Accessing Data with Microsoft .NET Framework 4 (TS: 70-516)
Chapter 01: ADO.NET Disconnected Classes

15 March 2019

Q1. Which one the following does NOT fall in the ADO.NET connected class category?
- A. Command
- B. Connection
- C. DataReader
- D. DataSet

Answer: D

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Q2. Which one of the following objects a DataTable does not contain?
- A. DataRow
- B. DataColumn
- C. Constraint
- D. DataRelation

Answer: D

[Page: 03

DataRelation is not part of DataTable, DataRelation is part of DataSet contained in DataRelations collection]

Q3. Which namespace the disconnected data access classes - DataTable, DataRow and DataColumn are defined in?
- A. System
- B. System.Data
- C. System.Data.Common
- D. System.Data.SqlClient

Answer: B

[The disconnected data access classes are implemented in the System.Data.dll assembly under System.Data namespace]

Q4. The disconnected data access classes reside in _____ assembly.
- A. System.Data.dll
- B. System.Data.OleDb.dll
- C. System.Data.SqlClient.dll
- D. System.Data.Odbc.dll

Answer: A

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Q5. Which object represents tabular data as an in-memory, tabular cache of rows, columns, and constraints.
- A. DataTable
- B. DataSet

C. DataReader
D. DataAdapter

Answer: A
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Q6. Which class do you use typically to perform any disconnected data access?
A. DataTable
B. DataAdapter
C. DbCommand
D. DbConnection

Answer: A
[Page: 04]

Q7. After creating an instance of the DataTable class, what must you do to be able to insert DataRow objects that contain the data?
A. Create schema for the table by adding DataColumn objects and setting the constraints of each column
B. Set the primary key of the table
C. Set the TableName property of the DataTable instance
D. None of the table

Answer: A
[Page: 04]

Q8. How do you create schema for a DataTable instance?
A. By adding DataColumn objects and setting the constraints of each column
B. By creating schema in an XSD file and calling the loadXML method on the DataTable instance using the XSD file path as the method argument
C. By creating a DataAdapter instance and calling the fill the method of the DataAdapter instance using the DataTable instance as the method argument
D. None of the above

Answer: A
[Page: 04]

Q9. Find correct code fragment that adds a column with constraints to a DataTable instance.
A. DataTable dt = new DataTable {TableName ="Cars"};
   dt.Columns.Add("model", typeof (string), MaxLength =30, AllowDBNull = false);
B. DataTable dt = new DataTable {TableName ="Cars"};
   dt.Columns[0] = new DataColumn ("model",typeof (string){MaxLength =30, AllowDBNull = false});
C. DataTable dt = new DataTable {TableName ="Cars"};
   dt.Add(new DataColumn ("model", typeof (string)){MaxLength =30, AllowDBNull = false});
D. DataTable dt = new DataTable {TableName ="Cars"};
   dt.Columns.Add(new DataColumn ("model", typeof (string)){MaxLength =30, AllowDBNull = false});

Answer: D
[Page: 04
A: wrong, Add method of DataRow collection accepts DataColumn object.
B: wrong. Columns collection of DataTable is readonly
C: wrong, DataTable does not have Add method to add column]

Q10. You created a price column using the code below
        DataColumn priceColumn = new DataColumn("price", typeof (decimal)){DefaultValue=50};
Which code segment creates a calculated column based on the price column created above?
    A. DataColumn taxColumn = new DataColumn("tax",typeof (decimal)){Expression = price *
        0.0862};
    B. DataColumn taxColumn = new DataColumn("tax",typeof (decimal)){Expression =
        priceColumn.Value * 0.0862};
    C. DataColumn taxColumn = new DataColumn("tax",typeof (decimal)){Expression =
        priceColumn * 0.0862"};
    D. DataColumn taxColumn = new DataColumn("tax",typeof (decimal)){Expression = "price *
        0.0862"};
Answer: D
[Page: 06
Expression property is string and accepts formula as string.]

