

QUESTION 1

When you set the compatibility level of SQL Server 2016, you make sure it is compatible with a specific version of

- a. DML statements
- b. DDL statements
- c. SQL Server
- d. standard SQL

QUESTION 2

If you define a column with a default value, that value is used whenever a row

- a. that doesn't include a value for that column is added to the table
- b. with a zero value for that column is added to the table
- c. is added to the table
- d. in the table is updated

QUESTION 3

The interface between an application program and the DBMS is usually provided by the

- a. back end
- b. data access API
- c. programmer
- d. front end

QUESTION 4

The processing that's done by the DBMS is typically referred to as

- a. a database management system
- b. back-end processing
- c. the file server
- d. front-end processing

QUESTION 5

When using the Query Designer, you can sort the sequence for the

- a. query in the SQL Pane
- b. Criteria pane
- c. Diagram pane
- d. Update pane

QUESTION 6

SQL statements that define the tables in a database are referred to as _____ statements.

- a. SELECT
- b. Data Manipulation Language (DML)
- c. Data Definition Language (DDL)
- d. ASCII

QUESTION 7

Although the American National Standards Institute publishes the specifications for a standard SQL language, each DBMS vendor has its own _____ of SQL.

- a. dialect/variant
- b. flavor
- c. style
- d. parlance

QUESTION 8

When using the Query Designer, where is the generated SQL statement displayed?

- a. Criteria pane
- b. SQL pane
- c. Diagram pane
- d. Update pane

QUESTION 9

The intersection of a row and a column is commonly called what?

- a. foreign key
- b. cell
- c. intersection
- d. primary key

QUESTION 10

To run a SELECT statement from an application program, you store the statement in the _____ object for the database connection.

- a. database
- b. CLR
- c. command
- d. table

QUESTION 11

In Management Studio, if you want to modify a column, or view more detailed information about the columns in a table, what tool would you use?

- a. Database Attacher

- b. Table Designer
- c. Object Explorer
- d. Query Editor

QUESTION 12

Which of the following isn't a common error when entering and executing SQL statements?

- a. Misspelling the name of a table
- b. Forgetting to select the required database
- c. Misspelling a keyword
- d. Forgetting to attach the required database

QUESTION 13

A graphical tool that you can use to start and stop the database server is called what?

- a. SQL Server Management Studio
- b. Table Designer
- c. SQL Server Configuration Manager
- d. Object Explorer

QUESTION 14

Insert, Update, and Delete statements can be referred to as _____ queries.

- a. result
- b. SELECT
- c. database
- d. action

QUESTION 15

One limitation of the Query Designer is that you can't use it for

- a. certain types of complex queries
- b. action queries
- c. one-to-many relationships
- d. multiple-table queries

QUESTION 16

When you use Windows authentication to connect to a database, SQL Server

- a. uses the login name and password that you use for your PC to authorize your connection
- b. uses both Windows and SQL Server login names and passwords for authorization
- c. lets you access the database without authorization as long as you're logged on to Windows
- d. requires that you use a special login name and password for your authorization

QUESTION 17

You can create a database diagram for

- a. any combination of the tables in a database
- b. up to 3 tables in a database
- c. just the related tables in a database
- d. just the tables in a one-to-many relationship

QUESTION 18

If you define a column as an identity column,

- a. a number is generated for that column whenever a row is added to the table
- b. you must provide a unique numeric value for that column whenever a row is added to the table
- c. you must also define the column with a default value
- d. you can't use the column as a primary key column

QUESTION 19

A SQL Server database consists of two files: a database file and a _____.

- a. error file
- b. creation file
- c. log file
- d. foreign key file

QUESTION 20

What can you use to combine data from two or more tables into a single result set?

- a. join
- b. virtual table
- c. result set
- d. view

QUESTION 21

If you try to move a database file that's attached to a server, you'll get an error message that indicates the file is in use. To get around this, you need to _____ the database from the server.

- a. remove
- b. detach
- c. delete
- d. disconnect

QUESTION 22

The three main hardware components of a client/server system are the clients, the server, and the _____.

- a. application
- b. hard drive

- c. network
- d. data access API

QUESTION 23

A database _____ is a schematic drawing that shows you the relationships between the tables you're working with.

- a. object
- b. diagram
- c. system
- d. role

QUESTION 24

Which of the following is not a SQL DML statement?

- a. CreateTable
- b. Insert
- c. Update
- d. Select

QUESTION 25

In Management Studio, if a statement returns data, that data is displayed in the _____ tab.

- a. Object Explorer
- b. Query Editor tab
- c. Messages tab
- d. Results tab

QUESTION 25

Which of the following types of statements isn't an action query?

- a. Delete
- b. Update
- c. Insert
- d. Select

QUESTION 26

In Management Studio, the Query Editor uses the IntelliSense feature to automatically display _____ lists that you can use to enter parts of the SQL statement.

- a. completion
- b. colored
- c. execution
- d. data

QUESTION 26

When a column in a table is defined, what determines the kind of data it can store?

- a. an index
- b. a relationship
- c. a data type
- d. a primary key

QUESTION 27

A view is a SELECT statement that is stored with the _____.

- a. calculated values
- b. database
- c. query
- d. join

QUESTION 28

To work with the data in a SQL Server database from a .NET application, you can use ADO.NET objects like

- a. queries, connections, and data readers
- b. commands, connections, and databases
- c. queries, connections, and databases
- d. commands, connections, and data readers

QUESTION 29

When using the Query Designer, you select the tables and columns you want to use in the

- a. SQL pane
- b. Diagram pane
- c. Object Explorer
- d. Criteria pane

QUESTION 30

What SQL dialect does Microsoft SQL Server use?

- a. SQL-92
- b. SQL-dialect
- c. Transact-SQL
- d. ANSI

QUESTION 31

The Query Editor of the Management Studio lets you enter and execute all types of

- a. DML statements
- b. SQL statements
- c. DDL statements
- d. SELECT statements

QUESTION 32

What uniquely identifies each row in a table?

- a. field
- b. cell
- c. primary key
- d. foreign key

QUESTION 33

Within the Management Studio, you can build a SQL statement without having to write your own code by using the _____.

- a. XML editor
- b. View Designer
- c. Object Explorer
- d. Query Designer

QUESTION 34

Management Studio allows you to back up a database. Then, if you accidentally modify or delete data, you can easily _____ it.

- a. redesign
- b. reconfigure
- c. restore
- d. reconstitute

QUESTION 35

What is the most common type of relationship between two tables?

- a. foreign
- b. one-to-many
- c. one-to-one
- d. many-to-many

QUESTION 36

Which of the following recommendations won't improve the readability of your SQL statements?

- a. Start each clause on a new line
- b. Break long clauses into multiple lines
- c. Use comments to describe what each statement does
- d. Indent continued lines

QUESTION 37

To store and manage the databases of the client/server system, each server requires what?

- a. database management system (DBMS)
- b. Structured Query Language (SQL)
- c. data access API (application programming interface)
- d. tables

QUESTION 38

A relational database consists of one or more what?

- a. tables
- b. cells
- c. rows
- d. columns

QUESTION 39

To retrieve or update the data in a database, the client sends a _____ to the database.

- a. query
- b. server
- c. web browser
- d. database

QUESTION 40

To relate one table to another, a/an _____ in one table is used to point to the primary key in another table.

foreign key

QUESTION 41

A table is typically modeled after a real-world entity, such as an invoice or a vendor.

Code example 4-1

```
SELECT VendorName AS Vendor, InvoiceDate AS Date  
FROM Vendors AS v JOIN Invoices AS i  
    ON v.VendorID = i.VendorID;
```

Code example 4-2

```
SELECT VendorName, InvoiceNumber  
FROM Invoices LEFT JOIN Vendors  
    ON Invoices.VendorID = Vendors.VendorID;
```

QUESTION 1

To return all of the columns from the base table, which wildcard character do you include in the SELECT clause?

- a. -
- b. *
- c. +
- d. =

QUESTION 2

When you use the implicit syntax for coding inner joins, the join conditions are coded in which clause?

- a. WHERE
- b. ORDER BY
- c. FROM
- d. SELECT

QUESTION 3

(Refer to code example 4-1.)

The column name for the second column in the result set will be?

- a. VendorID
- b. VendorName
- c. Vendor
- d. Date

QUESTION 4

When you need to code multiple conditions in a join, it's best to

- a. code all conditions in the WHERE clause
- b. code all conditions in the ON clause
- c. code only join conditions in the ON clause
- d. code only join conditions in the WHERE clause

QUESTION 5

Correlation names are temporary table names assigned in which clause?

- a. ON
- b. WHERE
- c. FROM
- d. ORDER BY

QUESTION 6

To concatenate character strings in a string expression, which operator do you use?

- a. *
- b. -
- c. +
- d. =

QUESTION 7

To override the order of precedence in an arithmetic expression, you can use

- a. double quotes
- b. single quotes
- c. braces
- d. parentheses

QUESTION 8

In a join, column names only need to be qualified where?

- a. in outer joins
- b. in inner joins
- c. when the code is confusing
- d. when the same names are used in both tables

QUESTION 9

When coded within a SELECT clause, which TOP clause will return a result set consisting of the ten largest InvoiceNumbers?

