put `RedrawControl()` in the `Paint` event handler for `stats`, not in `Tick` event for `Timer1`.

**F:** We should put `RedrawControl()` in the `Paint` event handler for the `Stats` control. We should use the `Invalidate` method in `Tick` event for `Timer1`, not in the `Paint` event handler for `Stats`.

**Question No: 75**

**You plan to use Visual Studio .NET to create a class named `BusinessRules`, which will be used by all applications in your company. `BusinessRules` defines business rules and performs calculations based on those rules. Other developers in your company must not be able to override the functions and subroutines defined in `BusinessRules` with their own definitions.**

**Which two actions should you take to create `BusinessRules`? (Each correct answer presents part of the solution. Choose two)**

- A. Create a Windows control library project
- B. Create a class library project.
- C. Create a Windows Service project.
- D. Use the following code segment to define `BusinessRules`:  
`Protected Class BusinessRules`
- E. Use the following code segment to define `BusinessRules`:  
`Public Shadows Class BusinessRules`
- F. Use the following code segment to define `BusinessRules`:  
`Public NotInheritable Class BusinessRules`
- G. Use the following code segment to define `BusinessRules`:  
`Public MustInherit Class BusinessRules`

**Answer: B, F**

**Explanation:**

**B:** A class library project would be adequate for an implementation of Business Rules.

**F:** A NotInheritable class is a class that may not be derived from. NotInheritable classes are primarily used to prevent unintended derivation.

**Reference:**

Visual Basic Language Reference, Class Statement

Visual Basic Language Specification, MustInherit and NotInheritable Classes

Visual Basic Language Concepts, Introduction to Objects in Visual Basic

Visual Basic Language Concepts, Overriding Properties and Methods

**Incorrect Answers**

**A:** The BusinessRules Class defines business rules and perform calculations. It does not define a user Interface. A Windows control library project is not appropriate.

**C:** Business rules are not implemented as a Windows service.

**D:** Entities declared with the Protected keyword have protected access. They are accessible only from within their own class or from a derived class. However, this would not prevent the class from being overridden.

**E:** Shadowing does not apply here. Shadowed members are used to locally replace a member that has broader scope.

**G:** The MustInherit class forces the regular class to include actual implementations of all inherited MustInherit members which is what we want to prevent.

**Question No: 76**

**You develop a Windows-based application that accesses a Microsoft SQL Server database. The application includes a form named CustomerForm, which contains a Button control named SortButton. The database includes a table named Customers.**

**Data from Customers will be displayed on CustomerForm by means of a DataGrid control named DataGrid1. The following code segment is used to fill DataGrid1:**

```
Private Sub FillDataGrid()
    Dim oConn As New SqlConnection(MyConString)
    Dim oDA As New SqlDataAdapter( _
        "SELECT CustomerID, CompanyName, ContactName, " & _
        "Phone FROM Customers", oConn)
    Dim oDS As New DataSet()
    oDA.MissingSchemaAction = MissingSchemaAction.AddWithKey
    oDA.Fill(oDS, "Customers")
    Dim oDV As New DataView(oDS.Tables("Customers"))
    oDV.Sort = "CustomerName ASC, ContactName ASC"
    oDV.ApplyDefaultSort = True
```

```
DataGrid1.DataSource = oDV
End Sub
```

**The primary key for Customers is the CustomerID column. You must ensure that the data will be displayed in ascending order by primary key when the user selects SortButton. What should you do?**

- A. Set the Sort property of the DataView object to an empty string.
- B. Set the ApplyDefaultSort property of the DataView object to **False**.
- C. Include an ORDER BY clause in the SELECT statement when you create the DataAdapter object.
- D. Set the RowFilter property of the DataView object to **CustomerID**.

**Answer: A**

**Explanation:** You can use the ApplyDefaultSort property to automatically create a sort order, in ascending order, based on the primary key column or columns of the table. ApplyDefaultSort only applies when the Sort property is a null reference or an empty string, and when the table has a primary key defined.

All requirements are met:

- The ApplyDefaultSort is set to true (see code above).
- The Table has a primary key
- The Sort property is set to the empty string.

The DataView will be sorted in ascending order on the Primary Key column.

**Reference:** .NET Framework Developer's Guide, Sorting and Filtering Data Using a DataView [Visual Basic]

#### **Incorrect Answers**

**B:** We want to use the default sort order. We should keep the value of ApplyDefaultSort property set to True.

**C:** It is not necessary to include a ORDER BY clause in the SELECT statement.

**D:** We want to sort the DataView, not to filter it.

#### **Question No: 77**

**You develop a Windows-based application that enables users to update customer contact information. Your application uses a DataSet object to maintain the customer data while users are reviewing and editing it. When a user finishes updating the data, your application uses the DataSet.WriteXml method to create an XML data file.**

**The tag name of the root element of the XML data file must be <TestKingCustomerInfo>. You need to add code to your application to ensure that this tag name is set correctly.**

**Which code segment should you use?**

- A. dsCustomer.Namespace = "TestKingCustomerInfo"
- B. dsCustomer = New DataSet("TestKingCustomerInfo")

- C. `dcCustomer.Prefix = "TestKingCustomerInfo"`
- D. `dsCustomer.WriteXml("TestKingCustomerInfo")`

**Answer: A**

**Explanation:** The `DataSet.Namespace` Property gets or sets the namespace of the `DataSet`. The `Namespace` property is used in the root element of the XML data file generated from the dataset.

**Reference:**

- .NET Framework Class Library, `DataSet.Namespace` Property [Visual Basic]
- .NET Framework Class Library, `DataSet.WriteXml` Method (`XmlWriter`) [Visual Basic]
- .NET Framework Class Library, `DataSet.Prefix` Property [Visual Basic]

**Incorrect Answers**

- B:** The name of the dataset does not decide the name of the root element of the XML data file.
- C:** The `DataSet.Prefix` Property gets or sets an XML prefix that aliases the namespace of the `DataSet`. The `Prefix` is used throughout an XML document to identify elements which belong to the namespace of the `DataSet` object as set by the `Namespace` property.
- D:** The `WriteXml` method requires a `XmlWriter` parameter, not a `Text` parameter.

**Question No: 78**

**You use Visual Studio .NET to create a Windows Service application TestKingApp. You compile a debug version and install it on your computer, which runs Windows 2000 Server. You start TestKingApp from the Windows 2000 Service Control Manager. Now you need to begin debugging it within Visual Studio .NET.**

**What should you do?**

- A. Add a reference to the application within Visual Studio .NET. Add breakpoints to the code. Invoke the breakpoints by sending Stop, Pause, and Continue commands from the Service Control Manager.
- B. Select **Processes** from the **Debug** menu and attach the debugger to TestKingApp.
- C. Place a breakpoint in the `OnStart` method of the application and then run it.
- D. Place a breakpoint in the `Main` procedure of the application and then run it.

**Answer: B**

**Explanation:** To debug a service, you must start the service and then attach a debugger to the process in which it is running. We use the `Process` dialog box to attach to the running service.

**Note:** The `Processes` dialog box enables you to view and manipulate programs in a Visual Studio solution. Using this dialog box, you can debug multiple programs at the same time in a single solution.

**Reference:**

Visual Basic and Visual C# Concepts, Debugging Windows Service Applications  
Visual Studio, Processes Dialog Box

**Incorrect Answers**

- A:** The service is run with in the context of the Services Control Manager, not within Visual Studio .NET. We cannot debug a process by adding a reference to the process and adding breakpoints.
- C:** Because the service has already been started, you cannot debug the code in the service's OnStart method.
- D:** Because the service has already been started, you cannot debug the code in the main procedure of the service.

**Question No: 79**

**You develop a Windows-based application that contains a class named TestKingContact. TestKingContact used ADO.NET to interact with a Microsoft SQL Server database. TestKingContact requires an active connection to the database while it is being consumed. You must ensure that all resources used by TestKingContact are properly releases as soon as the class stops being consumed. What should you do?**

- A. In Contact, create a Sub procedure named Finalize to override System.Object.Finalize. Place the appropriate cleanup code in the Finalize procedure and call MyBase.Finalize.
- B. In Contact, create a Sub procedure named Closed. Place the appropriate cleanup code in the Closed procedure.
- C. Implement the Dispose method of the IDisposable interface. Place the appropriate cleanup code in the implemented Dispose method. Call the Dispose method of your form before releasing the reference.
- D. Implement the Finalize method if the System.Windows.Form interface. Place the appropriate cleanup code in the implemented Finalize method. Call the Dispose method of your form before releasing the reference.

**Answer: C**

**Explanation:** We implement the IDisposable interface. It has one method Dispose. We implement the Dispose method to release the open database connections. We must explicitly call Dispose method when the resources should be released.

**Reference:**

Visual Basic Language Concepts, Object Lifetime: How Objects Are Created and Destroyed  
.NET Framework Developer's Guide, Overriding the Finalize Method

**Incorrect Answers**

- A, D:** As a good practice an object's Finalize method should not call a method on any objects other than that of its base class. It is inappropriate to close database in the Finalize method of the form.
- B:** A forms closed event occurs when the form is closed. Cleanup code should not be placed in procedure named Closed. We could not be absolutely sure that the database is no longer used.