Q11. What should you do with DataColumn object to allow null value?
    A. Set AllowNull property to true
    B. Set Null property to true
    C. Set DbNull property to true
    D. Set AllowDbNull property to true
Answer: D
[Page: 06]

Q12. The AllowDBNull property is set to _____to ensure that the column is populated with data.
    A. true
    B. false
Answer: B
[Page: 06]

Q13. What is the default value of a column if its AllowDBNull is set to true?
    A. Null
    B. Empty
    C. DBNull
    D. Empty string
Answer: C
[Page: 06]

Q14. What is the default value for the MaxLength property of a DataColumn?
    A. 0
    B. 1;
    C. -1
    D. Null
Answer: C
[Page: 06]

Q15. Which property of the DataColumn is not a constraint?
    A. AllowDBNull
    B. Caption

C. MaxLength
D. Unique

Answer: B

[Page: 06]

Q16. Which property of the DataColumn is used to create a calculated column?
    A. DataType
    B. Formula
    C. Expression
    D. Caption

Answer: C

[Page: 06]

Q17. What is the default value for the AllowDBNull property of a DataColumn?
    A. 0
    B. 1;
    C. true
    D. false

Answer: C

[Page: 06]

Q18. How can you ensure that the column is populated with data?
    A. By setting the AllowDBNull property to true
    B. By setting the AllowDBNull property to false
    C. By setting the DefaultValue property to DBNull
    D. By setting the Required property to true

Answer: B

[Page: 06]

Q19. What is the default value for the Caption property of a DataColumn?
    A. Null
    B. DBNull
    C. Empty string
    D. The ColumnName property value passed in the constructor

Answer: D

[Page: 06]

Q20. What value PrimaryKey property of a DataTable instance accepts?
    A. A DataColumn object
    B. A string
    C. An array of DataColumn objects
    D. An array of string

Answer: C

[Page: 06]

Q21. The PrimaryKey property of a DataTable must be set to _____.
    A. a DataColumn object
    B. an array of DataColumn objects
    C. a Constraint object

D. a Key object

Answer: B

[Page: 06]

Q22. To ensure that values of auto-numbering DataColumn don't conflict with values retrieved from the database server, what should you do?
   A. Set AutoIncementStep and AutoIncrementSeed to 1
   B. Set AutoIncementStep and AutoIncrementSeed to 0
   C. Set AutoIncementStep and AutoIncrementSeed to -1
   D. Set AutoIncementStep to 1 and AutoIncrementSeed to 0

Answer: C

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Q23. How do create DataRow objects for populating DataTable with data?
   A. Use the NewRow method of the DataTable instance
   B. Use the DataRow constructor
   C. Use the Create static method of DataRow class
   D. Use the RowState collection of the DataTable instance

Answer: A

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Q24. You created a DataTable with schema using code below
DataTable dt = new DataTable ();
dt.Columns.AddRange(
      new DataColumn []
      {
        new DataColumn ("id",typeof(int)){AllowDBNull = false},
        new DataColumn ("name",typeof (string)){AllowDBNull = false, MaxLength = 40}
      });
Now you want to populate the DataTable. Which one of the code segments will **fail**?
   A. DataRow r = new DataRow ();
       r["id"] = 1;
       r["name"] = "name 1";
       dt.Rows.Add (r);
   B. DataRow r = dt.NewRow();
       r["id"] = 1;
       r["name"] = "name 1";
       dt.Rows.Add (r);
   C. dt.Rows.Add (1,"name 1");
   D. dt.Rows.Add (new object[]{1, "name 1"});

Answer: A

[Page: 09
DataRow must be created in the context of a DataTable instance, it is schema dependent. You cannot use DataRow constructor.]