- a. TOP 10 InvoiceNumber
- b. TOP InvoiceNumber, InvoiceTotal
- c. TOP 10 PERCENT WITH TIES InvoiceNumber

- d. TOP 10 PERCENT InvoiceNumber
- e. TOP 10 InvoiceTotal

QUESTION 10

Which of the following is not a reason for using the explicit syntax instead of the implicit syntax for inner joins? The explicit syntax

- a. lets you separate the join and search conditions
- b. lets you combine the join and search conditions
- c. lets you combine inner and outer joins
- d. is easier to read and understand

QUESTION 11

Which keyword can you use to retrieve rows in which an expression matches a string pattern called a mask?

- a. LIKE
- b. OR
- c. ORDER BY
- d. WHERE

QUESTION 12

A combination of column names and operators that evaluate to a single value is called

- a. an expression
- b. a view
- c. a predicate
- d. a query

QUESTION 13

In most cases, the join condition of an inner join compares the primary key of one table to the _____ key of another table.

- a. primary
- b. foreign
- c. SELECT
- d. unique

QUESTION 14

When you code a SELECT statement, you must code the four main clauses in the following order

- a. SELECT, FROM, ORDER BY, WHERE
- b. SELECT, WHERE, ORDER BY, FROM
- c. SELECT, ORDER BY, FROM, WHERE
- d. SELECT, FROM, WHERE, ORDER BY

QUESTION 15

The search condition of a WHERE clause consists of one or more

- a. numeric expressions
- b. none of the above
- c. Boolean expressions
- d. string expressions

QUESTION 16

A full outer join includes rows that satisfy the join condition, plus

- a. rows in the right table that don't satisfy the join condition
- b. rows in the left table that don't satisfy the join condition
- c. rows in both tables that don't satisfy the join condition
- d. the Cartesian product of the two tables

QUESTION 17

Which clause specifies the number of rows that should be retrieved after skipping the specified number of rows?

- a. OFFSET
- b. FETCH
- c. NEXT
- d. FIRST

QUESTION 18

Which clause specifies the number of rows that should be skipped before rows are returned from the result set?

- a. FETCH
- b. NEXT
- c. FIRST
- d. OFFSET

QUESTION 19

_____ names can be used when you want to assign a temporary name to a table.

- a. Correlation
- b. Table
- c. Object
- d. Qualified

QUESTION 20

Which of the following expressions will not compute 10% of the balance due if balance due is the invoice total minus the credit total minus the payment total?

- a. $((\text{InvoiceTotal} - \text{PaymentTotal}) - \text{CreditTotal}) / 10$
- b. $\text{InvoiceTotal} - \text{CreditTotal} - \text{PaymentTotal} / 10$
- c. $(\text{InvoiceTotal} - (\text{PaymentTotal} + \text{CreditTotal})) * 0.10$
- d. $(\text{InvoiceTotal} - \text{PaymentTotal} - \text{CreditTotal}) / 10$

QUESTION 21

Code example 4-2

```
SELECT VendorName, InvoiceNumber
FROM Invoices LEFT JOIN Vendors
ON Invoices.VendorID = Vendors.VendorID;
```

(Refer to code example 4-2.) The total number of rows returned by this query must equal

- a. the number of rows in the Invoices table
- b. the number of rows in the Vendors table
- c. the number of rows in the Invoices table plus the number of rows in the Vendors table
- d. none of the above

QUESTION 22

If you want to filter the result set that's returned by a SELECT statement, you must include which clause?

- a. WHERE
- b. ORDER BY
- c. FROM
- d. SELECT

QUESTION 23

When you code a union with the INTERSECT keyword to combine two result sets, the union

- a. excludes rows from the first result set if they also occur in the second result set
- b. excludes rows from the second result set if they also occur in the first result set
- c. includes all rows that occur in both result sets if the primary keys are the same
- d. includes only rows that occur in both result sets

QUESTION 24

If you assign a correlation name to one table in a join,

- a. you have to use that name for the table in the query
- b. you have to qualify all of the column names for that table
- c. you have to assign them to all of the tables in the query
- d. you have to qualify every column name in the query

QUESTION 25

When coded in a WHERE clause, which of the following search conditions will not return a result set that includes all invoices with an InvoiceTotal value of \$1000 or less?

- a. InvoiceTotal <= 1000
- b. InvoiceTotal IN (0,1000)
- c. InvoiceTotal BETWEEN 0 AND 1000
- d. NOT (InvoiceTotal > 1000)

QUESTION 26

(Refer to code example 4-1.) The name “v” is known as a?

- a. placeholder
- b. correlation name
- c. table alias
- d. both b and c

QUESTION 27

Unless you assign a _____, the column name in the result set is the same as the column name in the base table.

- a. all of the above
- b. unique syntax
- c. qualification
- d. column alias

QUESTION 28

To sort the records that are retrieved by a SELECT statement in descending sequence what keyword do you code at the end of the ORDER BY clause?

- a. ASC
- b. DISTINCT
- c. DESC
- d. ALL

QUESTION 29

Code example 4-1

```
SELECT VendorName AS Vendor, InvoiceDate AS Date  
  
FROM Vendors AS v JOIN Invoices AS i  
  
ON v.VendorID = i.VendorID;
```

(Refer to code example 4-1.) This type of join is called a/an

- a. left join
- b. right join
- c. inner join

- d. outer join

QUESTION 30

To override the order of precedence in an arithmetic expression, you can use

- a. parentheses
- b. double quotes
- c. single quotes
- d. braces

QUESTION 31

A string expression can consist of

- a. one or more character columns
- b. a combination of character columns and literal values
- c. one or more literal values
- d. all of the above

QUESTION 32

Which keyword lets you control the number of rows that are returned by a query?

- a. ALL
- b. all of the above
- c. TOP
- d. DISTINCT

QUESTION 33

Your code will be easier to read if you code the join condition in the ON expression, and the search conditions in the which clause?

- a. FROM
- b. ORDER BY
- c. WHERE
- d. any of the above

QUESTION 34

(Refer to code example 4-1.) This join is coded using what syntax?

- a. implicit
- b. both b and c
- c. explicit
- d. SQL-92

QUESTION 35

Which clause of the SELECT statement names the table that contains the data to be retrieved?

- a. ORDER BY
- b. WHERE
- c. FROM
- d. SELECT

QUESTION 36

Which of the following is not a valid column alias name?

- a. TotalSales
- b. Total
- c. "Total Sales"
- d. Total Sales

QUESTION 37

A join that joins a table with itself is called

- a. an inner join
- b. an outer join
- c. a self-join
- d. a U-join

QUESTION 38

When you code a union that combines two result sets, which of the following is not true?

- a. The result sets must be derived from different tables.
- b. Each result set must have the same number of columns.
- c. The result sets may or may not have any duplicate rows.
- d. The corresponding columns in the result sets must have compatible data types.

QUESTION 39

Code example 4-2

```
SELECT VendorName, InvoiceNumber  
FROM Invoices LEFT JOIN Vendors  
    ON Invoices.VendorID = Vendors.VendorID;
```

(Refer to code example 4-2.) If the LEFT keyword is replaced with the RIGHT keyword, the total number of rows that are returned must equal

- a. the number of rows in the Invoices table
- b. the number of rows in the Vendors table
- c. the number of rows in the Invoices table plus the number of rows in the Vendors table
- d. none of the above

QUESTION 40

A union combines the rows from two or more what?

- a. SELECT statements
- b. result tables
- c. queries
- d. all of the above

QUESTION 41

To prevent duplicate rows from being returned by a SELECT statement, you can code which keyword in the SELECT clause?

- a. ORDER BY
- b. UNIQUE
- c. DISTINCT
- d. TOP
- e. LIMIT

QUESTION 42

(Refer to code example 4-2.) If the LEFT keyword is replaced with the FULL keyword, the total number of rows that are returned must equal

- a. the number of rows in the Invoices table
- b. the number of rows in the Vendors table
- c. the number of rows in the Invoices table plus the number of rows in the Vendors table

- d. none of the above

QUESTION 43

In a cross join, all of the rows in the first table are joined with all of the

- a. unmatched rows in the second table
- b. rows in the second table
- c. distinct rows in the second table
- d. matched rows in the second table

QUESTION 44

When you code an ORDER BY clause, you can specify a

- a. column name or alias
- b. column name, alias, or expression
- c. column name, alias, expression, or column number
- d. column name or expression

QUESTION 45

Which ORDER BY clause will cause 10 rows to be retrieved from the result set, starting with the 20th row?

ORDER BY InvoiceTotal DESC

OFFSET 20 ROWS

FETCH NEXT 10 ROWS

QUESTION 46

When coded in a WHERE clause, which search condition will return invoices when payment_date isn't null and invoice_total is greater than or equal to \$500?

