

**QUESTION NO: 1**

**TestKing buys and sells used refrigerators. External vendors frequently send you XML documents that list one type of used appliances for sale. The documents that you receive contain either only washers or only refrigerators as in the following example.**

```
<!-- A document with refrigerators -->
<saleList>
  <refrigerators>
    <refrigerator type="freezer on bottom" , price="210"/>
  </refrigerators>
</saleList>
```

```
<!-- A document with washers -->
<saleList>
  <washers>
    <washer type="front load" , price="145"/>
    <washer type="top load" , price="130"/>
  </washers>
</saleList>
```

**All incoming XML documents are loaded into a MemorySystem object named usedList.**

**You need to automate a process that will discover XML documents contain refrigerator elements. As soon as you ascertain that a document contains refrigerators, you can stop processing the document.**

**You decide to use Visual studio .NET to develop an application that will contain a Boolean variable named hasRefrigerator. A value of True for this variable means that a document contains refrigerator elements. A value of false means that it does not. You want to ensure that the discovery process occurs as quickly as possible.**

**What should you do?**

- A. Create an XmlDocument object and load it from usedList.  
Use the SelectSingleNode method to search the XmlDocument object for the saleList/refrigerators node.  
If this node is found, set hasRefrigerator to **True**.  
  
Otherwise, set hasRefrigerator to **False**.
- B. Create an XPathDocument object and load it from usedList.  
Use an XPathNavigator object to search the XPathDocument for the saleList/refrigerators node.

If this node is found, set hasRefrigerator to **True**.  
Otherwise, set hasRefrigerator to **False**.

- C. Create an XmlTextReader object on usedList.  
Loop through usedList by using the MoveToContent method of the XmlTextReader object and comparing for the saleList/refrigerators node.  
If this node is found, set hasRefrigerator to **True**.  
Otherwise, set hasRefrigerator to **False**.
  
- D. Create a DataSet object and use its ReadXml method to load usedList into the object.  
If the Count property of the Rows collection of the “refrigerators” entry in the object is not equal to zero, set hasRefrigerator to **True**.  
Otherwise, set hasRefrigerator to **False**.

**Answer: A**

**Explanation:** The SelectSingleNode method selects the first XmlNode that matches the XPath expression. If no nodes match the query, it returns Null. This suggested procedure would meet the requirements of this scenario. Furthermore, this would be the fastest solution.

**Note:** An XmlDocument object represents an XML document and enables the navigation and editing of this document.

**Reference:** .NET Framework Class Library, XmlNode.SelectSingleNode Method [Visual Basic]

#### **Incorrect Answers**

**B:** There is no such thing as a XmlXPathDocument.

**C:** XmlReader provides forward-only, read-only access to a stream of XML data. The MoveToContent method can be used on a XmlReader stream to provide a possible solution in this scenario. However, it would be fastest solution.

**Note:** The MoveToContent method checks whether the current node is a content (non-white space text, CDATA, Element, EndElement, EntityReference, or EndEntity) node. If the node is not a content node, the reader skips ahead to the next content node or end of file.

**D:** This proposed solution is not straightforward, and is therefore slow.

#### **QUESTION NO: 2**

**You create an XML web service that retrieves data from Microsoft SQL Server database. You instantiate a SqlConnection object named TestKConnection and set the Max Pool Size property of the connectionString to 50.**

**All 50 connections are now in use. However, a request for connection number 51 is received.**

**What is the most likely result?**

- A. An exception is immediately thrown.
- B. The current connection pool is expanded by 50 additional connections.
- C. A new connection pool is created that has the same maximum number of connections.
- D. The request is queued until a connection becomes available or until the timeout limit is reached.

**Answer: D**

**Explanation:** The **Max Pool Size** property denotes the maximum number of connections allowed in the pool. If the maximum pool size has been reached and no usable connection is available, the request is queued. The `SqlConnection` object pooler satisfies these requests by reallocating connections as they are released back into the pool. If the time-out period elapses before a connection object can be obtained, an error occurs.

**Reference:** .NET Framework Developer's Guide, Connection Pooling for the SQL Server .NET Data Provider

**Incorrect Answers**

- A:** An exception is only thrown after the request has been queued and after the timeout limit is reached.
- B:** The maximum number of concurrent connections has been reached. No further connections would be allowed at the moment.
- C:** No new connection pool is created.