**Question No: 80**

**You develop a Windows-based application named Payroll. Your application receives information in the form of an XML data file named dataFile. This file does not include any schema information. You need to write code to load the XML data into a DataSet object.**

**Which code segment should you use?**

- A. `Dim ds As New DataSet("PayrollData")  
ds.readXml(dataFile, _  
XmlReadMode.IgnoreSchema)`
- B. `Dim ds As New DataSet("PayrollData")  
ds.readXml(dataFile, _  
XmlReadMode.InferSchema)`
- C. `Dim ds As New DataSet("PayrollData")  
ds.readXml(dataFile, _  
XmlReadMode.ReadSchema)`
- D. `Dim ds As New DataSet("PayrollData")  
ds.readXml(dataFile, _  
XmlReadMode.Fragment)`

**Answer: B**

**Explanation:** XmlReadMode InferSchema ignores any inline schema, infers schema from the data and loads the data.

**Reference:**

.NET Framework Class Library, XmlReadMode Enumeration [Visual Basic]

.NET Framework Class Library, DataSet.ReadXml Method (String, XmlReadMode) [Visual Basic]

**Incorrect Answers**

- A:** XmlReadMode IgnoreSchema ignores any inline schema and reads data into the existing DataSet schema. We do not have any schema here however.
- C:** XmlReadMode ReadSchema reads any inline schema and loads the data. There is no inline schema however.
- D:** XmlReadMode Fragment is not used with a datafile. It reads XML documents, such as those generated by executing FOR XML queries, against an instance of SQL Server.



**Question No: 81**

You develop a Windows-based customer service application that includes a search feature. Users will enter characters in a text box to look up customer information by family name. For convenience, users must be able to perform a search by entering only the first few characters of the family name. To enable this functionality, your application will capture the users input and stores it in a variable named TKName. Your application must then submit a Microsoft SQL Server query to the central customer service database. How should you write the query?

- A. SQL = "SELECT PersonalName, FamilyName FROM " & "Customers WHERE FamilyName = '" & TKName & "%'"
- B. SQL = "SELECT" PersonalName, FamilyName FROM " & "Customers WHERE FamilyName LIKE '" & TKName & "%'"
- C. SQL = SELECT PersonalName, FamilyName FROM " & "Customers WHERE FamilyName = '" & TKName & "\*'"
- D. SQL = "SELECT PersonalName, FamilyName FROM " & "Customers WHERE FamilyName LIKE '" & TKName & "\*'"

**Answer: B**

**Explanation:** The SQL server LIKE Transact-SQL command LIKE determines whether or not a given character string matches a specified pattern. % is used as a wildcard character.

**Reference:** SQL Server Books Online, LIKE

**Incorrect Answers**

- A:** We must use the LIKE keyword.
- C:** We must use the LIKE keyword with the % wildcard character.
- D:** %, not \*, is used as a wildcard character.

**Question No: 82**

You develop a Windows-based application that connects to a Microsoft SQL Server database. Errors sometimes occur when users execute stored procedures in the database. You need to add error-handling code to your application to capture detailed information about any stored procedure that causes an error. Which code segment should you use?

- A. Try
 

```

      TestKingConnection.Open()
      Catch e As Exception
      'Insert error-handling code.
      End Try
      
```

- B. Try  
     TestKingConnection.Open()  
     Catch e As SqlException  
         `Insert error-handling code.  
     End Try
- C. Try  
     TestKingConnection.Open()  
     Catch e As DataException  
         `Insert error-handling code.  
     End try
- D. Try  
     TestKingConnection.Open()  
     Catch e As DBConcurrencyException  
         `Insert error-handling code.  
     End Try

**Answer: B**

**Explanation:** SqlException Class implements the exception that is thrown when SQL Server returns a warning or error.

**Reference:** .NET Framework Class Library, SqlException Class [Visual Basic]

**Question No: 83**

**You use Visual Studio .NET to create an accounting application called TestKingAccounting, which includes a function named CreditCardValidate. This function contains several dozen variables and objects.**

**To debug CreditCardValidate, you create a breakpoint at the top of the function. You run the accounting application within the Visual Studio .NET IDE and step through the code for CreditCardValidate. You need to examine the contents of the variables and objects in scope on each line of code. However, you want to avoid seeing the contents of all variables and objects within CreditCardValidate. You also need to complete the debugging process as quickly as possible.**

**What should you do?**

- A. Use the Autos window.  
 B. Use the Locals window.  
 C. Use the QuickWatch window.  
 D. From the Command window, print the contents of each variable that you want to examine by using the following code segment:  
     ? <variablename>

**Answer: B**

**Explanation:** The Locals window displays variables local to the current context.

**Reference:**

Visual Studio, Using the Locals Window

Visual Studio, Using Autos Window

Visual Studio, Using the QuickWatch Dialog Box

**Incorrect Answers**

**A:** The Autos window displays variables used in the current statement and the previous statement only.

**C:** The QuickWatch Dialog Box, there is no QuickWatch window, is used to quickly evaluate a variable or expression, or edit the value of a variable or register. It is not used to display values of several variables.

**D:** This would require much manual labor.

**Question No: 84**

**You use Visual Studio .NET to create a Windows-based accounting application. Your application will be deployed on computers running Windows 98, Windows 2000 Professional, and Windows XP Professional. You must ensure that your application records information about errors raised from calls to a procedure named UpdateData. To do so, you plan to implement logging features.**

**Which code segment should you use?**

```
A. Dim oLog As New EventLog()
   Dim oType As EventLogEntryType

   Try
       UpdateData()
   Catch eEx As Exception
       If Not EventLog.SourceExists("AccountingApp") Then
           EventLog.CreateEventSource("AccountingApp", _
               "Application")
       End If
       oLog.Source = "AccountingApp"
       oLog.Log = "Application"
       oType = EventLogEntryType.Error
       oLog.WriteEntry("Error details: " & _
           oEx.Message, oType)
   End Try
```

```
B. Dim lFH As Long

   Try
       UpdateData()
   Catch oEx As Exception
```

```

    1PH = FreeFile()
    Open logfilePath For Append As #1FH
    Print #1FH, oEx.Message
    Close #1FH
End try
C. Dim oWriter As New _
    IO.StreamWriter(IO.File.Open(logfilePath, _
    IO.FileMode.Append))

Dim oListener As New _
    TextWriterTraceListener(oWriter

Debug.Listeners.Add(oListener)

Try
    UpdateData()
Catch oEx As Exception
    Debug.WriteLine(oEx.Message)
    oWriter.Flush()
    oWriter.Close()
    oWriter = Nothing
End Try
D. Dim oWriter As New _
    IO.StreamWriter(IO.File.Open(logfilePath, _
    IO.FileMode.Append))
Dim oListener As New _
    TextWriterTraceListener(oWriter)
Trace.Listeners.Add(oListener)

Try
    UpdateData()
Catch oEx As Exception
    Trace.WriteLine(oEx.Message)
    Trace.Listeners.Clear()
    oWriter.Close()
    oWriter = Nothing
End Try

```

**Answer: A**

**Explanation:** Logging can be implemented using the Event log. First we create an instance of the event log. We then add one EventLogEntry at a time.

**Reference:**

Visual Basic and Visual C# Concepts, Creating EventLog Component Instances  
 .NET Framework Class Library, EventLogEntry Class [Visual Basic]  
 .NET Framework Class Library, EventLogEntry Members

**Question No: 85**

**You use Visual Studio .NET to develop a Microsoft Windows-based application. Your application contains a form named CustomerForm, which includes the following design-time controls:**

- **SqlConnection object named TestKingConnection**
- **SqlDataAdapter object named TestKingDataAdapter**
- **DataSet object named CustomerDataSet**
- **Five TextBox controls to hold the values exposed by CustomerDataSet**
- **Button control named saveButton**

**At design time you set the DataBindings properties of each TextBox control to the appropriate column in the DataTable object of CustomerDataSet.**

**When the application runs, users must be able to edit the information displayed in the text boxes. All user changes must be saved to the appropriate database when saveButton is executed. The event handler for saveButton includes the following code segment:**

```
TestKingDataAdapter.Update(CustomerDataSet)
```

**You test the application. However, saveButton fails to save any values edited in the text boxes. You need to correct this problem. What should your application do?**

- A. Call the InsertCommand method of TestKingDataAdapter.
- B. CALL THE Update method of TestKingDataAdapter and pass in TestKingConnection.
- C. Before calling the Update method, ensure that a row position change occurs in CustomerDataSet.
- D. Reestablish the database connection by calling the Open method of TestKingConnection.