- a. payment_date IS NOT NULL OR invoice_total >= 500
- b. payment_date IS NOT NULL AND invoice_total >= 500
- c. NOT (payment_date IS NULL AND invoice_total <= 500)
- d. payment_date IS NULL AND invoice_total > 500

QUESTION 47

The order of precedence for the logical operators in a WHERE clause is

Not, And, Or

QUESTION 48

Which of the following is not a reason for using the explicit syntax instead of the implicit syntax for joins? The explicit syntax

d. lets you combine inner and outer joins

Code example 5.1

```
SELECT VendorState, VendorCity, VendorName, COUNT(*) AS InvoiceQty,  
       SUM(InvoiceTotal) AS InvoiceAvg  
FROM Invoices JOIN Vendors  
       ON Invoices.VendorID = Vendors.VendorID  
WHERE VendorState < 'e'  
GROUP BY VendorState, VendorCity, VendorName  
HAVING SUM(InvoiceTotal) > 500  
ORDER BY VendorState, VendorCity, VendorName;
```

Code example 6.1

```
SELECT VendorName, COUNT(*) AS NumberOfInvoices,  
       MAX(InvoiceTotal - PaymentTotal - CreditTotal) AS BalanceDue  
FROM Vendors JOIN Invoices ON Vendors.VendorID = Invoices.VendorID  
WHERE InvoiceTotal - PaymentTotal - CreditTotal >  
       (SELECT AVG(InvoiceTotal - PaymentTotal - CreditTotal)  
        FROM Invoices)  
GROUP BY VendorName  
ORDER BY BalanceDue DESC;
```

Code example 6.2

```
WITH Top5 AS  
    (SELECT TOP 5 VendorID, AVG(InvoiceTotal) AS AvgInvoice  
     FROM Invoices  
     GROUP BY VendorID  
     ORDER BY AvgInvoice DESC)
```

```
SELECT Invoices.VendorID, MAX(Invoices.InvoiceTotal) AS LargestInvoice
FROM Invoices JOIN Top5
    ON Invoices.VendorID = Top5.VendorID
GROUP BY Invoices.VendorID
ORDER BY LargestInvoice DESC;
```

QUESTION 1

Write an aggregate expression for the number of unique values in the VendorID column

- a. COUNT(DISTINCT VendorID)
- b. AVG(VendorID)
- c. SUM(VendorID)
- d. COUNT(VendorID)

QUESTION 2

Subqueries can be _____ within other subqueries.

- a. joined
- b. nested
- c. grandfathered
- d. restated

QUESTION 3

Code example 6-2

WITH Top5 AS

```
(SELECT TOP 5 VendorID, AVG(InvoiceTotal) AS AvgInvoice
FROM Invoices
GROUP BY VendorID
ORDER BY AvgInvoice DESC)
```

```
SELECT Invoices.VendorID, MAX(Invoices.InvoiceTotal) AS LargestInvoice
FROM Invoices JOIN Top10
    ON Invoices.VendorID = Top10.VendorID
GROUP BY Invoices.VendorID
ORDER BY LargestInvoice DESC;
```

(Please refer to code example 6-2.) When this query is executed, there will be how many rows in the result table?

- a. 1
- b. Unknown
- c. 6
- d. 5

QUESTION 4

A subquery can be coded in a WHERE, FROM, SELECT, or _____ clause.

- a. ORDER BY
- b. GROUP BY
- c. FROM
- d. HAVING

QUESTION 5

You can use the OVER clause with an aggregate function to

- a. include the rows used to calculate the summary in the result set
- b. omit summary rows with values over a specified amount
- c. perform the summary over a range of values
- d. include values in the summary only if they're over a specified amount

QUESTION 6

Code example 6-1

```
SELECT VendorName, COUNT(*) AS NumberOfInvoices,
       MAX(InvoiceTotal - PaymentTotal - CreditTotal) AS BalanceDue
FROM Vendors JOIN Invoices
       ON Vendors.VendorID = Invoices.VendorID
WHERE InvoiceTotal - PaymentTotal - CreditTotal >
       (SELECT AVG(InvoiceTotal - PaymentTotal - CreditTotal) FROM Invoices)
GROUP BY VendorName
ORDER BY BalanceDue DESC;
```

(Please refer to code example 6-1.) When this query is executed, the result set will contain

- a. one row for each invoice that has a larger balance due than the average balance due for all invoices

- b. one row for each invoice for each vendor that has a larger balance due than the average balance due for all invoices
- c. one row for the invoice with the largest balance due for each vendor
- d. one row for each vendor that shows the largest balance due for any of the vendor's invoices, but only if that balance due is larger than the average balance due for all invoices

QUESTION 7

A SELECT statement that includes aggregate functions is often called a/an _____ query.

- a. Compound
- b. action
- c. summary
- d. none of the above

QUESTION 8

Code example 6-2

WITH Top5 AS

```
(SELECT TOP 5 VendorID, AVG(InvoiceTotal) AS AvgInvoice  
FROM Invoices  
GROUP BY VendorID  
ORDER BY AvgInvoice DESC)
```

SELECT Invoices.VendorID, MAX(Invoices.InvoiceTotal) AS

LargestInvoice

FROM Invoices JOIN Top10

ON Invoices.VendorID = Top10.VendorID

GROUP BY Invoices.VendorID

ORDER BY LargestInvoice DESC;

(Please refer to code example 6-2.) When this query is executed, the result table will contain one row for

- a. each vendor
- b. each invoice in the Top10 table
- c. each invoice
- d. each vendor in the Top10 table

QUESTION 9

When coding a query with two columns in the GROUP BY clause, you can insert a summary row for each major group by coding which operator?

- a. ROLLUP
- b. OVER
- c. none of the above
- d. HAVING

QUESTION 10

A subquery that's used in a WHERE or HAVING clause is called what?

- a. an aggregate value
- b. an introduction
- c. a subquery search condition
- d. an outer query

QUESTION 11

If introduced as follows, the subquery can return which of the values listed below?

FROM (subquery)

- a. a column of one or more rows
- b. a subquery can't be introduced in this way
- c. a table
- d. a single value

QUESTION 12

Code example 6-2

WITH Top5 AS

(SELECT TOP 5 VendorID, AVG(InvoiceTotal) AS AvgInvoice

FROM Invoices

GROUP BY VendorID

ORDER BY AvgInvoice DESC)

SELECT Invoices.VendorID, MAX(Invoices.InvoiceTotal) AS

LargestInvoice

FROM Invoices JOIN Top10

ON Invoices.VendorID = Top10.VendorID

GROUP BY Invoices.VendorID

ORDER BY LargestInvoice DESC;

(Please refer to code example 6-2.) In this query, the table named Top5 is used as part of a

- a. noncorrelated subquery
- b. correlated subquery
- c. join
- d. correlated table expression

QUESTION 13

Expressions coded in the HAVING clause

- a. can use non-aggregate search conditions but can't use aggregate search conditions
- b. can refer to any column in the base tables
- c. can use aggregate search conditions but can't use nonaggregate search conditions
- d. can use either aggregate search conditions or non-aggregate search conditions

QUESTION 14

Code example 6-2

WITH Top5 AS

```
(SELECT TOP 5 VendorID, AVG(InvoiceTotal) AS AvgInvoice  
FROM Invoices  
GROUP BY VendorID  
ORDER BY AvgInvoice DESC)
```

```
SELECT Invoices.VendorID, MAX(Invoices.InvoiceTotal) AS LargestInvoice
```

```
FROM Invoices JOIN Top10
```

```
ON Invoices.VendorID = Top10.VendorID  
GROUP BY Invoices.VendorID  
ORDER BY LargestInvoice DESC;
```

(Please refer to code example 6-2.) In this query, the table named Top5 is coded as a

- a. correlated subquery
- b. none of the above
- c. noncorrelated subquery
- d. common table expression (CTE)

QUESTION 15

Code example 5-1

```

SELECT VendorState, VendorCity, VendorName, COUNT(*) AS InvoiceQty,
       SUM(InvoiceTotal) AS InvoiceAvg
FROM Invoices JOIN Vendors
       ON Invoices.VendorID = Vendors.VendorID
WHERE VendorState < 'e'
GROUP BY VendorState, VendorCity, VendorName
HAVING SUM(InvoiceTotal) > 500
ORDER BY VendorState, VendorCity, VendorName;

```

(Please refer to code example 5-1.) When this summary query is executed, the result set will contain one summary row for

- a. each city with invoice totals over \$500
- b. each city with invoice average over \$500
- c. each vendor with invoice average over \$500
- d. each vendor with invoice totals over \$500

QUESTION 16

Code example 6-1

```

SELECT VendorName, COUNT(*) AS NumberOfInvoices,
       MAX(InvoiceTotal - PaymentTotal - CreditTotal) AS BalanceDue
FROM Vendors JOIN Invoices ON Vendors.VendorID = Invoices.VendorID
WHERE InvoiceTotal - PaymentTotal - CreditTotal >
       (SELECT AVG(InvoiceTotal - PaymentTotal - CreditTotal) FROM Invoices)
GROUP BY VendorName
ORDER BY BalanceDue DESC;

```

(Please refer to code example 6-1.) When this query is executed, the NumberOfInvoices column for each row will show the number

- a. of invoices for each vendor that have a larger balance due than the average balance due for all invoices
- b. of invoices in the Invoices table
- c. 1
- d. of invoices for each vendor

QUESTION 17

If introduced as follows, the subquery can return which of the values listed below?

WHERE 2 < (subquery)

- a. a table
- b. a column of one or more rows
- c. a single value
- d. a subquery can't be introduced in this way

QUESTION 18

To test whether one or more rows are returned by a subquery, you can use which operator?

- a. MIN
- b. NOT EXISTS
- c. MAX
- d. EXISTS

QUESTION 19

All of the aggregate functions ignore null values, except for which function?

- a. AVG
- b. COUNT(*)
- c. MAX
- d. MIN

QUESTION 20

A correlated subquery is one that

- a. uses correlation names for the tables in the outer query
- b. is executed once for each row in the outer query
- c. uses correlation names for the tables in the subquery
- d. uses correlation names for one or more of the tables in a join

QUESTION 21

Which of the statements below best describes the result set returned by this SELECT statement?