**QUESTION NO: 3**

**You have a strongly typed DataSet object named TestKingDataSet. This object contains three DataTable objects named Customers, Orders and OrderDetails.**

**Customers and Orders have a data column named CustomerID. Orders and OrderDetails have a data column named OrderID.**

**Orders have a foreign key constraint between Customers and Orders on CustomerID. OrderDetails has a foreign key constraint between Orders and OrderDetails on OrderID.**

**You want to populate Customers, Orders and OrderDetails with data from Microsoft SQL Server database.**

**In which order should you fill the Data table objects?**

- A. Customers  
OrderDetails  
Orders
- B. OrderDetails

Orders  
Customers

- C. Customers  
Orders  
OrderDetails
- D. Orders  
OrderDetails  
Customers

**Answer: C**

**Explanation:** We must populate the tables that are referenced by the foreign-key constraints first, namely the Customers and the Orders table. We should populate the OrderDetails table last.

### TestKing Illustrative Diagram



#### Incorrect Answers

- A B:** There would be no corresponding rows in the Orders table if we populate the OrderDetails table before the Orders table.
- D:** There would be no corresponding rows in the Customers table if we populate the OrderDetails table before the Customers table.

#### QUESTION NO: 4

Your Microsoft SQL Server 6.5 database contains a table named TestKingPurchases that consists of more than 1 million rows.

You are developing an application to populate a DataReader object with data from TestKingPurchases. You want to ensure that the application processes the data as quickly as possible.

You create a SQL SELECT statement in a local variable named tkSQLSelect. You need to initiate a SqlConnection object and a SqlCommand object you will use to populate the DataReader object.

Which code segment should you use?

- A. Dim myConnection As New OleDbConnection \_

```
(myOleDbConnectionString)  
Dim tkCommand As New OleDbCommand _  
    (tkSQLSelect)
```

- B. 

```
Dim myConnection As New OleDbConnection _  
    (myOleDbConnectionString)  
Dim tkCommand As New OleDbCommand _  
    (tkSQLSelect, myConnection)
```
- C. 

```
Dim myConnection As New SqlConnection _  
    (mySqlConnectionString)  
Dim tkCommand As New SqlCommand _  
    (tkSQLSelect)
```
- D. 

```
Dim myConnection As New SqlConnection _  
    (mySqlConnectionString)  
Dim tkCommand As New SqlCommand _  
    (tkSQLSelect, myConnection)
```

**Answer: B**

**Explanation:** For Microsoft SQL Server version 6.5 and earlier, you must use the OLE DB Provider for SQL Server. Furthermore, we specify both the CommandText and the OleDbConnection properties of the OleDbCommand.

**Reference:**

.NET Framework Developer's Guide, .NET Data Providers [Visual Basic] .NET Framework Class Library, OleDbCommand Members

**Incorrect Answers**

- A:** We create the OleDbCommand we must specify the OleDbConnection, not just the CommandText.  
**C, D:** Only SQL Server 7.0, SQL Server 2000 or later can use SqlConnection.

**QUESTION NO: 5**

Your Microsoft SQL Server database has a stored procedure named `GetTestKingCustomer`. `getTestKingCustomer` accepts one parameter named `@CustomerID` and returns the appropriate company name.

You initiate a `SqlCommand` object named `myCommand`. You need to initialize `myCommand` to return the company name for `@CustomerID` with a value of "ALFKI".

Which code segment should you use?

- A. `myCommand.CommandText = "TestKingCustomer, ALFKI"`  
`myCommand.Parameters.Add ("@CustomerID")`
- B. `myCommand.CommandText = "TestKingCustomer"`  
`myCommand.Parameters.Add ("TestKingCustomer", "ALFKI")`
- C. `myCommand.CommandText = "@CustomerID"`  
`myCommand.Parameters.Add ("TestKingCustomer", "ALFKI")`
- D. `myCommand.CommandText = "TestKingCustomer"`  
`myCommand.Parameters.Add ("@CustomerID", "ALFKI")`

**Answer: D**

**Explanation:** The `SqlCommand.CommandText` Property gets or sets the SQL statement or stored procedure to execute at the data source. Here we should set it to the name of the stored procedure: `TestKingCustomer`. The Parameter should contain `ParameterName` (here `@CustomerID`) and the `Value` (here the string `ALFKI`).

**Note:** A `SqlCommand` object represents a Transact-SQL statement or stored procedure to execute against a SQL Server database.

**Reference:**

.NET Framework Class Library, `SqlCommand.CommandText` Property [Visual Basic] .NET Framework Class Library, `SqlParameter` Members

**Incorrect Answers**

- A, C:** The `CommandText` should be set to the named of the stored procedure. We should not specify any parameters in the `CommandText`.
- B:** The name of the parameter, not the name of the stored procedure, should be included in the parameter.

**QUESTION NO: 6**

You have a `DataSet` object named `myDataSet`. This object contains two `DataTable` objects named `Customers` and `Orders`. `Customers` has a column named `CustomerID`, which is unique to each customer. `Orders` also has a column named `CustomerID`. You want to use the `GetChildRows` method of the `DataRow` object to get all orders for the current customers.