**Answer: B**

**Explanation:** We must specify the Data Source as well. The Data Source is specified with the SqlConnection object. We should issue the following command:

```
TestKingDataAdapter.Update(CustomerDataSet, TestKingConnection)
```

**Reference:**

Visual Basic and Visual C# Concepts, Dataset Updates in Visual Studio .NET  
 .NET Framework Class Library, SqlDataAdapter Constructor (String, SqlConnection) [Visual Basic]

**Question No: 86**

You use Visual Studio .NET to develop a Windows-based application for your human resources (HR) department. The HR department has two subdivisions named Benefits and Employee Information. The Benefits subdivision includes the Vacation group. Both subdivisions will use your application.

You plan to create four forms modeled after the organizational structure of the HR department. The forms will be named HR, EmployeeInformation, Benefits, and Vacation.

The forms must be arranged in a hierarchy so that each form includes all code and controls found on the forms above it in the hierarchy. The form at the top of the hierarchy will be a standard Windows Form.

The form must also adhere to the following rules:

- All forms should include code to access the general HR database.
- Only forms used by the Benefits subdivision should have access to the Benefits database table.
- The forms used by the Employee Information subdivision should have access to the EmployeeInformation database table.
- The forms used by the Vacation group should include custom code to calculate vacation time.

Now you must create the form hierarchy.

Which code segment should you use?

- A. Public Class HR  
     Inherits System.Windows.Forms.Form  
 End Class  
 Public Class Benefits  
     Inherits System.Windows.Forms.Form  
     Implements HR  
 End Class  
 Public Class Vacation  
     Inherits System.Windows.Forms.Form  
     Implements Benefits  
 End Class  
 Public Class EmployeeInformation  
     Inherits System.Windows.Forms.Form  
     Implements HR  
 End Class
- B. Public Class HR  
     Inherits System.Windows.Forms.Form  
 End Class  
 Public Class Benefits  
     Inherits System.Windows.Forms.Form  
     Implements HR  
 End Class  
 Public Class Vacation

```

    Inherits System.Windows.Forms.Form
    Implements Benefits
End Class
Public Class EmployeeInformation
    Inherits System.Windows.Forms.Form
    Implements Benefits
End Class
C. Public Class HR
    Inherits System.Windows.Forms.Form
End Class
Public Class Benefits
    Inherits HR
End Class
Public Class Vacation
    Inherits Benefits
End Class
Public Class EmployeeInformation
    Inherits HR
End Class
D. Public Class Hr
    Inherits System.Windows.Forms.Form
End Class
Public Class Benefits
    Inherits HR
End Class
Public Class Vacation
    Inherits Benefits
End Class
Public Class EmployeeInformation
    Inherits Benefits
End Class

```

**Answer: C**

**Explanation:**

To meet the required restrictions on the Benefits database table, the EmployeeInformation table, and the custom code, we must use the **Inherits** statement:

- 1) HR inherits from the root form
- 2) Benefits inherits from HR.
- 3) Vacation inherits from Benefits.
- 4) EmployeeInformation inherits from HR.

The requirements are met:

- All forms should include code to access the general HR database.  
Is met by the fact that all forms inherits from HR.
- Only forms used by the Benefits subdivision should have access to the Benefits database table.  
Is met by the fact that nothing inherits from Benefits.
- The forms used by the Employee Information subdivision should have access to the EmployeeInformation database table.  
This is possible since EmployeeInformation is a separate Class.
- The forms used by the Vacation group should include custom code to calculate vacation time.  
This is possible since EmployeeInformation is a separate Class.

**Reference:**

Visual Basic Language Specification, Inheritance

Visual Basic Language Reference, Implements Statement

**Incorrect Answers**

- A:** The implements keyword can only be used for interfaces. We cannot use like provided in this proposed solution.
- B:** The implements keyword can only be used for interfaces
- D:** EmployeeInformation should inherit from HR, not from Benefits.

**Question No: 87**

**You develop a contact management application called TestKingManagement that will enable users to retrieve information from a central database. After the data is returned to TestKingManagement, users must be able to view it, edit it, add new records, and delete existing records. All user changes must then be saved in the database.**

**TestKingManagement design requires several ADO.NET objects to work together to accomplish these requirements. You use classes from the System.Data and System.Data.OleDb namespaces.**

**First you write the code to connect to the database. Which four actions should you take next? (Each correct answer presents part of the solution. Choose four.)**

- A. Create an OleDbDataAdapter object and define the SelectCommand property.
- B. Create an OleDbCommand object and use the ExecuteScalar method.
- C. Create a DataTable object as a container for the data.
- D. Create a DataSet object as a container for the data.
- E. Call the DataAdapter.Fill method to populate the DataSet object.
- F. Call the DataAdapter.Update method to populate the DataSet object.
- G. Call the DataAdapter.Update method to save changes to the database.
- H. Call the DataSet.AcceptChanges method to save changes to the database.

**Answer: A, D, E, G**

**Explanation:**



- A:** First we must create a DataAdapter.  
**D:** We then use a DataSet object as a container for the data.  
**E:** We use the Fill method to populate the DataSet.  
**G:** Finally we update the data source with the Update method.

**Reference:**

Visual Basic and Visual C# Concepts, Introduction to Dataset Updates  
.NET Framework Developer's Guide, Using .NET Data Providers to Access Data  
.NET Framework Class Library, DbDataAdapter.Fill Method [Visual Basic]  
.NET Framework Developer's Guide, Updating the Database with a DataAdapter and the DataSet [Visual Basic]

**Incorrect Answers**

- B:** We need a DataAdapter to populate the DataSet.  
**C:** DataTables contains the actual data. We must a DataSet instead. A DataSet is an in-memory representation of relational data.  
**F:** The Fill method, not the Update method, is used to populate the DataSet.  
**H:** The AcceptChanges method is to commit the pending changes to the Dataset, not to the data source (the database).

**Question No: 88**

**Your development team creates an order entry application by using Visual Studio .NET. The application stores and retrieves data in a Microsoft SQL Server database. All database connections in the application are centralized in class variables within a class named MyDataClass. Each time your application needs to access data from the database, it creates an instance of MyDataClass by using the following code segment:**

```
Dim oData As New MyDataClass()
```

**When the oData variable is no longer needed, it is set to Nothing or goes out of scope. Initially, about 500 sales representatives use the application. Later, your company hires 50 new sales representatives who also use the application. You discover that the database is running out of available connections because of the increases usage. You must ensure that database connections are released immediately when they are no longer needed. You must also maintain an optimum level of application performance. What should you do?**

- A. Add the procedure `Protected Overrides Finalize()` to MyDataClass.  
Write code in the procedure to close all open database connections.  
B. Add the procedure `Private Sub Finally()` to MyDataClass.  
Write the code in the procedure to close all open database connections.

- C. Implement the IDisposable interface within MyDataClass. Write code in the Dispose procedure of IDisposable to close all open database connections.  
Call the Dispose method of MyDataClass before any reference to MyDataClass is set to Nothing or goes out of scope.
- D. Find each location in your code where a reference to MyDataClass is set to nothing or goes out of Scope.  
Add code after each instance to manually invoke the Visual Studio .NET garbage collector.
- E. Add code to the Terminate event of MyDataClass to close all open database connections.
- F. Ensure that each reference to MyDataClass is set to Nothing before it goes out of scope.

**Answer: C**

**Explanation:** We implement the IDisposable interface. It has one method Dispose. We implement the Dispose method to release the open database connections. We must explicitly call Dispose method when the resources should be released.

**Reference:**

Visual Basic Language Concepts, Object Lifetime: How Objects Are Created and Destroyed  
.NET Framework Class Library, Object.Finalize Method [Visual Basic]

**Incorrect Answers**

- A:** The Object.Finalize Method allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection. By adding code that close all open database connections for this method of the class, we would ensure that all connections would be released. However, the exact time when the finalizer executes during garbage collection is undefined.
- B:** There is no method called Finally.
- D:** Calling the garbage collection frequently would increase overhead.
- E:** The Terminate event was used in Visual Basic 6.0. It has been replaced by the Finalize method.
- F:** Setting the instances of the class to nothing would not close the database connections.

**Question No: 89**

**You develop a Windows-based application that uses several functions to calculate a given inventory quantity. This quantity is stored in a variable named TestKingQuantity.**

**When you test your application, you discover that the value of TestKingQuantity sometimes falls below zero. For debugging purposes, you want your application to generate an error message in such cases. You also want to be able to view the call stack to help identify the function call that is causing the miscalculation.**

**You need to insert additional code after the calculation of TestKingQuantity.**

**Which code segment should you use?**

- A. `Trace.Assert(TestKingQuantity >= 0, _  
    "Inventory cannot be less than zero.")`

- B. `Trace.Assert (TestKingQuantity < 0, _  
    "Inventory cannot be less than zero.")`
- C. `Trace.Fail (TestKingQuantity >= 0, _  
    "Inventory cannot be less than zero.")`
- D. `Trace.WriteLineIf (TestKingQuantity < 0, _  
    "Inventory cannot be less than zero.")`

**Answer: A**

**Explanation:** The Assert method emits output as a message box if the condition is false. If TestKingQuantity <0 then the message box will appear and the user would be able to check the current call stack in the call stack window.