SELECT VendorID,

SUM(InvoiceTotal - PaymentTotal - CreditTotal) AS Column2

FROM Invoices

WHERE InvoiceTotal - PaymentTotal - CreditTotal > 0

GROUP BY VendorID;

- a. The total of paid invoices for each VendorID
- b. The unpaid balance for each invoice
- c. The total unpaid balance due for each VendorID
- d. The total amount invoiced by each VendorID

QUESTION 22

The CUBE operator is similar to the ROLLUP operator except that

- a. you can add additional sets of parentheses to create composite groups that consist of multiple columns
- b. it adds summary rows for every combination of groups
- c. a single summary row is added at the end of the result set that summarizes all the groups
- d. none of the above

QUESTION 23

Which of the statements below best describes the result set returned by this SELECT statement?

```
SELECT VendorState, COUNT(*) AS Column2
```

```
FROM Vendors
```

```
GROUP BY VendorState
```

```
HAVING COUNT(*) > 1;
```

- a. The names of the vendors in each state
- b. The duplicate vendors from each state
- c. The number of vendors in each state
- d. The number of vendors in each state having more than one vendor

QUESTION 24

The six clauses of the SELECT statement must be coded in the following order:

- a. SELECT, FROM, WHERE, GROUP BY, HAVING, ORDER BY
- b. SELECT, FROM, WHERE, ORDER BY, GROUP BY, HAVING
- c. SELECT, FROM, GROUP BY, HAVING, WHERE, ORDER BY
- d. SELECT, FROM, ORDER BY, WHERE, GROUP BY, HAVING

QUESTION 25

If introduced as follows, the subquery can return which of the values listed below?

SELECT (subquery)

- a. a table
- b. a single value
- c. a column of one or more rows
- d. a subquery can't be introduced in this way

QUESTION 26

Write an aggregate expression to find the latest date in the InvoiceDate column

- a. MAX(InvoiceDate)
- b. SUM(InvoiceDate)
- c. MIN(InvoiceDate)
- d. COUNT(InvoiceDate)

QUESTION 27

In many cases, a subquery can be restated as a/an _____.

- a. join
- b. object
- c. aggregate function
- d. average

QUESTION 28

Write an aggregate expression for the number of entries in the VendorName column, including null values

- a. COUNT(Invoice + Null)
- b. COUNT(VendorName)
- c. SUM(VendorName)
- d. COUNT(*)

QUESTION 29

Code example 5-1

```
SELECT VendorState, VendorCity, VendorName, COUNT(*) AS InvoiceQty,  
       SUM(InvoiceTotal) AS InvoiceAvg  
FROM Invoices JOIN Vendors
```

```
        ON Invoices.VendorID = Vendors.VendorID
WHERE VendorState < 'e'
GROUP BY VendorState, VendorCity, VendorName
HAVING SUM(InvoiceTotal) > 500
ORDER BY VendorState, VendorCity, VendorName;
```

The GROUPING SETS operator works like the ROLLUP and CUBE operators, but it

- a. includes summary rows
- b. adds summary rows for specified groups
- c. allows you to use additional sets of parentheses to create composite groups
- d. all of the above

QUESTION 30

By default, all duplicate values are included in the aggregate calculation, unless you specify which keyword?

- e. DISTINCT
- f. AVG
- g. ORDER BY
- h. GROUP BY

Question 31

6-2

WITH Top5 AS

```
(SELECT TOP 5 VendorID, AVG(InvoiceTotal) AS AvgInvoice
FROM Invoices
GROUP BY VendorID
ORDER BY AvgInvoice DESC)
```

```
SELECT Invoices.VendorID, MAX(Invoices.InvoiceTotal) AS LargestInvoice
FROM Invoices JOIN Top10
        ON Invoices.VendorID = Top10.VendorID
GROUP BY Invoices.VendorID
```

ORDER BY LargestInvoice DESC;

(Please refer to code example 6-2.) When this query is executed, each row in the result table will show

- a. the largest invoice amount related to that row, but only if it's larger than the average for all invoices
- b. the largest invoice amount related to that row, but only if it's larger than the average for all invoices related to that row
- c. the average invoice amount related to that row
- d. the largest invoice amount related to that row

QUESTION 32

Write an aggregate expression to find the VendorName column that's last in alphabetical order

- a. either b or c
- b. MAX(VendorName)
- c. COUNT(VendorName)
- d. SUM(VendorName)

QUESTION 33

Expressions coded in the WHERE clause

- a. can use either aggregate search conditions or non-aggregate search conditions
- b. can use aggregate search conditions but can't use non-aggregate search conditions
- c. can use non-aggregate search conditions but can't use aggregate search conditions
- d. must refer to columns in the SELECT clause

QUESTION 34

A common table expression (CTE) creates a temporary _____ that can be used by a query that follows.

- a. aggregate
- b. none of the above
- c. table
- d. expression

QUESTION 35

If introduced as follows, the subquery can return which of the values listed below?

WHERE InvoiceTotal > ALL (subquery)

- a. a single value
- b. a column of one or more rows
- c. a table
- d. a subquery can't be introduced in this way

QUESTION 36

If introduced as follows, the subquery can return which of the values listed below?

WHERE VendorID NOT IN (subquery)

- a. a single value
- b. a column of one or more rows
- c. a table
- d. a subquery can't be introduced in this way

QUESTION 37

A subquery is a/an _____ statement that's coded within another SQL statement.

- a. SELECT
- b. WHERE
- c. FROM
- d. ORDER BY

QUESTION 38

A search condition in the _____ clause is applied before the rows are grouped while a search condition in the _____ clause isn't applied until after the grouping.

- a. WHERE, FROM
- b. WHERE, HAVING
- c. FROM, WHERE
- d. HAVING, WHERE

QUESTION 39

Write an aggregate expression to calculate the average value of the InvoiceTotal column, excluding null values

- a. SUM(InvoiceTotal)
- b. AVG(InvoiceTotal)
- c. either a or b
- d. none of the above

QUESTION 40

Which of the statements below best describes the result set returned by this SELECT statement?

```
SELECT vendor_state, COUNT(*) AS column_2
```

```
FROM vendors
```

```
GROUP BY vendor_state
```

```
HAVING COUNT(*) > 1
```

The number of vendors in each state that has more than one vendor

QUESTION 41

(Please refer to code example 6-1.) Although this query runs as coded, it contains this logical error:

The column name for the fifth column in the result set doesn't match the data.

QUESTION 1

Since the MERGE operation often involves updating existing rows and inserting new rows, the MERGE statement is sometimes referred to as what?

- a. the upsert statement
- b. the magic statement
- c. the dessert statement
- d. the insate statement

QUESTION 2

The char and nchar data types are used to store fixed-length strings. Which of the statements below is true?

- a. all of the above
- b. The char(2) data type will always contain two characters
- c. Data stored using these data types occupies the same number of bytes regardless of the actual length of the string.
- d. They are typically used to define columns that have a fixed number of characters

QUESTION 3

SQL Server supports _____ of the ANSI-standard data types

- a. some, but not
- b. one
- c. all
- d. none

QUESTION 4

Which uses the least amount of storage?

- a. they all use the same amount of storage
- b. 'exam' stored in a column of type nchar(20)
- c. 'example' stored in a column of type nchar(20)
- d. 'ex' stored in a column of type nchar(20)

QUESTION 5

You can use what data type to store a date that includes a time zone offset?

- a. smalldatetime
- b. time
- c. datetime
- d. datetimeoffset

QUESTION 6

If you use _____ in the select list, you must name the column since that name is used in the definition of the new table.

- a. aggregate functions
- b. indexes
- c. foreign keys
- d. calculated values

QUESTION 7

_____ characters can be used to encode most of the characters in most of the languages of the world.

- a. ASCII
- b. variable-length string
- c. Unicode
- d. fixed-length string

QUESTION 8

To insert several rows into a table, you can code an INSERT statement with multiple value lists that are separated by what?

- a. a colon
- b. a backslash
- c. a semi-colon
- d. a comma

QUESTION 9

Write the code for an ORDER BY clause that sorts a table into numeric sequence by the data in the PartCode column if that column contains whole numbers that are stored with the varchar data type.

- a. ORDERBY CAST (PartCode)
- b. none of the above
- c. ORDER BY CAST (PartCode AS int)
- d. ORDER BY CAST (PartCode AS decimal)

QUESTION 10

You use the UPDATE statement to modify one or more rows in the table named in the _____ clause.

- a. UPDATE
- b. FROM
- c. WHERE
- d. INSERT

QUESTION 11

To insert several rows selected from another table into a table, you can code an INSERT statement with a/an _____ in place of the VALUES clause.

- a. WHERE clause
- b. HAVING clause
- c. subquery
- d. summary query

QUESTION 12

Which of the following statements is true?

- a. Every data type can be implicitly converted to every other data type.
- b. Implicit data type conversion is performed when you mix values of different data types in an expression.
- c. Values are implicitly converted from the data type with higher precedence to the data type with lower precedence.
- d. You can convert a data type implicitly by using either the CAST or the CONVERT function.

QUESTION 13

The integer and decimal data types are considered _____ because their precision is exact.

