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Exam : 070-548(VB)

**Title : PRO:Design & Develop
Wdws-Based Appl by Using
MS.NET Frmwk**

Version : DEMO

1. You create Microsoft Windows-based applications. You create a banking application that will be used by the account managers of the bank.

You identify a method to simulate the deposit functionality of a savings account. The method will calculate the final balance when monthly deposit, number of months, and quarterly rate are given. The application requirements state that the following criteria must be used to calculate the balance amount:

- Apply the quarterly interest rate to the balance amount of the account every three months.

- Apply the quarterly interest rate before the monthly deposit is calculated for the third month.

You translate the outlined specification into pseudo code. You write the following lines of code. (Line numbers are included for reference only.)

Method

Public Shared Function SimulateSavings() As Decimal

Input parameters

Dim months As Integer

Dim monthlyPayment As Decimal

Dim quarterlyRate As Decimal

Pseudo code

01 Declare balance variable, initialize it to zero

02

03 Return balance

You need to insert the appropriate code in line 02.

Which code segment should you insert?

A. 01 Declare integer variable, x

02 For x=1 to months/3

2.1 balance = balance + 3 * monthlyPayment

2.2 balance = (1 + quarterlyRate) * balance

B. 01 Declare integer variable, x

02 For x=1 to months/3

2.1 balance = balance + 2 * monthlyPayment

2.2 $\text{balance} = (1 + \text{quarterlyRate}) * \text{balance}$

2.3 $\text{balance} = \text{balance} + \text{monthlyPayment}$

C. 01 Declare integer variable, x

02 For x=1 to months

2.1 $\text{balance} = \text{balance} + \text{monthlyPayment}$

2.2 if x Mod 3 is 0 then $\text{balance} = (1 + \text{quarterlyRate}) * \text{balance}$

D. 01 Declare integer variable, x

02 For x=1 to months

2.1 if x Mod 3 is 0 then $\text{balance} = (1 + \text{quarterlyRate}) * \text{balance}$

2.2 $\text{balance} = \text{balance} + \text{monthlyPayment}$

Answer: D

2. You create Microsoft Windows-based applications. You are creating a component that will be used by several client applications.

The component contains the following code segment. (Line numbers are included for reference only.)

```
01 Namespace MyComponent
02     Public Class Account
03         Private mAccountNo As String
04         Private mBalance As Decimal
05         Public Sub New(ByVal AcctNo As String)
06             ...
07         End Sub
08         Public Sub Withdraw(ByVal Amount As Decimal)
09             ...
10         End Sub
11         Public Sub Deposit(ByVal Amount As Decimal)
12             ...
13         End Sub
14     End Class
15     Public Class SavingsAccount
16         Inherits Account
17         Public Sub New(ByVal AcctNo As String)
18             MyBase.New(AcctNo)
19             ...
```

```

20      End Sub
21      Public Sub ApplyInterestRate(ByVal Amount As Decimal)
22          ...
23      End Sub
24  End Class
25 End Namespace

```

You need to redesign the Account class and the SavingsAccount class to meet the following requirements:

- Developers must not be able to instantiate the Account class from client applications.
- Developers must not be able to extend the functionality of the SavingsAccount class.
- Developers must be able to instantiate the SavingsAccount class from client applications.

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

- A. Implement only Private constructors for the Account class.
- B. Implement only Private constructors for the SavingsAccount class.
- C. Implement only Friend constructors for the Account class.
- D. Implement the SavingsAccount class as a MustInherit public class.
- E. Implement the SavingsAccount class as a concrete non-inheritable class.

Answer: C AND E

3. You create Microsoft Windows-based applications. You are designing an inventory management solution for a warehouse. The solution must address the following requirements:

- Access inventory data in a Microsoft SQL Server 2005 database.
- Generate XML documents representing purchase orders based on an XML schema provided by a trading partner.
- Use the minimum amount of code possible.
- Use the minimum amount of I/O operations possible.

You need to develop the data handling capabilities of the solution to meet the requirements.

Which three data handling mechanisms should you select? (Each correct answer presents part of the solution. Choose three.)

- A. Use an XmlReader object to retrieve inventory data from the database and populate a DataSet object.
- B. Use a DataAdapter object to retrieve inventory data from the database and populate a DataSet object.
- C. Use methods from the DataSet class to generate a new XML file that contains data to be used to generate a purchase order.
- D. Use methods from the DataSet class to generate a new XmlDataDocument object that contains data to

be used to generate a purchase order.