**Reference:**

Visual Basic and Visual C# Concepts, Adding Trace Statements to Application Code  
 .NET Framework Class Library, Trace Class [Visual Basic]  
 Visual Studio, Using the Call Stack Window

**Incorrect Answers**

- B:** The Assert method emits output if the condition is false. The condition is incorrect.
- C:** The Fail method writes output unconditionally. It cannot be used with a condition.
- D:** The WriteLineIf method emits output if the condition is true. Though the code will continue to run, so it would be impossible to check the call stack window at this point of time.

**Question No: 90**

**You use Visual Studio .NET to create a data entry form. The form enables users to edit personal information such as address and telephone number, The form contains a text box named textPhoneNumber.**

**If a user enters an invalid telephone number, the form must notify the user of the error. You create a function named ValidPhone that validates the telephone number entered. You include an ErrorProvider control named ErrorProvider1 in your form.**

**Which additional code segment should you use?**

- A. `Private Sub textPhone_Validating _  
    (ByVal sender As Object, _  
    ByVal e As System.ComponentModel.CancelEventArgs) _  
    Handles textPhoneNumber.Validating  
    If ValidPhone() = False then _  
        ErrorProvider1.SetError(textPhone, "Invalid Phone. ")  
    End If  
End Sub`
- B. `Private Sub textPhone_Validated _`

```

        (ByVal sender As Object, _
        ByVal e As System.EventArgs) _
        Handles textPhoneNumber.Validated
        If ValidPhone() = False then _
            ErrorProvider1.SetError(textPhone, "Invalid Phone.")
        End If
    End Sub
End Sub
C. Private Sub textPhone_Validating _
    (ByVal sender As Object, _
    ByVal e As System.ComponentModel.CancelEventArgs) _
    Handles textPhoneNumber.Validating
    If ValidPhone() = False then _
        ErrorProvider1.GetError(textPhone)
    End IF
End Sub
D. Private Sub textPhone_Validated _
    (ByVal sender As Object, _
    ByVal e As System.EventArgs) _
    Handles textPhoneNumber.Validated
    If ValidPhone() = False then _
        ErrorProvider1.GetError(textPhone)
    End If
End Sub
E. Private Sub textPhone_Validating _
    (ByVal sender As Object, _
    ByVal e As System.ComponentModel.CancelEventArgs) _
    Handles textPhoneNumber.Validating
    If ValidPhone() = False then _
        ErrorProvider1.UpdateBinding()
    End If
End Sub
F. Private Sub textPhone_Validated _
    (ByVal sender As Object, _
    ByVal e As System.EventArgs) _
    Handles textPhoneNumber.Validated
    If ValidPhone() = False then _
        ErrorProvider1.UpdateBinding()
    End If
End Sub

```

**Answer: A**

**Explanation:** We should add code for the Validating Event. If the ValidPhone() function evaluates to false we should use the ErrorProvider.SetError method to set the error description string.

**Note:** Focus events occur in the following order:

1. Enter
2. GotFocus
3. Leave
4. Validating
5. Validated
6. LostFocus

**Reference:**

.NET Framework Class Library, Control.Validating Event [Visual Basic]

.NET Framework Class Library, ErrorProvider Members.NET Framework Class Library, Control.Validated Event [Visual Basic]

**Incorrect Answers**

- B, D, G:** We should add code for the Validating Event, not the Validated event. The Control.Validated Event occurs when the control is finished validating.
- C:** The ErrorProvider.Geterror method returns the current error description string for the specified control. We want to set it however.
- F:** The ErrorProvider.Updatebinding method is of no use here. It provides a method to update the bindings of the DataSource, DataMember, and the error text. We only want to set the error description string.

**Question No: 91**

**You develop a Windows-based application. You plan to use ADO.NET to call a Microsoft SQL Server stored procedure named EmployeeData. This procedure accepts a parameter for querying the database by an employee's family name.**

**You need to add code to your application to set up the parameter for use with the stored procedure. Which three lines of code should you add? (Each correct answer presents part of the solution. Choose three.)**

- A. Dim parm1 As New SqlParameter()
- B. Dim parm1 As New SqlParameter("@FamilyName", \_  
    SqlDbType.VarChar)
- C. parm1.Direction = ParameterDirection.Input
- D. parm1.Direction = ParameterDirection.InputOutput
- E. cmd.Parameters.Add(parm1)
- F. parm1.Add(cmd)

**Answer: B, C, E**

**Explanation:**

- B:** The names of the parameter added must match the names of the parameter markers in your stored procedure.
- C:** The parameter is used as an input parameter.
- E:** We add the parameter to the command.

**Reference:**

- .NET Framework Class Library, SqlParameter Class [Visual Basic]
- .NET Framework Class Library, SqlParameter Members
- .NET Framework Class Library, SqlParameter Constructor () [Visual Basic]
- .NET Framework Class Library, SqlParameter Constructor (String, SqlDbType) [Visual Basic]

**Incorrect Answers**

- A:** We should specify the name of the parameter and its value.
- D:** The parameter is an input parameter, not an input/output parameter.
- F:** The parameter should be added to the command, not vice versa.

**Question No: 92**

**You develop a Windows-based order entry application TestKingEntry by using Visual Studio .NET. TestKingEntry includes a DataSet object. When a customer order exceeds the number of items currently available in stock, TestKingEntry must create two separate entries in a database. The first entry specifies the total number of items in the customer order, as well as the number of items that can be supplied immediately from available stock. The second entry records backorder information, and specifies the number of items that must be supplied when new stock becomes available. Backorder processing is handled by a separate component. You must ensure that all order information in the DataSet object is captured and passed to this component. To do so, you need to create a new DataSet object.**

**Which method should you use?**

- A. DataSet.Clone
- B. DataSet.Copy
- C. DataSet.Merge
- D. DataSet.GetChanges

**Answer: D**

**Explanation:** The DataSet.GetChanges Method gets a copy of the DataSet containing all changes made to it since it was last loaded. It meets the requirement of this scenario.

**Reference:**

- .NET Framework Class Library, DataSet.Copy Method [Visual Basic]
- .NET Framework Class Library, DataSet.Clone Method [Visual Basic]
- .NET Framework Class Library, DataSet.GetChanges Method [Visual Basic]

**Incorrect Answers**

- A:** The DataSet.Clone method copies the structure of the DataSet, including all DataTable schemas, relations, and constraints. However it does not copy any data.
- B:** DataSet.Copy method copies both the structure and data for this DataSet. But we are only interested in the changes.
- C:** We want to create a new DataSet object, not merge two existing objects.

**Question No: 93**

**You use Visual Studio .NET to create an application TestKingTestEngine that will be deployed to several client computers. You plan to create a setup package to distribute TestKingTestEngine. Because of licensing restrictions, you must ensure that the setup package can be installed only on computers that have a particular registry key.**

**What should you do?**

- A. Add a registry key to the setup project. Set the Transitive property of your key to **True**.
- B. From the Properties window, set the private key file option to the registry key.
- C. From the Launch Conditions window, add a search for the registry key. Add a launch condition to evaluate the search results.
- D. Open the setup project source code in Visual Studio .NET. Add code to search for the registry key and to abort the setup of the registry key does not exist on the client computer. Recompile setup1.exe and include it with your setup package.

**Answer: C**

**Explanation:** The Launch Conditions editor (windows) is used to define conditions for the installations. The condition can be used in conjunction with a file, registry, or component search to terminate installation if a specified item is not found.

**Reference:**

Visual Studio, Properties for the Launch Conditions Editor

Visual Studio, Transitive Property

Visual Studio, Condition Property

**Incorrect Answers**

- A:** The Transitive property cannot be used to stop the installation process if a registry key is missing. It determines whether the installer will reevaluate the Condition property for a selected folder, file, registry key, or registry value when installing or reinstalling on a target computer.
- B:** Does not apply.
- D:** This is not way to do it.

**Question No: 94**

You develop a Windows-based application TestKiApp by using Visual Studio .NET. TestKiApp uses a SqlConnection object for database access.

You typically run TestKiApp on a computer that has limited RAM and hard disk space. After the code finishes using the SqlConnection object, you must ensure that the connection is closed and that any resources consumed by the object are released immediately.

What should you do?

- A. Call the Finalize method of the SqlConnection object.
- B. Call the Dispose method of the SqlConnection object.
- C. Set the SqlConnection object equal to Nothing.
- D. Set the SqlConnection object equal to "".

**Answer: B**

**Explanation:** SqlConnection.Dispose Method releases the unmanaged resources used by the SqlConnection and optionally releases the managed resources. Calling this method with Dispose release both managed and unmanaged resources.

**Reference:** .NET Framework Class Library, SqlConnection.Dispose Method (Boolean) [Visual Basic]

**Incorrect Answers**

**A:** The Finalize method invokes Dispose method but only the only unmanaged resources are released.

**C, D:** This is not the way to release the resources used by the SqlConnection object.

**Question No: 95**

You need to create an OleDbCommand object to retrieve information about postal codes for your mailing list application. You create an OleDbConnection object named conn.