- a. Unicode characters
- b. exact numeric data types
- c. real data types
- d. approximate numeric data types

QUESTION 14

When you use the SELECT INTO technique to create tables

- a. none of the above
- b. only the column definitions and data are copied
- c. primary keys, foreign keys, and default values aren't retained
- d. a and b

QUESTION 15

When coding search conditions, you can use which keyword to create compound search conditions?

- a. CREATE
- b. JOIN
- c. AND
- d. MERGE

QUESTION 16

You can code a subquery

- a. all of the above

- b. in the FROM clause to identify the rows that are available for update
- c. in the WHERE clause to provide one or more values used in the search condition
- d. in the SET clause to return the value that's assigned to a column

QUESTION 17

The _____ of a decimal value indicates the total number of digits that can be stored in a decimal data type.

- a. scale
- b. ASCII
- c. precision
- d. Unicode specification

QUESTION 18

Which function is typically used to insert control characters into a character string?

- a. STR
- b. CHAR
- c. UNICODE
- d. ASCII

QUESTION 19

To code a/an _____ value as a literal, precede the value with the character N

- a. variable-length string
- b. fixed-length string
- c. Unicode
- d. ASCII

QUESTION 20

What would 7,800,000,000 be using scientific notation?

- a. 7.8×10^8 or $7.8E+8$
- b. 7.8×10^7 or $7.8E+7$
- c. 7.8×10^9 or $7.8E+9$
- d. 7.8×10^9 or $7.8E+9$

QUESTION 21

You can't update

- a. a row
- b. one or more rows
- c. a column value
- d. an identity column

QUESTION 22

You can use a _____ in the _____ clause if you need to specify column values or search conditions other than the one named in the UPDATE clause.

- a. table, FROM
- b. join, WHERE
- c. column, WHERE
- d. join, FROM

QUESTION 23

To store a date value without storing a time value, you can use the

- a. time data type
- b. date data type
- c. datetime data type
- d. datetime2 data type

QUESTION 24

Write the code for casting a decimal field named InvoiceAmount to a varchar datatype using the CAST function

- a. CAST (varcharDate, InvoiceAmount) AS varchar
- b. CAST (varcharDate, InvoiceAmount, 107.25) as varchar
- c. CAST (InvoiceAmount AS varchar)
- d. CAST (InvoiceAmount = varchar)

QUESTION 25

When you code a column list in an INSERT statement, you can omit identify columns, columns that have default values, and columns that allow _____ values.

- a. string
- b. null
- c. time
- d. date

QUESTION 26

When you code a DELETE statement for one or more rows, which clause specifies which row or rows are to be deleted?

- a. MERGE
- b. HAVING
- c. WHERE
- d. USING

QUESTION 27

All of the following values can be stored in a column that's defined as decimal(6,2), except

- a. 2479.95
- b. 0
- c. -246.29
- d. 32492.05

QUESTION 28

Which of the following statements best describes what this INSERT statement does?

```
INSERT INTO InvoiceArchive
```

```
SELECT *
```

```
FROM Invoices
```

```
WHERE TermsID = 1;
```

- a. Adds one row from the Invoices table to the InvoiceArchive table.
- b. Adds all of the rows in the Invoices table that have 1 in the TermsID column to the InvoiceArchive table.
- c. Updates all of the rows in the InvoiceArchive table that have 1 in the TermsID column to the rows in the Invoices table.
- d. Adds all of the rows in the Invoices table to the InvoiceArchive table and sets the TermsID column to 1 in each row.

QUESTION 29

In an UPDATE statement, the WHERE clause will

- a. specify the condition a row must meet to be updated
- b. specify the values to be assigned to columns
- c. name the table to be updated
- d. name the columns to be updated

QUESTION 30

If you assign a value with one data type to a column with another data type, SQL Server converts the value to the data type of the column using what?

- a. scientific notation
- b. implicit conversion
- c. Unicode values
- d. explicit conversion

QUESTION 31

Which choice below will increase the storage capacity of a varchar column so it can store up to 2 gigabytes of data?

- a. varchar(XL)
- b. varchar XTREME
- c. varchar(max)
- d. varchar(large)

QUESTION 32

The varchar and nvarchar data types to store variable-length strings. Which of the statements below is true?

- a. They are typically used to define columns with a fixed number of characters.
- b. Data stored using these data types occupies only the number of bytes needed to store the string
- c. In general, they are less efficient than fixed-length strings.
- d. all of the above

QUESTION 33

The real data type can be used to store a _____, which provides for numbers with up to 7 significant digits.

- a. single-precision number
- b. double-precision number
- c. Unicode
- d. floating-point number

QUESTION 34

If you omit the WHERE clause from a DELETE statement

- a. all columns in the table will be deleted
- b. none of the above
- c. the table definition will be deleted
- d. all rows in the table will be deleted

QUESTION 35

Write the code for a DELETE statement that deletes every row in the Vendors table

- a. DELETE * Vendors;
- b. none of the above
- c. DELETE Vendors;
- d. DELETE Vendors WHERE ALL;

QUESTION 36

In the INSERT statement that follows, assume that all of the table and column names are spelled correctly, that none of the columns are identity columns, and that none of them have default values or accept null values. What's wrong with the statement?

```
INSERT INTO InvoiceCopy
```

```
    (VendorID, InvoiceNumber, InvoiceTotal, PaymentTotal,
```

```
    CreditTotal, TermsID, InvoiceDate, InvoiceDueDate)
```

```
VALUES
```

```
(97, '456789', 8344.50, 0, 0, 1, '2016-08-01');
```

- a. The number of items in the column list doesn't match the number in the VALUES list.
- b. The values are in the wrong sequence.
- c. There are zeroes in the VALUES list.
- d. The column names in the column list are in the wrong sequence

QUESTION 37

If you code a column list in an INSERT statement that includes a column that has a default value, which keyword can you code in the VALUES clause to use the default value?

- a. NULL
- b. DEFAULT
- c. none of the above
- d. VALUE

QUESTION 38

The difference between the CAST function and the CONVERT function is that the _____ function accepts an optional style argument that lets you specify a format for the result

- a. CONVERT
- b. Neither accepts the optional style argument
- c. They are both the same
- d. CAST

QUESTION 39

When you code an UPDATE statement for one or more rows, the SET clause specifies the new data for the specified columns and the _____ clause specifies which row or rows are to be updated.

- a. WHERE

- b. MERGE
- c. HAVING
- d. ORDER BY

QUESTION 40

Which of the following statements is true about the CONVERT and TRY_CONVERT functions?

- a. CONVERT can format the result of a conversion, but TRY_CONVERT can't.
- b. CONVERT can be used with any data type, but TRY_CONVERT can't.
- c. CONVERT is an ANSI-standard function, but TRY_CONVERT is not.
- d. CONVERT returns an error if the expression can't be converted, but TRY_CONVERT returns a NULL value.

QUESTION 41

To express the value of a floating-point number, you can use

scientific notation

QUESTION 42

You specify that conditions that must be met for a row to be deleted in the which clause?

WHERE

QUESTION 1

Which function returns the string with any leading spaces removed?

- a. REPLACE
- b. LTRIM
- c. RTRIM
- d. LEFT

QUESTION 2

Which function would you use to retrieve data from a subsequent row in a result set? And which function would you use to retrieve data from a previous row?

- a. LEAD, LAG
- b. LTRIM, RTRIM
- c. LEFT, RIGHT
- d. FIRST, LAST

QUESTION 3

If ZipCode is a varchar column that contains the value 93702, what will the Solution column evaluate to?

ISNUMERIC(ZipCode) AS Solution

- a. false
- b. true
- c. none
- d. null

QUESTION 4

The COALESCE function provides one way to substitute constant values for which values?

- a. real
- b. string
- c. null
- d. decimal

QUESTION 5

When you use weekday with the DATEPART function, it returns an integer that indicates the day of the week where

- a. 1=Sunday, 2=Monday, etc.
- b. 7=Sunday, 1=Monday, etc.
- c. none of the above
- d. 0=Sunday, 1=Monday, etc.

QUESTION 6

Which statements are true about the ROUND function?

- a. To truncate the function rather than round it, code a zero value for the function
- b. It returns the number rounded to the specified precision
- c. If the length is positive, the digits to the left of the decimal point are rounded
- d. all of the above

QUESTION 7

If a string consists of one or more components, you can parse it into its individual components. To locate the characters that separate the components, you would use which function?

- a. SUBSTRING
- b. CHARINDEX
- c. REVERSE
- d. PATINDEX

QUESTION 8

If ExpirationDate contains a value that's equivalent to June 2, 2016 and the GetDate function returns a value that's equivalent to July 17, 2016, what will the Solution column contain when this code is t d?

executed? DATEDIFF(day, ExpirationDate, GetDate()) AS Solution

- a. 1
- b. 45
- c. 30
- d. 15

QUESTION 9

The IIF function determines the value it returns based on what type of expression?

- a. string
- b. conditional
- c. none of the above
- d. numeric

QUESTION 10

If RegistrationDate contains a value that's equivalent to August 10, 2016, what will the Solution column contain when this code is executed? DATEPART(month, RegistrationDate) AS Solution

- a. August, 2016
- b. August
- c. Aug
- d. 8

QUESTION 11

If InvoiceTotal contains a value of 250.00, what will the Solution column contain when this code is executed?