**What should you do?**

- A. Add a foreign key constraint on `CustomerID` of `Orders` between `Customers` and `Orders`.
- B. Add a data relation to `myDataSet` on `OrderID` between `Customers` and `Orders`.
- C. Create a unique constraint on `CustomerID` of `Customers`.

- D. Create a primary key on CustomerID of Customers.

**Answer: B**

**Explanation:** The GetChildRows Method use a DataRelation to retrieve the child rows of this DataRow using the specified DataRelation. In this scenario we would be required to add a data relation between the two tables. **Note:** A Datarelation represents a parent/child relationship between two DataTable objects.

## TestKing Illustrative Diagram



**Reference:**

.NET Framework Class Library, DataRow.GetChildRows Method (DataRelation) [Visual Basic] .NET Framework Class Library, DataRelation Class [Visual Basic]  
Visual Database Tools, Foreign Key Constraints

**Incorrect Answers**

- A:** A foreign key constraint works in conjunction with primary key or unique constraints to enforce referential integrity among specified tables. However, the GetChildRows method uses a DataRelation, not a foreign key constraint.
- C:** A unique constraint on CustomerID of Customers would only make sure that the CustomerID column will have unique values.
- D:** A primary key constraint would ensure that CustomerID column will have unique values.

**QUESTION NO: 7**

You are developing an application that queries a table named Products in a Microsoft SQL Server database. The query will be stored in a string variable named TKQuery. The query includes the following SQL code.

```
SELECT * FROM Products For XML AUTO
```

You must iterate the query results and populate an HTML table with product information.

You must ensure that your application processes the results as quickly as possible.

What should you do?

- A. Use a SqlDataAdapter object and set its SelectCommand property to **TKQuery**.  
Use the Fill method of the SqlDataAdapter object to read the data into a DataSet object.

Loop through the associated rows to read the data.

- B. Use a SqlDataAdapter object and set its SelectCommand property to **TKQuery**. Use the Fill method of the SqlDataAdapter object to read the data into a DataSet object. Use the ReadXml method of the DataSet object to read the data.
- C. Set the SqlCommand object's Command Text to **TKQuery**. Use the ExecuteReader method of the SqlCommand object to create a SqlDataReader object. Use the Read method of the SqlDataReader object to read the data.
- D. Set the SqlCommand object's Command Text to **TKQuery**. Use the ExecuteXmlReader method of the SqlCommand object to create a XmlReader object. Use the XmlReader object to read the data.

**Answer: D**

**Explanation:** You can execute SQL queries against existing relational databases to return results as XML documents rather than as standard rowsets. To retrieve results directly, use the FOR XML clause of the SELECT statement like in this scenario.

XmlReader provides non-cached, forward-only, read-only access to an XML data source, such as the XML produces by the T-SQL statement of this scenario.

**Reference:**

SQL Server 2000 Books Online, Retrieving XML Documents Using FOR XML .NET Framework Developer's Guide, Reading XML with the XmlReader

**Incorrect Answers**

- A: We must take since the data is in XML format. Furthermore, a Dataset is not required.
- B: DataSet.ReadXml method reads XML data into the DataSet. However, it is not necessary to use a dataset. Reading the data into a Datasets brings an unnecessary overhead.
- C: The SqlDataReader provides a means of reading a forward-only stream of rows from a SQL Server database. However, it operates on relational data not on XML data.

**QUESTION NO: 8**

You use a function to maintain a table named Categories in a Microsoft SQL Server database. The function creates a DataTable object named Categories in a DataSet object named categoriesDataSet. These two objects capture all insertions, updates and deletions to the Categories table.

The function instantiates a SqlDataAdapter object named TKDataAdapter. This object is configured to select insert, update and delete rows in the Categories DataTable object.



**You need to update the database to include the changes in the Categories DataTable object and capture all data errors in a batch after all rows have been processed.**

**Which code segment should you use?**

- A. Try  
TKDataAdapter.Update (CategoriesDataSet, “Categories”)  
Catch mySqlException as SqlException  
Dim myDataRow ( ) As DataRow = \_  
CategoriesDataSet.Tables (0).GetErrors ( )  
End Try  
‘ Code to process errors goes here.
- B. TKDataAdapter.ContinueUpdateOnError = True  
Try  
TKDataAdapter.Update (CategoriesDataSet, “Categories”)  
Catch mySqlException as SqlException  
Dim myDataRow ( ) As DataRow = \_  
CategoriesDataSet.Tables (0) .GetErrors ( )  
End Try  
‘ Code to process errors goes here.
- C. TKDataAdapter.Update (CategoriesDataSet, “Categories”) If  
categoriesDataSet.Tables(0).HasErrors Then  
Dim myDataRow ( ) As DataRow = \_  
CategoriesDataSet.Tables(0).GetErrors ( )  
‘ Code to process errors goes here.  
End If
- D. TKDataAdapter.ContinueUpdateOnError = True  
TKDataAdapter.Update (CategoriesDataSet, “Categories”)  
If categoriesDataSet.Tables (0).HasErrors Then  
Dim myDataRow ( ) As DataRow = \_  
CategoriesDataSet.Tables(0).GetErrors ( )  
‘ Code to process errors goes here.  
End If