You need to instantiate the OleDbCommand object and set the CommandText and Connection properties.

What are two possible code segments for you to use? (Each correct answer presents a complete solution.

Choose two)

- A. 

```
Dim comm As New OleDbCommand()  
comm.CommandText = "SELECT * FROM Regions"  
comm.Connection = conn
```
- B. 

```
Dim comm. As New OleDbCommand("sp_GetRegions", conn)  
comm.CommandType = CommandType.Text
```
- C. 

```
Dim comm As New OleDbCommand("SELECT * FROM Regions", _  
conn)  
comm.CommandType = CommandType.Text
```



```

D. Dim comm As New OleDbCommand("sp_GetRegions", conn)
   comm.CommandType = CommandType.TableDirect
E. Dim comm As New OleDbCommand()
   comm.CommandType = "SELECT * FROM Regions"
   comm.Connection = conn

```

**Answer: A, C**

**Explanation:**

- A:** The CommandText property of the OleDbCommand gets or sets the SQL statement or stored procedure to execute at the data source.  
The Connection property of the OleDbCommand gets or sets the OleDbConnection used by this instance of the OleDbCommand.
- C:** An OleDbCommand object is created correctly. The CommandType is set to Text which matches the SQL statement in the OleDbCommand object.

**Reference:**

- .NET Framework Class Library, OleDbCommand Class [Visual Basic]
- .NET Framework Class Library, OleDbCommand Members
- .NET Framework Class Library, CommandType Enumeration [Visual Basic]

**Incorrect Answers**

- B:** We cannot use the Text CommandType if we want to execute a stored procedure. The StoredProcedure CommandType should be used instead.
- D:** The StoredProcedure, not the TableDirect, CommandType should be used if we want to use a stored procedure in the command string.
- E:** The CommandType property of OleDbCommand gets or sets a value indicating how the CommandText property is interpreted. It cannot be used to set the SQL Statement of the command.

**Question No: 96**

**You plan to develop a customer information application CustomTK that uses a Microsoft SQL Server database. CustomTK will be used frequently by a large number of users. Your application code must obtain the fastest possible performance when accessing the database and retrieving large amounts of data. You must accomplish this goal with the minimum amount of code.**

**How should you design CustomTK?**

- A. Use classes in the System.Data.OleDb namespace.
- B. Use classes in the System.Data.SqlClient namespace.
- C. Use remoting to connect to the SQL Server computer.
- D. Use interoperability to include legacy COM-based data access components.

**Answer: B**

**Explanation:** The System.Data.SqlClient namespace is the SQL Server .NET Data Provider. It gives the best performance for accessing the Microsoft SQL Server database.

**Reference:**

.NET Framework Class Library, System.Data.SqlClient Namespace  
.NET Framework Class Library, System.Data.OleDb Namespace  
.NET Framework Developer's Guide, .NET Remoting Overview

**Incorrect Answers**

**A:** The System.Data.OleDb namespace is the OLE DB .NET Data Provider.

**C:** Microsoft .NET Remoting technology provides a framework for distributing objects across different process boundaries and machine boundaries. It would not be the fastest solution.

**D:** Legacy COM-based data access components would not be optimal for performance.

**Question No: 97**

**You use Visual Studio .NET to develop a Windows-based application. Your application will display customer order information from a Microsoft SQL Server database. The orders will be displayed on a Windows Form that includes a DataGrid control named TestKingGrid1. TestKingGrid1 is bound to a DataView object. Users will be able to edit order information directly in TestKingGrid1.**

**You must give users the option of displaying only edited customer orders and updated values in TestKingGrid1.**

**What should you do?**

- A. Set the RowStateFilter property of the DataView object to DataViewRowState.ModifiedOriginal.
- B. Set the RowStateFilter property of the DataView object to DataViewRowState.ModifiedCurrent.
- C. Set the RowFilter property of the DataView object to DataViewRowState.ModifiedOriginal.
- D. Set the RowFilter property of the DataView object to DataViewRowState.ModifiedCurrent.

**Answer: B**

**Explanation:** We must set the RowStateFilter property of the DataView to specify which version or versions of data we want to view. We should use the ModifiedCurrent. DataViewRowState which provides the modified version of original data.

**Reference:**

.NET Framework Class Library, DataViewRowState Enumeration [Visual Basic]

**Incorrect Answers**

- A, C:** The ModifiedOriginal DataRowState is used to get the original version of the rows in the view. We are interested in the modified rows however.
- D:** We are not applying an usual filter with the RowFilter property. We must use a RowStateFilter.

**Question No: 98**

**You use Visual Studio .NET to create a Windows-based application named TestKingAccess. TestKingAccess will be used by five customer service representatives to access a central database. All five representatives use client computers that are connected to the company intranet. All client computers have Windows XP Professional and the .NET Framework installed.**

**When you distribute TestKingAccess, you must ensure that it uses the smallest possible hard disk space on the client computers.**

**What should you do?**

- A. Copy your application to each client computer.  
Create a shortcut to your application on the desktop of each client computer.
- B. Copy your application to a shared folder on your company intranet.  
Create a shortcut to your application on the desktop of each client computer.
- C. Create a distribution package by using the Visual Studio .NET Setup Wizard.  
Exclude the dependency for the .NET Framework.  
Install the distribution package on each client computer.
- D. Create a distribution package by using the Visual Studio .NET Setup Wizard.  
Set the distribution package's Compression property to **Optimized for size**.  
Install the distribution package on each client computer.

**Answer: A**

**Explanation:** The .NET Framework is required on each system that runs Visual Basic .NET application. Installed the .NET Framework is 30 MB. Windows XP already has the .NET Framework included in the operating systems, so we don't have to distribute it. We can simply copy the application to each client computer and manually create a shortcut to the application.

**Reference:**

MSDN Library, Redistributing the .NET Framework  
.NET Framework Developer's Guide, Distributing the Common Language Runtime

**Incorrect Answers**

- B:** Running the application over the network simultaneously at 5 clients is not guaranteed to work.
- C:** The .NET Framework is not included in distribution packages made by Visual Studio .NET. There is no need to remove it.
- D:** This compression is only for the installation files. It would still require the same amount of disk space on the client computers.

**Question No: 99**

You develop a Windows-based inventory management application that interacts with a Microsoft SQL Server database. Your application enables users to update information about items in inventory. Each time a user changes an inventory item, your application executes a SQL Server stored procedure TestKingSP to update rows in the database. TestKingSP will run many times during each user session. Your application will use a SqlCommand object to execute TestKingSP. You must revise your code so that the use of this object optimizes query performance.

What should you do?

- A. Call the SqlCommand.DeriveParameters method before each call to SqlCommand.ExecuteNonQuery.
- B. Call the SqlCommand.Prepare method before each call to SqlCommand.ExecuteNonQuery.
- C. Call the SqlCommand.DeriveParameters method before the first call to SqlCommand.ExecuteNonQuery.
- D. Call the SqlCommand.Prepare method before the first call to SqlCommand.ExecuteNonQuery.

**Answer: D**

**Explanation:** The SqlCommand.Prepare Method creates a prepared version of the command on an instance of SQL Server. It prepares a compiled version of the command on the data source. We only need to compile the stored procedure once. Compiling the procedure would improve performance since it will run many times.

**Note:** Deriving parameter information does require an added trip to the data source for the information. If parameter information is known at design-time, you can improve the performance of your application by setting the parameters explicitly.

**Reference:**

- .NET Framework Developer's Guide, Using Stored Procedures with a Command [Visual Basic]
- .NET Framework Class Library, SqlCommandBuilder.DeriveParameters Method [Visual Basic]
- .NET Framework Class Library, SqlCommand.Prepare Method [Visual Basic]

**Incorrect Answers**

- A, C:** We cannot be sure that the parameters are known at design time. So we cannot use the DeriveParameters method.
- B:** We don't need to prepare (compile) the stored procedure before each call.

**Question No: 100**

You use Visual Studio .NET to develop a component named TestKingComponent. You plan to develop several client applications that use TestKingComponent.

You need to deploy TestKingComponent with each of these applications. You will create a distribution package to be included with each application.

**Which type of project should you create?**

- A. CAB project.
- B. merge module project.
- C. setup project.
- D. Web setup project.

**Answer: B**

**Explanation** Merge Module projects allow you to create reusable setup components. They create a merge module (.msm) file that includes all files, resources, registry entries, and setup logic for your component. The resulting .msm file can then be merged into other deployment projects, insuring consistent installation of your component across multiple applications.