Q25. Which method of the DataRow collection of a DataTable instance works well when you are creating a new row of data?
   A. Add
   B. Load

C. Import DataRow
D. Merge

Answer: A

[Page: 08]

Q26. Which method of the DataTable instance imports DataRow objects that have been modified but preserves the original state and all other settings?
    A. Add
    B. Load
    C. Import DataRow
    D. LoadDataRow

Answer: C

[Page: 08]

Q27. Which method of the DataTable instance can be used to update existing DataRow objects or load new DataRow objects?
    A. Add
    B. Load
    C. Import DataRow
    D. LoadDataRow

Answer: D

[Page: 08]

Q28. Which LoadOption enumeration value should you pass into the LoadDataRow method of DataTable to overwrite the original data row version and the current data row version and change the row state to Unchanged?
    A. OverwriteChanges
    B. PreserveChanges
    C. Upsert
    D. None

Answer: A

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Q29. Which LoadOption enumeration value should you pass into the LoadDataRow method of DataTable to overwrite the original data row version but not to modify the current data row version?
    A. OverwriteChanges
    B. PreserveChanges
    C. Upsert
    D. None

Answer: B

[Page: 08]

Q30. Which LoadOption enumeration value should you pass into the LoadDataRow method of DataTable to overwrite the current data row version but not to modify the original data row version?
    A. OverwriteChanges
    B. PreserveChanges
    C. Upsert
    D. None

Answer: C

Q31. You want to add a DataRow to DataTable object using LoadDataRow method. You want to overwrite the current data row version but does not modify the original data row version.
Which LoadOption should you use?
    A. OverwriteChanges
    B. PreserveChanges
    C. Upsert
    D. None of the above
Answer: C
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Q32. What is the RowState of DataRow that has been created and added to the data table?
    A. Detached
    B. Added
    C. Unchanged
    D. Current
Answer: B
[Page: 09]

Q33. What is the RowState of DataRow that has been created and but not added to the data table?
    A. Detached
    B. Added
    C. Unchanged
    D. Current
Answer: A
[Page: 09]

Q34. What will the state of the row when the newly created row is added to the DataTable and then modified?
    A. Detached
    B. Added
    C. Modified
    D. Current
Answer: C
[Page: 10
Adding a row and modifying the row will keep the row in the Added state. The row changes to the Modified state only if it was previously in the Unchanged state.]

Q35. You have a DataTable object dt.
You have the following code (Line numbers are only for reference)
1.   DataRow dr = dt.NewRow( );
2.   dt.Rows.Add(dr);
3.   dr["CustomerID"]="AAAA";
4.   dt.RejectChanges( );
5.
What is the RowState of dr at Line 5?
    A. Detached
    B. Added

C. Modified
D. Deleted

Answer: A
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Q36. You have a DataTable object dt.
You have the following code (Line numbers are only for reference)
```
1.      DataRow dr = dt.NewRow( );
2.      dt.Rows.Add(dr);
3.      dr["CustomerID"]="AAAA";
4.      dt.AcceptChanges( );
5.
```
What is the RowState of dr at Line 5?
    A. Detached
    B. Added
    C. Modified
    D. Unchanged

Answer: D
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Q37. You have a DataTable object dt.
You have the following code (Line numbers are only for reference)
```
1.      DataRow dr = dt.NewRow( );
2.      dt.Rows.Add(dr);
3.      dr["CustomerID"] ="AAAA";
4.
```
What is the RowState of dr at Line 4?
    A. Detached
    B. Added
    C. Modified
    D. Unchanged

Answer: B
[Page: 10]

Q38. You have a DataTable object dt.
You have the following code (Line numbers are only for reference)
```
1.      DataRow dr = dt.NewRow( );
2.      dt.Rows.Add(dr);
3.      dr["CustomerID"]="AAAA";
4.      dt.AcceptChanges( );
5.      dr["CustomerID"] ="BBBB";
6.
```
What is the RowState of dr at Line 6?
    A. Detached
    B. Added
    C. Modified
    D. Unchanged

Answer: C
[Page: 10]

Q39. You have a DataTable object dt.
You have the following code (Line numbers are only for reference)
1.   DataRow dr = dt.NewRow( );
2.   dt.Rows.Add(dr);
3.   dr["CustomerID"] ="AAAA";
4.   dt.AcceptChanges();
5.   dr.Delete ();
6.   dt.RejectChanges( );
7.
What is the RowState of dr at Line 7?
    A. Detached
    B. Added
    C. Modified
    D. Unchanged
Answer: D
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Q40. Which versions of data a DataTable can hold?
    A. Current
    B. Default
    C. Original
    D. Proposed
Answer: A, C, D
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Q41. When the data row is loaded, which versions of data exist?
    A. Current
    B. Default
    C. Original
    D. Proposed
Answer: A
[Page: 11]