**Answer: D**

**Explanation:**

**Line 1:** TKDataAdapter.ContinueUpdateOnError = True

The DataAdapter.ContinueUpdateOnError property gets or sets a value that specifies whether to generate an exception, or the row in error when an error is encountered during a row update. The value **true** is used to

continue the update without generating an exception.. The default is false. In this scenario the value of this property must be true. We don't want exceptions.

**Line 2:** `TKDataAdapter.Update (CategoriesDataSet, "Categories")`

We update the database. All updated rows in the Dataset are updated in the database as well.

**Line 3:** `If categoriesDataSet.Tables (0).HasErrors Then`

We check if there exist any errors in the dataset with the HasErrors method.

**Line 4, 5, 6:** We collect the rows with errors with the GetErrors method.

**Reference:** .NET Framework Class Library, `DataAdapter.ContinueUpdateOnError` Property [Visual Basic]

### **Incorrect Answers**

**A, B:** We don't want the errors that occur while processing rows to not generate exceptions. Instead we want to collect the rows where errors occurred. The **Try-Catch** construct is useless here.

**C:** By default an error to update, insert or delete a row causes an exception. We must set the DataAdapter property `ContinueUpdateOnError` to **True**.

### **QUESTION NO: 9**

**Your company frequently receives product information from external vendors in the form of XML data. You receive XML document files, an .xdr schema file, and an .xsd schema file.**

**You need to write code that will create a typed DataSet object on the basis of product information. Your code will be used in several Visual studio .NET applications to speed up data processing.**

**You need to create this code as quickly as possible.**

**What should you do?**

- A. Create the code manually.
- B. Use `XmlSerializer.Serialize` to generate the code.
- C. Use the `XmlSerializer.Deserialize` to generate the code.
- D. Use the Xml Schema Definition tool (`Xsd.exe`) to generate the code.

**Answer: D**

**Explanation:** The XML Schema Definition tool generates XML schema or common language runtime classes from XDR, XML, and XSD files, or from classes in a runtime assembly. The code would be produced quickly.

**Reference:** .NET Framework Tools, XML Schema Definition Tool (`Xsd.exe`) .NET Framework Class Library, `XmlSerializer` Class [Visual Basic]

### **Incorrect Answers**

**A:** Manually creating code would be tedious.

- B:** The XmlSerializer.Serialize is used to produce XML documents from objects. It is the wrong way around.  
**C:** At run time XML documents can be deserialized into run time objects with the XmlSerializer.Deserialize method. However, we would have to manually produce this code.

**QUESTION NO: 10**

**You create a DataSet object named TestKingProductsDataset that contains product information from a Microsoft SQL Server database. This object has a primary key on a column named ProductID.**

**You want to create a new DataSet object that has the same structure as TestKingProductsDataset, including the primary key. You want the new DataSet object to be empty of data.**

**Which code segment should you use?**

- A. Dim NewDataSet As DataSet = TestKingProductsDataset.Clone
- B. Dim NewDataSet As DataSet = TestKingProductsDataset.Copy
- C. Dim NewDataSet as New DataSet ()  
newDataSet.Tables.Add ("TestKingProductsDataset")
- D. Dim newDataSet as New Dataset ()  
newDataSet.Tables.Add (TestKingProductsDataset.Tables (0))

**Answer: A**

**Explanation:** DataSet.Clone method copies the structure of the DataSet, including all DataTable schemas, relations, and constraints. It does not copy any data.

**Reference:** .NET Framework Class Library, DataSet.Clone Method [Visual Basic]

**Incorrect Answers**

- B:** DataSet.Copy method Copies both the structure and data for this DataSet.  
**C:** A Dataset it cannot be added as a table.  
**D:** We want the new dataset be same as the old. Here we just copy a single table.

**QUESTION NO: 11**

**Your Microsoft SQL Server database contains a table named TestKingOrders. Due to recent increase in product sale. TestKingOrders now contains more than 500,000 rows.**

**You need to develop an application to produce a report of all orders in the table. You need to ensure that the application processes the data as quickly as possible.**

**Which code segment should you use?**