E. Use an XslCompiledTransform object to generate the purchase order XML file.

F. Use an XmlWriter object to generate the purchase order XML file.

Answer: B AND D AND E

4. You create Microsoft Windows-based applications. You create an application that accesses data on a Microsoft SQL Server 2005 database. You write the following code segment. (Line numbers are included for reference only.)

```
01 Private Sub LoadData()  
02  
03     cn.Open()  
04     daProducts.Fill(ds)  
05     daCategories.Fill(ds)  
06     cn.Close()  
07  
08 End Sub
```

The cn variable points to a SqlConnection object. The SqlConnection object will be opened almost every time this code segment executes.

You need to complete this code segment to ensure that the application continues to run even if the SqlConnection object is open. You also need to ensure that the performance remains unaffected.

What should you do?

A. Add a Try block on line 02 along with a matching Catch block beginning on line 07 to handle the possible exception.

B. Add a Try block on line 02 along with a matching Finally block beginning on line 07 to handle the possible exception.

C. Replace line 03 with the following code.

```
If Not (cn.State = ConnectionState.Open) Then  
    cn.Open()  
End If
```

D. Replace line 03 with the following code.

```
If Not (cn.State = ConnectionState.Closed) Then
```

```
cn.Open()
```

```
End If
```

Answer: C

5. You create Microsoft Windows-based applications. You are creating a method. Your applications will call the method multiple times. You write the following lines of code for the method.

```
01 Public Function BuildSQL(ByVal strFields As String, ByVal strTable As String, ByVal strFilterId As String)
    As String
02     Dim sqlInstruction As String = "SELECT "
03     sqlInstruction += strFields
04     sqlInstruction += " FROM "
05     sqlInstruction += strTable
06     sqlInstruction += " WHERE id ="
07     sqlInstruction += strFilterid
08     Return sqlInstruction
09 End Function
```

The method generates performance issues.

You need to minimize the performance issues that the multiple string concatenations generate.

What should you do?

- A. Use a single complex string concatenation.
- B. Use an array of strings.
- C. Use an ArrayList object.
- D. Use a StringBuilder object.

Answer: D

6. You create Microsoft Windows-based applications. You are creating an application that will connect to a Microsoft SQL Server 2005 database. You write the following code segment for a method contained in the application. (Line numbers are included for reference only.)

```
01 Private cn As SqlConnection
02 Private Function getConn() As Object
03     cn = New SqlConnection("data source = localhost;initial Catalog = Accounting;integrated security = true")
04     Return cn
05 End Function
```

In the production environment, the database will be stored by a server on the network.

You need to eliminate the requirement to recompile the application when you deploy it to the production environment. You want to achieve this by using minimum amount of programming effort.

What should you do?

- A. Create an application configuration file to store the connection string. Change the code to read the connection string from the configuration file.
- B. Create an XML file in the application folder to store the connection string. Change the code to use an XMLReader object to connect to a file stream and read the connection string.
- C. Create a component that returns the connection string. Change the code to use the component to get the connection string.
- D. Create a text file to store the connection string. Change the code to use a TextReader object to connect to a file stream and read the connection string.

Answer: A

7. You create Microsoft Windows-based applications. You are reviewing code for an application that is created for a bank. You find that a Microsoft Windows Form includes the following code segment.

```
Partial Public Class ATMDeposit
```

```
    Inherits Form
```

```
    Private account As BankAccount
```

```
    Public Sub New()
```

```
        InitializeComponent()
```

```
    End Sub
```

```
    Private Sub New_Load(ByVal sender As Object, ByVal e As EventArgs)
```

```
        account = New BankAccount()
```

```
    End Sub
```

```
    Private Sub cmdDeposit_Click(ByVal sender As Object, ByVal e As EventArgs)
```

```
        account.Deposit(Decimal.Parse(txtAmount.Text))
```

```
    End Sub
```

```
End Class
```

You analyze the code segment and find that the form handles no other events.

You need to suggest changes to improve reliability.

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

- A. Add an event handler for the TextChanged event for the txtAmount textbox to validate the data typed by the user.
- B. Add an event handler for the Validating event for the txtAmount textbox to validate the data typed by the user.
- C. Add a Try...Catch block to the cmdDeposit_Click method.
- D. Add a Try...Catch block to the ATMDeposit_Load method.
- E. Add a Try...Catch block to the ATMDeposit constructor.