**Reference:**

Visual Studio, Merge Module Projects

Visual Studio, Creating or Adding a Merge Module Project

**Question No: 101**

**You develop a Windows-based application TestKingInvoice that enables users to enter and edit customer orders. TestKingInvoice contains a DataSet object named orderEntryDataSet and DataTable object named orderDataTable and orderDetailDataTable. The orderDetailDataTable requires two columns to make a unique primary key.**

**You need to define a primary key for orderDetailDataTable.**

**What should you do?**

- A. Set the DataTable.PrimaryKey property to a string value that lists the column names that make the primary key.
- B. Set the DataTable.PrimaryKey property to an array of DataColumn objects that reference the columns that make the primary key.
- C. Iterate through the DataTable.Columns collection and set the DataType property of the columns that make the primary key.
- D. Create a UniqueConstraint on the columns that make the primary key.

**Answer: B**

**Explanation:** DataTable.PrimaryKey Property gets or sets an array of columns that function as primary keys for the data table.

**Reference:** .NET Framework Class Library, DataTable.PrimaryKey Property [Visual Basic]

**Incorrect Answers**

- A:** An array of columns, not a string value, is used with the PrimaryKey property.
- C:** There can be only one primary key in a DataTable.
- D:** The PrimaryKey property, not the UniqueConstraint, must be used.  
The PrimaryKey property enforces uniqueness as well.

**Question No: 102**

**You use Visual Studio .NET to create a Windows-based application called TestKingApp, that will be distributed to your customers. You add a setup project to your solution to create a distribution package. You deploy the distribution package on a test computer. However, you discover that the distribution package does not create a shortcut to your application on the Programs menu of the test computer. You need to modify your setup project to ensure that this shortcut will be available on your customers Programs menus.**

**What should you do?**

- A. Navigate to the User's Programs Menu folder in the **File System on Target Machine** hierarchy.  
Add the primary output from your application.
- B. Navigate to the Application Folder folder in the **File System on Target Machine** hierarchy.  
Create a shortcut to your application and move the shortcut to the User's Programs Menu folder in the same hierarchy.
- C. Navigate to the Install folder in the **Customer Actions** hierarchy.  
Create a custom action that adds the primary output from your application to the User's Programs Menu folder.
- D. Navigate to the Install folder in the **Custom Actions** hierarchy.  
Create a custom action that adds a shortcut to your application's executable file to the User's Programs Menu folder.

**Answer: A**

**Explanation:** We use the File System Editor to create a shortcut to the Application in the Programs Menu folder in the File System on Target Machine **hierarchy**.

**Note:** The File System Editor is used to add project outputs and other files to a deployment project, to specify the locations where files will be installed on a target computer, and to create shortcuts on a target computer.

**Reference:**

Visual Studio, File System Editor

Visual Studio, Adding and Removing Custom Actions in the Custom Actions Editor

**Incorrect Answers**

**B:** We want to add a shortcut to the Programs Menu, not to add a shortcut in the Application Folder.

**C, D:** The Custom Actions Editor is used to specify custom actions to be run during installation on a target computer. It is not used to create shortcuts for the Application.

**Question No: 103**

You use Visual Studio .NET to create a class library project. Another developer named Lilliane uses ASP.NET to create an Internet application for TestKing's Web site. Lilliane deploys your class library to the \bin folder of her ASP.NET application on TestKing's development Web server. She has access to your source code through a share on another network server.

Lilliane reports that her application can instantiate and use classes from your class library. However, when she is debugging her application, she cannot step into code within your class library.

You must ensure that developers who use your class library can step through the code for debugging purposes.

Which three actions should you take? (Each correct answer presents part of the solution. Choose three)

- A. Use the Build Configuration Manager to set the Active Solution Configuration option to **Debug**. Set the Project Configuration to **Debug**. Build your class library.
- B. Add the class library project to the ASP.NET solution.
- C. Copy the .dll file from the Debug folder of the class library project to the \bin folder of the ASP.NET application.
- D. Copy the .pdb file from the Debug folder of the class library project to the \bin folder of the ASP.NET application.
- E. Copy the TempPE folder Debug folder of the class library project to the \bin folder of the ASP.NET application.
- F. Copy the source code for the class library to the ASP.NET application folder on the Web server.
- G. Register the class library on the Web server by using RegSvr32.exe.

**Answer: A, C, D**

**Explanation:**

**A:** First we must build a Debug version of the class library.

**C:** The Class Library creates a .dll file. This file should be copied to Web Server.

**D:** In order to debug we need the program database file, the .pdb file. We copy it to the class library folder. This will allow Visual Studio .NET to find it and debugging would be possible.

**Note:** A PDB (program database) file holds debugging and project state information that allows incremental linking of a Debug configuration of your program. A PDB file is created when you compile a C/C++ program with /ZI or /Zi or a Visual Basic/C# program with /debug.

The Visual Studio debugger uses the project.PDB file created by the linker directly and embeds the absolute path to the PDB in the EXE or DLL file. If the debugger can't find the PDB file at that location or if the path is invalid (for example, if the project was moved to another computer), the debugger searches the path containing the EXE, the Symbol Path specified in the solution's Property Pages (Common Properties folder, Debug Symbol Files page).

**Reference:**

Visual Studio, Debugging Preparation: Class Libraries

Visual Studio, PDB Files

**Incorrect Answers**

**B:** We only want to use and debug the class library. We don't need to use the class library project.

**E:** We only need to copy the dll file of the Class Library, not an entire folder.

**F:** The source code of the class library is not necessary in order to debug it.

**G:** Regsrv32.exe was used to register components on computers in Visual Basic 6.0, Visual C++ 6.0 etc. Regsrv32 is not used for components that are produced by Visual Studio .NET.

**QUESTION NO: 104**

**You create a Windows Form named TestKingForm. The form enables users to maintain database records in a table named TestKing.**

**You need to add several pairs of controls to TestKingForm. You must fulfill the following requirements:**

- **Each pair of controls must represent one column in the TestKing table.**
- **Each pair must consist of a TextBox control and a Label control.**
- **The LostFocus event of each TextBox control must call a procedure named UpdateDatabase.**
- **Additional forms similar to TestKingForm must be created for other tables in the database.**
- **Application performance must be optimized.**
- **The amount of necessary code must be minimized.**

**What should you do?**

- A. Create and select a TextBox control and a Label control.  
Write the appropriate code in the LostFocus event of the TextBox control.  
Repeatedly copy and paste the controls into TestKingForm until every column in the TestKing table has a pair of controls.  
Repeat this process for the other forms.
- B. Add a TextBox control and a Label controls to TestKingForm.  
Write the appropriate code in the LostFocus event of the TextBox control.  
Create a control array from the TextBox control and the Label control.  
At run time, add additional pairs of controls to the control array until every column in the TestKing table has a pair of controls.  
Repeat this process for the other forms.
- C. Create a new user control that includes a TextBox control and a Label control.  
Write the appropriate code in the LostFocus event of the TextBox control.  
For each column in the TestKing table, add one instance of the user control to the TestKingForm.  
Repeat this process for the other forms.
- D. Create a new ActiveX control that includes a TextBox control and a Label control.  
For each column in the TestKing table, add one instance of the ActiveX control to TestKingForm.  
Repeat this process for the other forms.



**Answer: C**

**Explanation:** We combine multiple Windows Form controls into a single control, called user control. This is the most efficient solution to reuse functionality in this scenario.

**Note:** Sometimes, a single control does not contain all of the functionality you need. For instance, you might want a control that you can bind to a data source to display a first name, last name, and phone number, each in a separate TextBox. Although it is possible to implement this logic on the form itself, it might be more efficient to create a single control that contains multiple text boxes, especially if this configuration is needed in many different applications. Controls that contain multiple Windows Forms controls bound together as a single unit are called user controls.

**Reference:** 70-306/70-316 Training kit, Inheriting from UserControl, Page 345

**Incorrect Answers**

**A:** Only the controls, not the code of the control will be copied.

**B:** This is not the best solution. With a user control we could avoid writing code that are executed at run time.

**D:** ActiveX controls should be avoided in Visual Studio .NET. They are less efficient.

**QUESTION NO: 105**

**As a developer at TestKing inc. you develop a Windows-based application by using Visual Studio .NET. The application tracks information about customers, orders, and shipping. Ten users will use this application on the client computers running Windows 2000 Professional.**

**You deploy the application by copying the contents of the project's \bin folder to the client computers. Nine users report that the application runs as expected. One user receives the following error message when the application is first executed:**

**“The dynamic link library mscoree.dll could not be found in the specified path C:\Program Files\Orders App.;C:\WINNT\System32;C:\WINNT\System;C:\WINNT\System32;C:\WINNT;C:\WINNT\System32\Wbem.”**

**You need to correct this problem on the client computer. What should you do?**

- A. Install MDAC 2.7.
- B. Install Internet Explorer 6.
- C. Install the redistribute package for the .NET Framework.
- D. Recopy the contents of the \bin folder.

**Answer: C**

**Explanation:** If you attempt to run a console application or a Windows Form application from a computer on which the .NET runtime is not installed, you will receive the error "Unable To Locate DLL: The dynamic link library mscoree.dll could not be found in the specified path..." To solve this problem, install the .NET runtime on the computer and try running the application again.