Q42. When the data row is in edit mode, which versions of data exist?
    A. Current
    B. Default
    C. Original
    D. Proposed
 Answer: C, D
[Page: 11]

Q43. Which one of the following classes does **not** support AcceptChanges method?
    A. DataSet
    B. DataTable
    C. DataRow
    D. DataColumn
Answer: D
[Page: 13]

Q44. The AcceptChanges and RejectChanges resets DataRow state to _____.
  A. Detached
  B. Added
  C. Modified
  D. Unchanged
Answer: D
[Page: 13]

Q45. Which method of the DataTable class is used to the DataRow objects that have changed since its creation or the last time AcceptChanges has been called?
  A. GetRows
  B. GetModified
  C. GetChanges
  D. Changes
Answer: C
[Page: 13]

Q46. What is the AcceptChanges method do?
  A. AcceptChanges method only resets the DataRow state to Unchanged
  B. AcceptChanges method only causes the DataRow object's Current data row version to be copied to the DataRow object's Original version.
  C. AcceptChanges method resets the DataRow state to Unchanged and causes the DataRow object's Current data row version to be copied to the DataRow object's Original version.
  D. AcceptChanges method resets the DataRow state to Unchanged and causes the DataRow object's Original data row version to be copied to the DataRow object's Current version.
Answer: C
[Page: 13]

Q47. What is the RejectChanges method do?
  A. AcceptChanges method only resets the DataRow state to Unchanged
  B. AcceptChanges method only causes the DataRow object's Current data row version to be copied to the DataRow object's Original version.
  C. AcceptChanges method resets the DataRow state to Unchanged and causes the DataRow object's Current data row version to be copied to the DataRow object's Original version.
  D. AcceptChanges method resets the DataRow state to Unchanged and causes the DataRow object's Original data row version to be copied to the DataRow object's Current version.
Answer: D
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Q48. Which method do you use to copy the DataTable object's schema and data?
  A. Copy
  B. Clone
  C. Serialize
  D. ToTable
Answer: A
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Q49. Which method do you use to copy the DataTable object's schema without data?

A. Copy
B. Clone
C. Serialize
D. ToTable

Answer: B
[Page: 16]

Q50. Which one provides ability data table to be sorted and filtered?
    A. DataSet
    B. DataReader
    C. DataView
    D. DataRowVersion

Answer: C
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Q51. You want to set filter to DataView object dv so that it filters out the rows on the condition:
"the Make column for cars beginning with the letter B and on the Year column for cars newer than 2003".
Which one of the following correctly applies the filter?
    A. dv.RowFilter = "Where Make like 'B%' and Year > 2003";
    B. dv.RowFilter = "Make like 'B%' and Year > 2003";
    C. dv.RowFilter = dv["Make"][0]=='B' && dv ["Year"]>2003;
    D. dv.RowFilter = "Make StartsWith 'B' && Year > 2003";

Answer: B
[Page: 17
The RowFilter property is set to a SQL WHERE clause without the word "WHERE"]

Q52. You have a data table instance customersTable populated with customers' data. You want to filter data using a DataView object. Which of the following code should do it correctly?
    A. DataView customersView = customersTable.DefaultView;
       customersView.Filter = "WHERE City = 'Dhaka'";
    B. DataView customersView = customersTable.DefaultView;
       customersView.RowFilter = "WHERE City = 'Dhaka'";
    C. DataView customersView = new DataView(customersTable);
       customersView.RowFilter = "WHERE City = 'Dhaka'";
    D. DataView customersView = customersTable.DefaultView;
       customersView.RowFilter = "City = 'Dhaka'";

Answer: D
[Page: 17]