CASE

WHEN InvoiceTotal > 500

THEN InvoiceTotal - ROUND(InvoiceTotal * .20, 2)

WHEN InvoiceTotal >= 250

THEN InvoiceTotal - ROUND(InvoiceTotal * .10, 2)

ELSE

0

END AS Solution

- a. 225.00
- b. 200.00
- c. 25
- d. 0

QUESTION 12

Which function returns the specified number of characters from the string starting at the specified position?

- a. SPACE
- b. REPLACE
- c. RIGHT
- d. SUBSTRING

QUESTION 13

After locating the characters that separate the components of a string you wish to parse, you can use which functions to extract the individual components?

- a. REPLACE, REVERSE, CONCAT, and SUBSTRING
- b. LTRIM, RTRIM, SUBSTRING, and CONCAT
- c. LEFT, RIGHT, CONCAT, and LEN
- d. LEFT, RIGHT, SUBSTRING, and LEN

QUESTION 14

Which function would you use to calculate the rank of the values in a sorted set of values as a percent?

- a. PERCENT_DIST
- b. PERCENTILE_CONT
- c. PERCENTILE_DIST
- d. PERCENT_RANK

QUESTION 15

If FirstName contains “Edward” and LastName contains “Williams”, what will the Solution column contain when this code is executed?

LOWER(LEFT(FirstName,1) + LEFT(LastName,7)) AS Solution

- a. ewilliams
- b. EWilliams
- c. EWilliam
- d. ewilliam

QUESTION 16

The GROUPING function lets you substitute another value for a/an _____ value when you use the ROLLUP or CUBE operator.

- a. null
- b. decimal
- c. date
- d. string

QUESTION 17

Which of the following is not a valid way to avoid search problems when you want to search for rows that have a specific date in a column that’s defined with the datetime data type and which might include time values?

- a. the day after the date you want
- b. convert each datetime value to a date value
- c. use the Day, Month, and Year functions to do the search
- d. use the DatePart function to extract just the date from each datetime value

QUESTION 18

To locate the index of the first character of the first occurrence of a substring within another string, you would use which function?

- a. PATINDEX
- b. SUBSTRING
- c. CHARINDEX
- d. REVERSE

QUESTION 19

The ranking functions make it easy to include a column in a result set that provides the sequential ranking number of each row within a _____.

- a. subquery
- b. clause
- c. function

- d. partition

QUESTION 20

If CustomerAddress contains " 178 E Center Street ", what will the Solution column contain when this code is executed?

`LEN(LTRIM(RTRIM(CustomerAddress)))` AS Solution

- a. 16
- b. 23
- c. 19
- d. 21

QUESTION 1

If two tables have a many-to-many relationship, you need to define a _____ table that relates their records.

- a. primary
- b. composite
- c. unique
- d. linking

QUESTION 2

To maintain _____, if you delete a row in a primary key table, you must also delete any related rows in foreign key tables.

- a. referential integrity
- b. foreign key values
- c. foreign key restraints
- d. primary key restraints

QUESTION 3

In a/an _____, a table can contain information about two or more entities.

- a. none of the above
- b. unnormalized data structure
- c. normalized data structure
- d. foreign key constraint

QUESTION 4

To model a database on a real-world system, you typically represent each real-world entity as a

- a. document
- b. cell
- c. column
- d. table

QUESTION 5

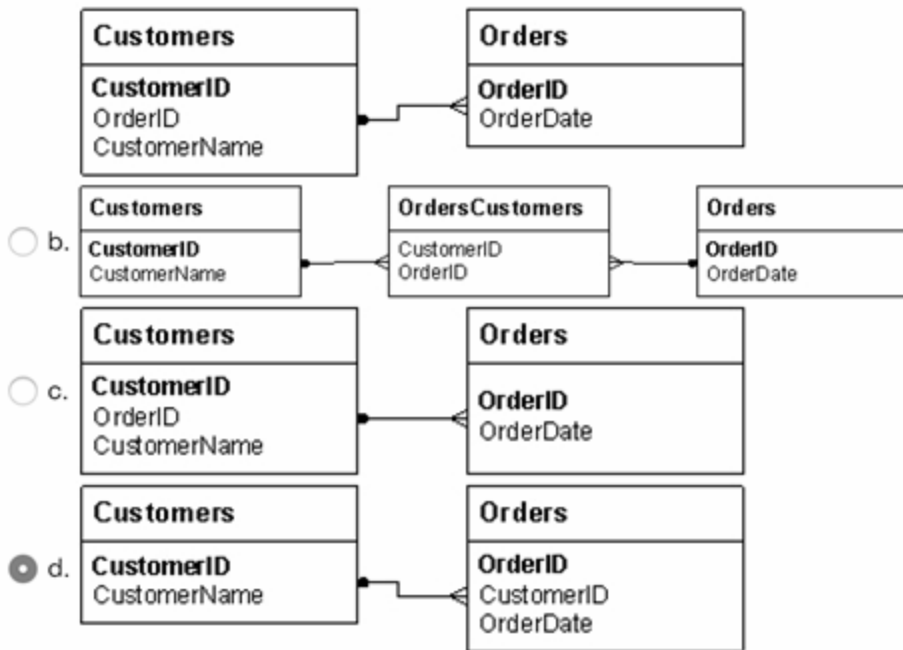
To be in the third normal form,

- a. each non-key column must depend only on the primary key
- b. each non-key column must depend on the entire primary key
- c. the non-key columns must not contain repeating values
- d. all of the above

QUESTION 6

Which of the following diagrams best represents the relationship between a table of customers and a table of orders placed by customers?

☐ a.



QUESTION 7

To apply the second normal form, you move columns that don't depend on the entire primary key to another table and establish a relationship between the two tables. This

- a. reduces redundancy and makes maintenance easier
- b. increases redundancy but makes maintenance easier
- c. reduces redundancy but makes maintenance more difficult
- d. increases redundancy but makes the data more consistent

QUESTION 8

To normalize a data structure, what do you apply in sequence?

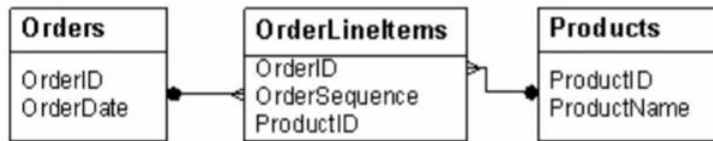
- a. none of the above
- b. composite indexes
- c. indexes
- d. normal forms

QUESTION 9

Typically, what form do most database designers consider a database structure to be normalized?

- a. third
- b. fifth
- c. fourth
- d. second

QUESTION 10



Which column or columns in each table should be defined as the primary key?

- a. Orders: OrderID
OrderLineItems: OrderID, OrderSequence, and ProductID
Products: ProductID and ProductName
- b. Orders: OrderID and OrderDate
OrderLineItems: OrderID and OrderSequence
Products: ProductID
- c. Orders: OrderID
OrderLineItems: OrderID and OrderSequence
Products: ProductID
- d. Orders: OrderID
OrderLineItems: OrderID
Products: ProductID

QUESTION 11

Which of the following is not a good guideline for deciding when to create an index for a column?

- a. The column is frequently updated
- b. The column contains a large number of unique values.
- c. The column is frequently used in search conditions or joins.
- d. The column is a foreign key.

QUESTION 12

The most common type of relationship between two tables is called what?

- a. one-to-one relationship
- b. primary relationship
- c. many-to-many relationship
- d. one-to-many relationship

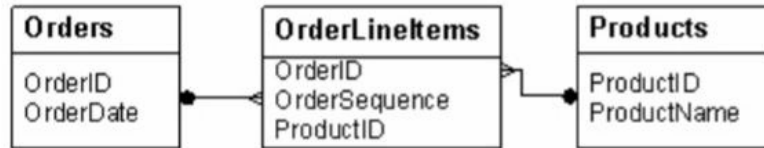
QUESTION 13

Which of the following does not violate the referential integrity of a database?

- a. updating a foreign key with a value that doesn't match a primary key in the related table
- b. inserting a new row into a table with a foreign key that doesn't match a primary key in the related table
- c. updating a primary key in a primary key table without also updating the foreign keys for the related rows in all related tables

- d. deleting a row in a foreign key table without deleting the related row in the related primary key table

QUESTION 14



Which column or columns in each table are foreign keys?

- a. Orders: none
OrderLineItems: OrderID and OrderSequence
Products: none
- b. Orders: none
OrderLineItems: OrderID and ProductID
Products: none
- c. Orders: OrderID
OrderLineItems: OrderSequence
Products: ProductID
- d. Orders: OrderID
OrderLineItems: OrderID and OrderSequence
Products: ProductID

QUESTION 15 ?

To enforce referential integrity, the database can

- a. return an error instead of doing the requested action
- b. do the requested action and do the related changes to the related tables
- c. do the requested action and mark any orphans in related tables
- d. a or b
- e. a or c

QUESTION 16

What do you typically use to relate two tables that have a one-to-one relationship?

- a. composite keys
- b. foreign keys
- c. primary keys
- d. indexes

QUESTION 17

In SQL Server, what do you typically use to enforce referential integrity?