Answer: B AND C

8. You create Microsoft Windows-based applications.

You receive the following code segment to review. (Line numbers are included for reference only.)

```
01 Partial Public Class frmReceivables
02     Inherits Form
03     Private ds As DataSet
04     Public Sub New()
05         InitializeComponent()
06     End Sub
07     Private Sub New(ByVal sender As Object, ByVal e As EventArgs)
08         Dim cn As SqlConnection = New SqlConnection(strConnectionString)
09         Dim daInvoices As SqlDataAdapter = New SqlDataAdapter("SELECT * FROM Invoices", cn)
10         Dim daCustomers As SqlDataAdapter = New SqlDataAdapter("SELECT * FROM Customers", cn)
11         ds = New DataSet("Receivables")
12         daInvoices.Fill(ds)
13         daCustomers.Fill(ds)
14     End Sub
15 End Class
```

The strConnectionString variable is pre-populated from the application configuration file. Query statements will remain unchanged throughout the life cycle of the application. Connection pooling is not being used.

This code segment accesses a Microsoft SQL Server 2000 database. The ds dataset is bound to a data grid view so that users can view and update data in the database. The code currently compiles correctly

and works as intended.

You need to enhance performance and reliability for this code.

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

- A. Use an ODBC DSN instead of a connection string.
- B. Use OleDbDataAdapter objects instead of SqlDataAdapter objects to populate the dataset.
- C. Add a line of code before line 12 to open the database connection.
- D. Add a Try...Catch block and close the connection in the catch block.
- E. Add a Try...Catch...Finally block and close the connection in the Finally block.

Answer: C AND E

9. You create Microsoft Windows-based applications. You review code for an application that is developed for a bank. You need to test a method named Deposit in one of the application components. The following code segment represents the Deposit method. (Line numbers are included for reference only.)

```
01 Public Sub Deposit(ByVal amount As Decimal)
02
03     If Not (amount > 0) Then
04         Throw New Exception("Invalid deposit amountNot ")
05     Else
06         Me.balance += amount
07     End If
08 End Sub
```

You use the Microsoft Visual Studio 2005 test feature to automatically generate the following unit test. (Line numbers are included for reference only.)

```
01 <TestMethod()> _  
02 Public Sub DepositTest()  
03     Dim target As BankAccount = New BankAccount() 'balance will be ZERO  
04     Dim amount As Decimal = 100  
05     target.Deposit(amount)  
06     Assert.Inconclusive("A method that does not return a value cannot be verified.")  
07 End Sub
```

You need to change the test method to return a conclusive result.

Which line of code should you use to replace the code on line 06?

- A. Assert.AreEqual(100,target.Balance)
- B. Assert.IsTrue(target.Balance <> 100)
- C. Debug.Assert(target.Balance = 100,passed)
- D. Debug.Assert(target.Balance = 100,failed)

Answer: A

10. You create Microsoft Windows-based applications. You are testing a component named BankAccount. You write the following code segment for the BankAccount component. (Line numbers are included for reference only.)

```
01 Public Class BankAccount
02     Private _balance As Decimal
03     Public Property Balance() As Decimal
04         Get
05             Return Me._balance
06         End Get
07         Set(ByVal value As Decimal)
08             Me._balance = value
09         End Set
10     End Property
11     Public Sub Withdraw(ByVal amount As Decimal)
12         If Not (amount > 0) Then
13             Throw New Exception("Invalid withdraw amount!")
14         ElseIf (amount > Me.balance) Then
15             Throw New Exception("Insufficient balance")
16         Else
17             Me.balance = (Me.balance - amount)
18         End If
19     End Sub
20     Public Sub Deposit(ByVal amount As Decimal)
21         If Not (amount > 0) Then
22             Throw New Exception("Invalid deposit amount!")
```

```
23      Else
24          Me.balance = (Me.balance + amount)
25      End If
26  End Sub
27 End Class
```

The test project executes a valid withdraw operation and a valid deposit operation. It also verifies the account balance.

Your companys check-in policy requires that the primary code path is tested before check in. Full testing will be completed later.

You need to establish the lowest acceptable code coverage metric.

What should you test?

- A. Test all methods.
- B. Do not test exceptions. Test all other methods.
- C. Test all code, including variable declarations.
- D. Do not test accessor methods. Test all other methods and exceptions.

Answer: B