Q53. Which property of the DataView object do you use to specify which version or versions of data you want to view?
    A. Sort
    B. RowFilter
    C. RowStateFilter
    D. DataRowVersion

Answer: C
[Page: 17]

Q54. Which one correctly sets the filter on the DataView object so that it retrieves the Current data row version of DataRow objects that have a row state of Added or Modified?
- A. dv.RowSateFilter = DataViewRowState.Added + DataViewRowState.ModifiedCurrent
- B. dv.RowSateFilter = DataViewRowState.Added & DataViewRowState.ModifiedCurrent
- C. dv.RowSateFilter = DataViewRowState.Added | DataViewRowState.ModifiedCurrent
- D. dv.RowSateFilter = DataViewRowState.Added ~ DataViewRowState.ModifiedCurrent

Answer: C

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Q55. Which DataViewRowState enumeration value retrieves the Current data row version of DataRow objects that have a row state of Modified?
- A. CurrentRows
- B. ModifiedCurrent
- C. Unchanged
- D. None

Answer: B

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Q56. Which of the DataView instance is used to copy existing rows to a new DataTable?
- A. Copy
- B. Clone
- C. Export
- D. ToTable

Answer: D

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Q57. Which statement copies existing rows leaving duplicates from the view to a new DataTable?
- A. DataTable export = view.ToTable(false);
- B. DataTable export = view.ToTable(true, "MyCarTable");
- C. DataTable export = view.ToTable("MyCarTable", true, "Vin", "Make", "Year");
- D. DataTable export = view.ToTable("MyCarTable", false, "Vin", "Make", "Year");

Answer: C

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Q58. Which one can be thought of an in-memory snap-shot of a physical database?
- A. DataTable
- B. DataReader
- C. DataSet
- D. DataAdapter

Answer: C

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Q59. Which objects can a DataSet instance contain?
- A. A collection of DataTable objects
- B. A collection of DataRow objects
- C. A collection of DataColumn objects
- D. A collection of DataRelation objects

Answer: A, D

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DataColumn and DataRow are part of DataTable]

Q60. You have created two data table object and added them to a data set object. Your code is like below (Line numbers are only for reference)
1. DataTable categories = new DataTable("Categories");
2. categories.Columns.AddRange(
3. new DataColumn[] {
4.   new DataColumn("categoryid", typeof(int)){ AllowDBNull=false},
5.   new DataColumn("categoryname", typeof(string)){MaxLength=40,
6.   AllowDBNull=false}
7.   });
8. DataTable products = new DataTable("Products");
9. products.Columns.AddRange(new DataColumn[] {
10.   new DataColumn("productid", typeof(int)){ AllowDBNull=false},
11.   new DataColumn("productname", typeof(string)){MaxLength=40,
12.   AllowDBNull=false},
13.   new DataColumn("unitprice", typeof(decimal)),
14.   new DataColumn("categoryid", typeof(int)){AllowDBNull=false}
15.   });
16. categories.PrimaryKey = new DataColumn[] { categories.Columns["categoryid"] };
17. products.PrimaryKey = new DataColumn[] { products.Columns["productid"] };
18. DataSet ds = new DataSet("store");
19. ds.Tables.Add(categories);
20. ds.Tables.Add(products);
21.
To create relation on categories and products data table on categoryid column on both, which code should you add at line 21?
   A. categories.Relations.Add(new DataRelation("categpry_product",
       categories.Columns["categoryid"], products.Columns["categoryid"]));
   B. products.Constraints.Add (new DataRelation("categpry_product",
       categories.Columns["categoryid"], products.Columns["categoryid"]));
   C. products.Relation =new DataRelation("categpry_product",
       categories.Columns["categoryid"], products.Columns["categoryid"]);
   D. ds.Relations.Add(new DataRelation("categpry_product",
       categories.Columns["categoryid"], products.Columns["categoryid"]));
Answer: D
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Q61. You have created two data table object and added them to a data set object. Your code is like below (Line numbers are only for reference)
1. DataTable categories = new DataTable("Cateories");
2. categories.Columns.AddRange(
3. new DataColumn[] {
4.   new DataColumn("categoryid", typeof(int)){ AllowDBNull=false},
5.   new DataColumn("categoryname", typeof(string)){MaxLength=40,
6.   AllowDBNull=false}
7.   });
8. DataTable products = new DataTable("Products");
9. products.Columns.AddRange(new DataColumn[] {

```
10.     new DataColumn("productid", typeof(int)){ AllowDBNull=false},
11.     new DataColumn("productname", typeof(string)){MaxLength=40,
12.                           AllowDBNull=false},
13.          new DataColumn("unitprice", typeof(decimal)),
14.      new DataColumn("categoryid", typeof(int)){AllowDBNull=false}
15.          });
16. categories.PrimaryKey = new DataColumn[] { categories.Columns["categoryid"] };
17. products.PrimaryKey = new DataColumn[] { products.Columns["productid"] };
18. DataSet ds = new DataSet("store");
19. ds.Tables.Add(categories);
20. ds.Tables.Add(products);
21. ds.Relations.Add(new DataRelation("category_product", categories.Columns["categoryid"],
              products.Columns["categoryid"]));
```