- a. stored procedures

- b. custom triggers
- c. foreign keys
- d. declarative referential integrity

QUESTION 18

When you identify the data elements in a new database, you typically subdivide data elements into

- a. the smallest practical components
- b. the largest practical components
- c. components that can be easily parsed each time you use them

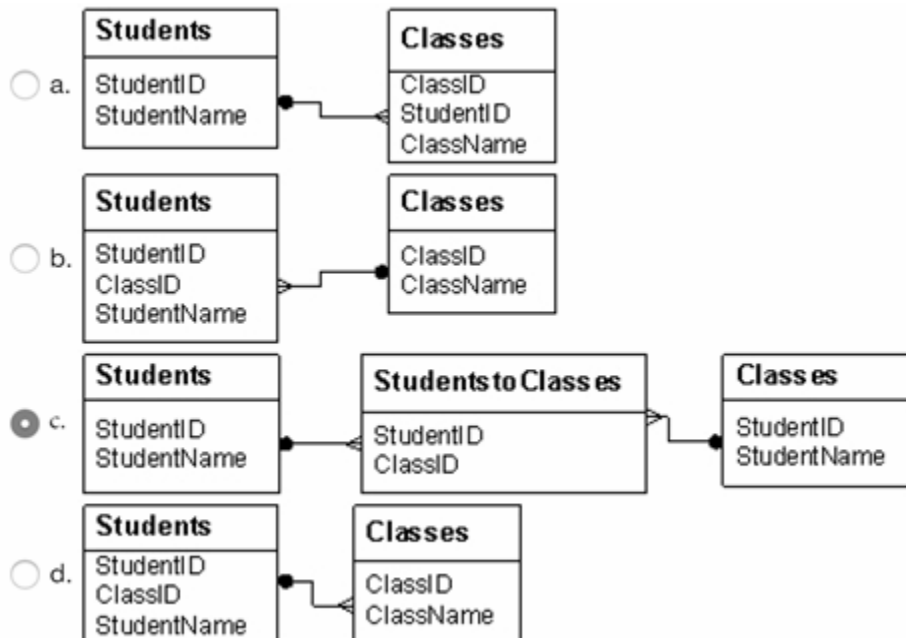
QUESTION 19

When you subdivide a data element, you can easily rebuild it when necessary by _____ the individual components.

- a. concatenating
- b. assigning
- c. updating
- d. matching

QUESTION 20

Which of the following diagrams best represents the relationship between a table of students and a table of classes for which the student is registered?



QUESTION 21

What do you use to uniquely identify each row in a table?

- a. an index

- b. a primary key
- c. a foreign key
- d. a skeleton key

QUESTION 22

After you identify and subdivide all of the data elements for a database, you should group them by the entities with which they're associated. The entities will become the tables of the database, and the elements will become the

- a. Rows
- b. Cells
- c. Indexes
- d. Columns

QUESTION 23

To be in the first normal form, each cell in a table must contain

- a. a single, scalar value
- b. a unique value
- c. a non-unique value
- d. a non-redundant value

QUESTION 1

What is a type of nonclustered index that includes a WHERE clause?

- a. full-database index
- b. full-table index
- c. filtered index
- d. composite index

QUESTION 2

If you omit both NULL and NOT NULL from the list of column attributes in a CREATE TABLE statement, which is the default setting?

- a. NULL
- b. none of the above
- c. NOT NULL
- d. This will throw an error

QUESTION 3

The CREATE TABLE statement

- a. creates a new table in the specified database
- b. creates a new table in the current database
- c. specifies attributes for an existing table
- d. all of the above

QUESTION 4

The first character of an identifier must be

- a. any of the above
- b. a letter as defined by the Unicode Standard 2.0
- c. an at sign (@)
- d. an underscore (_)

QUESTION 5

When you code a table-level check constraint, the constraint can refer to data in more than one

- a. table
- b. database
- c. value
- d. column

QUESTION 6

Whenever you use the Management Studio to create, alter, or delete database objects, you can save the _____ that it used for doing that.

- a. schema

- b. script
- c. date
- d. log file

QUESTION 7

Which statement is used to modify the structure of an existing table?

- a. UPDATE
- b. CHANGE TABLE
- c. CREATE TABLE
- d. ALTER TABLE

QUESTION 8

Each of the following column attributes is a column constraint, except

- a. NOT NULL
- b. UNIQUE
- c. DEFAULT
- d. PRIMARY KEY

QUESTION 9

An identifier

- a. can contain a number sign (#)
- b. all of the above
- c. can contain spaces
- d. can be a Transact-SQL reserved keyword

QUESTION 10

Which identifier can't be used in a SQL statement?

- a. @Increase
- b. Invoices
- c. [Total Due]
- d. email addresses

QUESTION 11

You use data definition language (DDL) to create, modify, and delete the _____ of a database.

- a. tables
- b. sequences
- c. all of the above
- d. objects

QUESTION 12

An index improves performance when SQL Server _____.

- a. inserts a row in a table
- b. none of the above
- c. searches a table
- d. deletes a row from a table

QUESTION 13

By default, what kind of index does the CREATE INDEX statement create?

- a. non clustered
- b. clustered
- c. composite
- d. referential

QUESTION 14

When you create a script for creating a database,

- a. you can create the tables in whatever sequence you prefer
- b. you need to create the referred to tables before you create the tables that refer to them
- c. you need to create the indexes before you create the tables that they apply to
- d. you need to code the primary key column first in each table

QUESTION 15

When you create a table using the Management Studio, the table is automatically stored in the default schema. If you want to transfer the table to a different schema, you can use the which statement?

- a. SET SCHEMA
- b. ALTER SCHEMA
- c. COPY SCHEMA
- d. CREATE SCHEMA

QUESTION 16

When you use the Management Studio to create a check constraint, you can specify whether you want the constraint enforced for insert or _____ operations.

- a. delete
- b. update
- c. invoice
- d. log

QUESTION 17

What can you use to generate a series of integer values that can be used by more than one table?

- a. a cascading update
- b. a batch

- c. a constraint
- d. a sequence

QUESTION 18

When you define a foreign key constraint, you can specify all but one of the following. Which one is it?

- a. that no action should be taken and an error should be returned
- b. that the deletion of a related row in a primary key table should be cascaded down to the rows in the foreign key table
- c. that the insertion of a row in a foreign key table that has a foreign key that isn't matched in the primary key table should be cascaded up to the primary key table
- d. that the updating of a primary key in a primary key table should be cascaded down to the rows in the foreign key table

QUESTION 19

When you use the Management Studio to create a foreign key constraint, you specify the relationship between two tables as well as the rules for enforcing what?

- a. column properties
- b. table design
- c. referential integrity
- d. column values

QUESTION 20

When you use the Check Constraints dialog box, all of the constraints are at the which level so they can refer to any of the columns in the table?

- a. table
- b. database
- c. column
- d. value

QUESTION 21

When coding a definition for a column that will contain a high percentage of null values, what attribute can you use to optimize the storage?

- a. the NULL attribute
- b. the NOT NULL attribute
- c. the SPARSE attribute
- d. the UNIQUE attribute

QUESTION 22

The basic code structure for many SQL statements and objects can be found in which section of the SQL Server Management Studio?

- a. Code Warehouse
- b. Transact-SQL snippets
- c. DDL
- d. Query Editor

QUESTION 23

When you use the Management Studio to create a database, including its tables and indexes, the Management Studio actually generates and runs the _____ statements that are necessary to create the database.

- a. none of the above
- b. DML
- c. DDL
- d. both a and b

QUESTION 24

What kind of constraint limits the values that can be stored in a column?

- a. integrity constraint
- b. size constraint
- c. check constraint
- d. values constraint

QUESTION 25

When you create a script for creating a database, which keyword do you use to signal the end of a batch and cause all the statements in the batch to be executed?

- a. EXECUTE
- b. GO
- c. END
- d. START

QUESTION 26

When you identify a column as the primary key, the column

- a. all of the above
- b. is forced to contain a unique value for each row
- c. is forced to be NOT NULL
- d. has a clustered index created automatically for the column

QUESTION 27

An at sign (@) at the beginning of an identifier indicates

- a. that the identifier is a global temporary object
- b. that the identifier is a local variable or parameter
- c. that the identifier is a temporary table procedure
- d. that the identifier is an email address

QUESTION 28

When you use the CREATE TABLE statement to create a table, you can also define the attributes and _____ for the columns.

- a. data types
- b. values
- c. constraints
- d. all of the above

QUESTION 29

Some database designers write their own SQL statements for creating a database, its tables, and its indexes instead of using the Management Studio. Why?

- a. They want to have complete control over how the database is created.
- b. It's easier to modify your own script if you want to use it to create the same database for another database management system later on.
- c. All of the above
- d. The scripts generated by the Management Studio are harder to understand.

QUESTION 30

The CREATE DATABASE statement creates two files on the hard drive of the server: a data file and a

- a. log file
- b. index file
- c. none of the above
- d. key file

QUESTION 31

What kind of constraint enforces referential integrity between tables?

- a. foreign key constraint

- b. reference constraint
- c. both a and b
- d. none of the above

QUESTION 32

Check constraints you create using DDL can be defined at the

- a. table level
- b. none of the above
- c. both a and b
- d. column level

QUESTION 1

Each of the following is a benefit provided by using views except for one. Which one?

- a. You can provide secure access to data by creating views that provide access only to certain columns or rows
- b. You can simplify data retrieval by hiding multiple join conditions
- c. You can create a view that simplifies data insertion by hiding a complex INSERT statement within the view
- d. You can create custom views to accommodate different needs.

QUESTION 2

A view

- a. is like a virtual table
- b. doesn't store any data itself
- c. consists only of the rows and columns specified in its CREATE
- d. all of the above

QUESTION 3

To select the columns for a view, you would use what?