**Note:** Mscoree.dll contains the common language runtime.

**Reference:** Office Talk, Introducing .NET to Office Developers

**Incorrect Answers**

**A:** MDAC (Microsoft Data Access Components) later could be required if the application uses additional features such as ASP.NET, COM+ services, and SQL Server .NET Data Provider. MDAC 2.6 could be required on the client. MDAC 2.7 could be required on the server. Furthermore an older version of MDAC would not produce the error of this scenario.

**B:** A lack of Internet Explorer 6.0 would not produce this error.

**D:** This would not resolve the problem

**QUESTION NO: 106**

**You develop a Windows-based application by using Visual Studio .NET. The application includes numerous method calls at startup. After optimizing your application code, you test the application on a variety of client computers. However, the startup time is too slow.**

**You must ensure that your application starts as quickly as possible the first time it runs. What should you do?**

- A. Precompile your application by using the Native Image Generator (Ngen.exe):  
Install the precompiled application on the client computers.
- B. Install your application on the client computers.  
Precompile your application by using the Native Image Generator (Ngen.exe).
- C. Precompile your application by using the JIT compiler.  
Install the precompiled application on the client computers.
- D. Install your application on the client computers.  
Precompile your application by using the JIT compiler.

**Answer: A**

**Explanation:** A native image is a precompiled version of a .NET assembly. In situations where performance is critical, you might be able to achieve a somewhat higher level of performance by precompiling your application to native code. The Native Image Generator (ngen.exe) creates a native image from a managed assembly and installs it into the native image cache on the local computer. Running Ngen.exe on an assembly allows the assembly to load and execute faster, because it restores code and data structures from the native image cache

rather than generating them dynamically. Pre-compiling assemblies with Ngen.exe can improve the startup time for applications

**Reference:** .NET Framework Tools, Native Image Generator (Ngen.exe)

**Incorrect Answers**

**B:** The precompilation takes place once on the source computer, not on the client computers.

**C, D:** The time's Just-In-Time (JIT) cannot be used to precompile program. JIT is applied at runtime.

**Note:** When you compile a .NET application, it is not compiled to binary machine code; rather, it is converted to IL, which is a low-level set of instructions understood by the common language run time. When execution starts, the first bit of code that needs to be executed is loaded into memory and compiled into native binary code from IL by the common language run time's Just-In-Time (JIT) compiler.

**QUESTION NO: 107**

**You use Visual Studio .NET to create an accounting application. Within this application, you are debugging a function named TestKingValidate. This function contains several dozen variables and objects. One of the variables is named bValidationStatus.**

**You create a breakpoint at the top of TestKingValidate and run the application within the Visual Studio .NET IDE.**

**As you step through the code in TestKingValidate, you need to view the contents of the bValidationStatus variable. However, you want to avoid seeing the contents of the other variables and objects in the function. You also need to complete the debugging process as quickly as possible.**

**What should you do?**

- A. Open the Locals window.
- B. From the Command window, print the contents of bValidationStatus by using ?  
bValidationStatus.
- C. Open the **QuickWatch** dialog box for bValidationStatus.
- D. Add a watch expression for bValidationStatus.

**Answer: C**

**Explanation:** You can quickly evaluate a variable by using the QuickWatch dialog box. The QuickWatch dialog box shows you the Name, Value, and Type of a single variable, and gives you the option of adding the variable to the Watch window.

**Reference:** 70-306/70-316 Training kit, The Watch Window, Pages 214-215

**Incorrect Answers**

**A:** The Locals Windows would display all variables of the code in the TestKingValidate procedure.

- B:** This would only display the current value. The requirements of the scenario is that we need to view the variable as we step through the code, not just at a single point of time.
- D:** This proposed solution would require more effort.

**QUESTION NO: 108**

**You develop a Windows-based application by using Visual Studio .NET. You use TestKing's intranet to deploy the application to client computers. You use the security configuration of the .NET Framework to configure security for you application at the enterprise policy level.**

**Virus attacks cause the IT manager at TestKing to tighten security at the machine level. Users report that they can no longer execute your application.**

**How should you correct this problem?**

- A. Include the `LevelFinal` attribute in the intranet code group policy at the enterprise level by using the Permission View tool (Permview.exe).
- B. Include the `Exclusive` attribute in the intranet code group policy at the enterprise level by using the Permission View tool (Permview.exe).
- C. Include the `LevelFinal` attribute in the intranet code group policy at the enterprise level by using the Code Access Security Policy tool (Caspol.exe).
- D. Include the `Exclusive` attributes in the intranet code group policy at the enterprise level by using the Code Access Security Policy tool (Caspol.exe).

**Answer: C**

**Explanation:** The Code Access Security Policy tool (Caspol.exe) enables users and administrators to modify security policy for the machine policy level, the user policy level, and the enterprise policy level. If we apply the **LevelFinal** attribute at the enterprise level, any code group at the machine level will not be evaluated even if a machine level administrator has made changes..

**Note:** When **LevelFinal** is set to on, indicates that no policy level below the level in which the added or modified code group occurs is considered. This option is typically used at the machine policy level. For example, if you set this flag for a code group at the machine level and some code matches this code group's membership condition, Caspol.exe does not calculate or apply the user level policy for this code.

**Note: Reference:**

.NET Framework Tools, Code Access Security Policy Tool (Caspol.exe)

Security Policy Best Practices, <http://www.gotdotnet.com/team/clr/SecurityPolicyBestPractices.htm>

.NET Framework Tools, Permissions View Tool (Permview.exe)

**Incorrect Answers**

- A, B:** The Permissions View tool is used to view, not to configure, the minimal, optional, and refused permission sets requested by an assembly.
- D:** When **exclusive** is set to on, it indicates that only the permission set associated with the code group you are adding or modifying is considered when some code fits the membership condition of the code group.

**QUESTION NO: 109**

**You create an assembly by using Visual Studio .NET. The assembly is responsible for writing and reading order entry information to and from an XML data file. The assembly also writes and reads values to and from the Windows registry while it is being consumed.**

**The assembly will be distributed to client computers by using your company, TestKing, intranet. All client computers are configured to implement the default .NET security policy.**

**You need to implement security in the assembly. What should you do?**

- A. Implement declarative security and execute the permission demand to allow access to the file system and Windows registry.
- B. Implement declarative security and execute the minimum permission request to allow access to the file system and Windows registry.
- C. Implement imperative security and execute the permission demand to allow access to the file system and Windows registry.
- D. Implement imperative security and execute the minimum permission request to allow access to the file system and Windows registry.

**Answer: B**

**Explanation:** You can use declarative code access security to request permissions for the entire assembly. SecurityAction flags that can be specified in an assembly-wide directive. When SecurityAction.RequestMinimum is specified, it makes a request to the common language runtime to be granted the requested permission. If the requested permission is not granted by the security policy, the assembly will not execute.

A SecurityAction.RequestOptional is similar, but the assembly will still run even if the requested permission is not granted. Specifying SecurityAction.RequestRefuse requests that the assembly be denied the specified permission.

**Reference:** 70-306/70-316 Training kit, Declarative Code Access Security, Pages 457-458

**Incorrect Answers**

- A:** There are only three Security actionAttributes targets for an assembly: RequestMinimumAssembly, RequestOptionalAssembly, and RequestRefuseAssembly.
- C, D:** Imperative security does not work well to configure security for an entire assembly. In imperative security, permission to execute is demanded at run time.

**QUESTION NO: 110**

You use Visual Studio .NET to create an application named **TestKingClient**. Another developer in your company creates a component named **TestKingComponent**. Your application uses namespaces exposed by **TestKingComponent**.

You must deploy both **TestKingClient** and **TestKingComponent** to several computers in your company's accounting department. You must also ensure that **TestKingComponent** can be used by future client applications.

What are three possible ways to achieve your goal? (Each correct answer presents a complete solution. Choose three)

- A. Deploy **TestKingClient** and **TestKingComponent** to a single folder on each client computer. Each time a new client application is developed, place the new application in its own folder and copy **TestKingComponent** to the new folder.
- B. Deploy **TestKingClient** and **TestKingComponent** to a single folder on each client computer. Each time a new client application is developed, place the new application in its own folder. Edit **TestKingClient.exe.config** and add a **privatePath** tag that points to the folder where **TestKingComponent** is located.
- C. Deploy **TestKingClient** and **TestKingComponent** to separate folders on each client computer. In each client application that will use **TestKingComponent**, add the following code segment: `using TestKingComponent;`
- D. Deploy **TestKingClient** and **TestKingComponent** to separate folders on each client computer. Each time a new client application is developed, select **Add Reference** from the **Tools** menu and add a reference to **TestKingComponent**.
- E. Deploy **TestKingClient** and **TestKingComponent** to separate folders on each client computer. Register **TestKingComponent** on each client computer by using the **RegSvr32** utility.
- F. Deploy **TestKingClient** and **TestKingComponent** to separate folders on each client computer. Add **TestKingComponent** to the global assembly cache.