You want to apply cascade delete rules on foreign key constraint created on products data table. How can you do that?

  A. DataRelation fk = ds.Relations["category_product"];
      fk.DeleteRule = Rule.Cascade;
      ds.Relations["category_product"].DeleteRule = Rule.Cascade;
  B. ForeignKeyConstraint fk = (ForeignKeyConstraint)categories.Constraints["category_product"];
      fk.DeleteRule = Rule.Cascade;
  C. ForeignKeyConstraint fk = (ForeignKeyConstraint)products.Constraints["category_product"];
      fk.DeleteRule = Rule.Cascade
  D. ForeignKeyConstraint fk = products.ForeignKey["category_product"];
      fk.DeleteRule = Rule.Cascade;

Answer: C
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Q62. Which method of the DataSet is used to combine data available in one data set with another data set?
  A. Copy
  B. Clone
  C. Merge
  D. Add

Answer: C
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Q63. Which method of DataTable or DataSet is used to write its content to an XML file or stream?
  A. Write
  B. Write XML
  C. Save
  D. Savers

Answer: B
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Q64. Which property of DataColumn determines how it is mapped when a DataSet or DataTable is saved as an XML document using the WriteXml method?
  A. Caption
  B. DataType

C. ColumnMapping
D. ColumnName

Answer: C

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Q65. Which MappingType enum value causes the column data is stored as text within the row element tags when a DataSet or DataTable is saved as an XML document using the WriteXml method?

A. MappingType.Auto
B. MappingType.Element
C. MappingType.SimpleContent
D. MappingType.Hidden

Answer: C

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Q66. Which statement generates the schema definition within the XML file from a DataSet instance named ds?

A. ds.WriteXmlSchema ("data.xml");
B. ds.WriteXml("data.xml");
C. ds.WriteXmlSchema ("data.xml", XML Write Model.WriteSchema);
D. ds.WriteXmlSchema ("data.xml", XML Write Model.DiffGram);

Answer: C

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Q67. What is a DiffGram in an XML document?

A. A DiffGram is an XML document that contains XSD Schema information along with all the data from the DataSet object.
B. A DiffGram is an XML document that contains all the data from the DataSet object with data type information.
C. A DiffGram is an XML document that contains all the data from the DataSet object, including the original DataRow object information.
D. A DiffGram is an XML document that contains only the modified data from the DataSet object.

Answer: C

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Q68. What is a DataTableReader?

A. DataTableReader is used to load data into a DataTable object from an XML file.
B. DataTableReader provides a way to merge data from two DataTable objects
C. DataTableReader provides a stable, forward-only, read-only means of looping over DataRow objects in one or more DataTable instance
D. None of the above

Answer: C

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Q69. What is DataBinding?

A. Data binding is the locking data exclusively to modify.
B. Data binding is the connecting of data to a GUI control.
C. Data binding is preventing data from being modified.

D. Data binding is a form data validation.

Answer: B

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