**Answer: A, D, F**

**Explanation:**

- A:** XCOPY deployment of the **TestKingComponent**, we simply copy the component to the deployment folder of every application that requires the use of the components, enables the deployed application to use the component.
- D:** You can access any .NET or COM library on your system. The generalized scheme for accessing .NET or COM components is to create a reference to the type library. You can obtain a list of available type libraries in the **Add Reference dialog box** which is accessible on the **Tools** menu.
- F:** If you intend to share an assembly among several applications, you can install it into the global assembly cache.

**Reference:**

70-306/70-316 Training kit, Accessing .NET and COM Type Libraries, Pages 386-387  
.NET Framework Developer's Guide, Working with Assemblies and the Global Assembly Cache  
C# Programmer's Reference, using Directive

**Incorrect Answers**

- A:** Just copying the component to the folder of the deployed application will not make the component accessible to the application.
- B:** This would not give the future client applications access to TestKingComponent.
- C:** The using keyword has two major uses:  
using Directive Creates an alias for a namespace.  
using Statement Defines a scope at the end of which an object will be disposed.  
However, this would not make the component accessible.
- E:** RegSrv32 was used in before the introduction of Visual Studio .NET to register .dll file. It is no longer required..:

**QUESTION NO: 111**

**You create a Visual Studio .NET setup project to distribute an application. You add a SQL script named TestKingDB.SQL. You must ensure that the SQL script is executed during the installation process.**

**What should you do?**

- A. Add a custom action to your setup project.  
Select TestKingDB.SQL as the source path.
- B. Add a batch file to your setup project to execute TestKingDB.SQL.  
Add a launch condition to the setup project.  
Set the Condition property to the batch file.
- C. Create a new Visual Studio .NET project that executes TestKingDB.SQL.  
Include the new project with your setup project.  
Add a custom action that launches the new project during installation.
- D. Add a launch condition to your setup project.  
Set the Condition property to TestKingDB.SQL.

**Answer: A**

**Explanation:** By adding the SQL script as a custom action to the setup project we ensures that it will be executed during the installation process.

**Note:** Although standard actions are sufficient to execute an installation in most cases, custom actions enable the author of an installation package to extend the capabilities of standard actions by including executables, dynamic-link libraries, and script.

**Reference:** Platform SDK: Windows Installer, About Custom Actions

**Incorrect Answers**

- B, D:** The execution of a batch file cannot be used as a launch condition.  
**C:** This is a very awkward solution. We don't need to create a second project.

**QUESTION NO: 112**

**You develop an application TestKingApp that will be sold commercially. You create a Visual Studio .NET setup project to distribute the application. You must ensure that each user accepts your license agreement before installation occurs.**

**What should you do?**

- A. Add a launch condition to your setup project.  
Add your license agreement to the Message property of the launch condition.
- B. Open the user interface designer for your setup project.  
Select the **Welcome** dialog box from the Start object and add your license agreement to the CopyrightWarning property.
- C. Save your license agreement in the Rich Text Format and add the file to your setup project.  
Open the property pages for the setup project and set the Certificate to the name of your Rich Text file.
- D. Save your license agreement in Rich Text Format and add the file to your setup project.  
Open the user interface designer for the setup object.  
From the Start object, select the **License Agreement** dialog box and set the LicenseFile property to the name of your Rich Text file.

**Answer: D**

**Explanation:** First we save the License agreement text in a RFT file and add it to the project. Then we use the User Interface Editor/Designer to configure the License Agreement dialog box.

**Note:** Visual Studio .NET provides a number of predefined user interface dialog boxes that can be displayed during installation to present or gather information. The dialog boxes to be displayed are specified in the User Interface Editor.

**Reference:** Visual Studio. Deployment and the Run-Time User Interface

**Incorrect Answers**

- A:** Deployment dialog boxes are not configured with launch conditions.  
**B:** The **Welcome** dialog box is not used for license agreements. Furthermore, we must create a RFT file containing the licensing agreement text.



C: The User Interface Editor must be used. We cannot configure the dialog box with the property pages of the project.

**QUESTION NO: 113**

**As a developer at TestKing you develop a new sales analysis application that reuses existing data access components. One of these components returns a DataSet object that contains the data for all customer orders for the previous year.**

**You want your application to display orders for individual product numbers. Users will specify the appropriate product numbers at run time.**

**What should you do?**

- A. Use the DataSet.Reset method.
- B. Set the RowFilter property of the DataSet object by using a filter expression.
- C. Create a DataView object and set the RowFilter property by using a filter expression.
- D. Create a DataView object and set the RowStateFilter property by using a filter expression.

**Answer: C**

**Explanation:** You filter data by setting the RowFilter property. The RowFilter property takes a String that can evaluate to an expression to be used for selecting records. RowFilter is a property of the DataView object.

**Reference:** Visual Basic and Visual C# Concepts, Filtering and Sorting Data Using Data Views

**Incorrect Answers**

- A:** The DataSet-Reset method resets the DataSet to its original state.
- B:** RowFilter is not a property of the DataSet object.
- D:** The RowStateFilter property is used to filter based on a version or state of a record. Filter expressions cannot be used on RowStateFilters. The RowStates are Added, CurrentRows, Deleted, ModifiedCurrent, ModifiedOriginal, None, OriginalRows, and Unchanged.

**QUESTION NO: 114**

**You develop a Windows-based application. The application uses a DataSet object that contains two DataTable objects. The application will display data from the two data tables. One table contains customer information, which must be displayed in a data-bound ListBox control. The other table contains order information, which must be displayed in a DataGrid control.**

**You need to modify your application to enable the list box functionality. What should you do?**

- A. Use the DataSet.Merge method.
- B. Define primary keys for the DataTable objects.
- C. Create a foreign key constraint on the DataSet object.
- D. Add a DataRelation object to the Relation collection of the DataSet object.

**Answer: D**

**Explanation:** You can use a DataRelation to retrieve parent and child rows. Related rows are retrieved by calling the GetChildRows or GetParentRow methods of a DataRow.

**Note:** A DataRelation object represents a relationship between two columns of data in different tables. The DataRelation objects of a particular DataSet are contained in the Relations property of the DataSet. A DataRelation is created by specifying the name of the DataRelation, the parent column, and the child column.

**Reference:** 70-306/70-316 Training kit, Retrieving Related Records, Page 286

**Incorrect Answers**

- A:** The Merge method is used to merge two DataSet objects that have largely similar schemas. A merge does not meet the requirements of the scenario however.
- B:** Primary keys would not help relating the DataTable objects.
- C:** Foreign key constraints put restrictions on the data in two different tables. However, it would not help in retrieving related records.

**QUESTION NO: 115**

You execute a query on your external Oracle database named TestKingSalesDate by using an OleDbCommand object. The query uses the Average function to return a single value that represents the average price of products in the inventory table. You want to optimize performance when you execute this query.

To execute this query from your ADO.NET code, you need to use a method of the OleDbCommand object. Which method should you use?

- A. ExecuteNonQuery
- B. ExecuteScalar
- C. ToString
- D. ExecuteReader

**Answer: B**

**Explanation:** The ExecuteScalar method returns the first column of the first row of data returned by the command, no matter how many rows the command actually selects.

**Reference:** 70-306/70-316 Training kit, The Command Object, Pages 252-253

**Incorrect Answers**

**A:** The ExecuteNonQuery method executes the data command, but returns no value.

**C:** The command object has no ToString method.

**D:** The ExecuteReader method returns a DataReader object that can iterate through a result set in a forward-only, read-only manner without involving a DataAdapter.

**QUESTION NO: 116**

**You use Visual Studio .NET to develop a Windows-based application. Your application includes a form named TestKingInformationForm, which enables users to edit information stored in a database. All user changes to this information must be saved in the database.**

**You need to write code that will prevent TestKingInformationForm from closing if any database changes are left unsaved. What should you do?**

- A. Include `Me.Activate` in the Closing event handler of TestKingInformationForm.
- B. Include `Me.Activate` in the Closed event handler of TestKingInformationForm.
- C. Include `Me.Activate` in the Leave event handler of TestKingInformationForm.
- D. Change a property of the `System.ComponentModel.CancelEventArgs` parameter in the Closing event handler of TestKingInformationForm.
- E. Change a property of the `System.EventArgs` parameter in the Closed event handler of TestKingInformationForm.
- F. Change a property of the `System.EventArgs` parameter in the Leave event handler of TestKingInformationForm.

**Answer: D**

**Explanation:** The CancelEventArgs Class Provides data for a cancelable event. A cancelable event is raised by a component when it is about to perform an action that can be canceled, such as the Closing event of a Form.

**Reference:**

NET Framework Class Library, CancelEventArgs Class [Visual Basic]

Visual Studio, Activate Method (General Extensibility) [Visual Basic]

**Incorrect Answers**

**A:** A closing event of a form cannot be cancelled with a `this.activate` statement.

**B:** It is too late when the Closed event occurs.

**C:** A form is not closing, just losing focus, when the Leave event occurs.

**E:** It is too late when the Closed event occurs.

**F:** A form is not closing, just losing focus, when the Leave event occurs.