- a. Criteria pane
- b. Diagram pane
- c. SQL pane
- d. Results pane

QUESTION 4

The statement

```
CREATE VIEW Example2
```

```
AS
```

```
SELECT InvoiceNumber, DATEDIFF(day, InvoiceDate, InvoiceDueDate)
```

```
FROM Invoices;
```

- a. will fail because the second column isn't named
- b. will create a read-only view because of a calculated value
- c. will create an updatable view
- d. will create a view through which you can delete rows, but not insert or update row

QUESTION 5

The WITH CHECK OPTION clause

- a. prevents other users from examining the SELECT statement on which the view is based
- b. prevents underlying base tables from being deleted or modified in any way that affects the view
- c. protects a view by binding it to the database structure

- d. prevents a row in a view from being updated if that would cause the row to be excluded from the view

QUESTION 6 ?

The WITH SCHEMABINDING clause

- a. prevents a row in a view from being updated if that would cause the row to be excluded from the view
- b. both b and c
- c. protects a view by binding it to the database structure
- d. prevents underlying base tables from being deleted or modified in any way that affects the view

QUESTION 7

A series of SQL statements that you can store in a file is called a

- a. subquery
- b. view
- c. catalog view
- d. script

QUESTION 8

Code example 14-2

```
USE AP;
```

```
SELECT * INTO #InvoiceCopy FROM Invoices;
```

```
DECLARE @InvoiceID int, @InvoiceTotal money;
```

```
DECLARE @Total money;
```

```
SET @Total = 0;
```

```
WHILE @Total + (SELECT TOP 1 InvoiceTotal  
                FROM #InvoiceCopy  
                ORDER BY InvoiceTotal DESC) <= 200000
```

```
BEGIN
```

```
    SELECT TOP 1 @InvoiceID = InvoiceID, @InvoiceTotal = InvoiceTotal  
    FROM #InvoiceCopy  
    ORDER BY InvoiceTotal DESC;
```

```
    IF @InvoiceTotal < 1000
```

```
        BREAK;
```

```
    ELSE
```

```
        BEGIN
```

```
            SET @Total = @Total + @InvoiceTotal;
```

```
            DELETE FROM #InvoiceCopy
```

```
            WHERE InvoiceID = @InvoiceID;
```

```
        END;
```

END;

PRINT 'Total: \$' + CONVERT(varchar, @Total, 1);

What is the maximum value of the @Total variable?

- a. 199,999.99 plus the current value of the @InvoiceTotal variable
- b. 200,000.00
- c. 200,000.00 plus the current value of the @InvoiceTotal variable
- d. 199,999.99

QUESTION 9

Which statement do you use to return a message to the client?

- a. DECLARE
- b. EXEC
- c. SEND
- d. PRINT

QUESTION 10

What statement can you use to divide a script into multiple batches?

- a. GO
- b. SET
- c. EXEC
- d. DECLARE

QUESTION 11

The WITH CHECK option of the CREATE VIEW statement

- a. prevents rows from being deleted through the view
- b. prevents an update from being performed through the view if it causes a row to no longer be included in the view
- c. prevents users from using the view without the appropriate authorization
- d. prevents rows from being inserted through the view

QUESTION 12

The scope of a temporary table is limited to what?

- a. the database session in which it's defined
- b. the script in which it's defined
- c. the statement in which it's defined
- d. the batch in which it's defined

QUESTION 13

CREATE VIEW Example1
AS

```
SELECT VendorName, SUM(InvoiceTotal) AS SumOfInvoices
FROM Vendors JOIN Invoices
      ON Vendors.VendorID = Invoices.VendorID
GROUP BY VendorName
ORDER BY VendorName;
```

The statement

- a. will succeed
- b. will fail because the ORDER BY clause isn't allowed in this view
- c. will fail because the column alias SumOfInvoices is invalid
- d. will fail because the GROUP BY clause isn't allowed in this view

QUESTION 14

What do you call a local variable that can store a single value?

- a. global
- b. temporary
- c. single-local
- d. scalar

QUESTION 15

```
CREATE VIEW Example4
AS
SELECT *
FROM Invoices JOIN Vendors
      ON Invoices.VendorID = Vendors.VendorID
WHERE InvoiceTotal - PaymentTotal - CreditTotal > 0;
```

The statement

- a. will create a view through which you can update or insert rows, but not delete rows
- b. will create an updatable view
- c. will fail because the SELECT statement returns two columns named VendorID
- d. will create a read-only view

QUESTION 16

To view the code that's generated for the view, you would use what?

- a. SQL pane
- b. Diagram pane
- c. Criteria pane
- d. Results pane

QUESTION 17

The scope of a derived table is limited to what?

- a. the batch in which it's defined
- b. the database session in which it's defined
- c. the script in which it's defined
- d. the statement in which it's defined

QUESTION 18

You can use what to create or modify a view in SQL Server Management Studio?

- a. Criteria pane
- b. Diagram pane
- c. View Designer
- d. Query Designer

QUESTION 19

Code example 14-1

```
USE AP;
DECLARE @Date1 smalldatetime;
DECLARE @Date2 smalldatetime;
SELECT @Date1 = MIN(InvoiceDueDate), @Date2 = MAX(InvoiceDueDate)
FROM Invoices
WHERE InvoiceTotal - PaymentTotal - CreditTotal > 0;
IF @Date1 < GETDATE()
    IF @Date2 < GETDATE()
        BEGIN
            PRINT 'Earliest past due date: ' + CONVERT(varchar, @Date1, 1);
            PRINT 'Latest past due date: ' + CONVERT(varchar, @Date2, 1);
        END;
    ELSE
        PRINT 'Earliest past due date: ' + CONVERT(varchar, @Date1, 1);
ELSE
    PRINT 'No invoices past due';
```

If the current date is 04/04/16, the earliest invoice due date for invoices with unpaid balances is 02/09/16, and the latest invoice due date for invoices with unpaid balances is 03/20/16, what will be printed by this script?

- a. No invoices past due
- b. Earliest past due date: 02/09/16
Latest past due date: 03/20/16
- c. Earliest past due date: 02/09/16
- d. Nothing

QUESTION 20

Which of the following statements can be coded in a batch with other statements?

- a. CREATE PROCEDURE
- b. CREATE TABLE
- c. CREATE FUNCTION
- d. CREATE VIEW

QUESTION 21

(Refer to code example 14-2.) When does the expression on the WHILE statement in this script cause the loop to end?

- a. When the value of the @Total variable plus the value of the @InvoiceTotal variable becomes greater than 200,000
- b. When the value of the @InvoiceTotal variable becomes less than 1000
- c. When the value of the @Total variable becomes greater than 200,000
- d. When the value of the @Total variable plus the value of the largest invoice total in the #InvoiceCopy table becomes greater than 200,000

QUESTION 22

A view is a/an _____ statement that's stored as an object in the database.

- a. UPDATE
- b. INSERT
- c. DELETE
- d. SELECT

QUESTION 23

To view the code that's generated for the view, you would use what?

- a. Criteria pane
- b. SQL pane
- c. Diagram pane
- d. Results pane

QUESTION 24

What statement do you use to execute a dynamic SQL statement?

- a. GO
- b. SET
- c. EXEC
- d. CONTINUE

QUESTION 25

To modify an existing view, you use which statement?

- a. ALTER VIEW
- b. UPDATE WITH
- c. SCHEMABINDING C
- d. REATE VIEW

QUESTION 26

Given the following statements that declare a local variable and set its value, which of the following will cause an error?

```
DECLARE @Example1 varchar(128);
```

```
SET @Example1 = 'Invoices';
```

- a.

```
SELECT *  
  
FROM sys.tables  
  
WHERE name = @Example1;
```
- a.

```
SELECT *  
  
FROM @Example1;
```
- b.

```
IF @Example1 = 'Invoices'  
  
SELECT * FROM Invoices;
```
- c.

```
PRINT 'Table name is: ' + @Example1;
```

QUESTION 27

Which statement can you use to handle errors caused by one or more SQL statements?

- a. BEGIN...END
- b. IF...ELSE
- c. CONTINUE
- d. TRY...CATCH

QUESTION 28

Code a statement that creates a table variable named @TestTable.

- a. SET @TestTable = table;
- b. DECLARE @TestTable table;
- c. DECLARE @table TestTable;
- d. CREATE @TestTable;

QUESTION 29

One way to examine the system objects that define a database is to use which views?

- a. base
- b. catalog
- c. none of the above
- d. derived

QUESTION 30

Code a statement that tests whether the database named TestDB exists.

- a. IF TestDB EXISTS
- b. IF DB_ID ('TestDB') EXISTS
- c. IF TestDB
- d. IF DB_ID ('TestDB') IS NOT NULL

QUESTION 31

Which statement can you use to control the flow of execution based on a true/false condition?

- a. IF...ELSE
- b. TRY...CATCH
- c. EXEC
- d. BEGIN...END

QUESTION 32

Which system function can you use to return the value of the most recently assigned identity column?

- a. @@IDENTITY
- b. @@SERVERNAME
- c. @@ERROR
- d. @@ROWCOUNT

QUESTION 33

A table that's used to create a view is called a what?

- a. temporary
- b. OFFSET
- c. view
- d. base

QUESTION 34

The WITH SCHEMABINDING clause of the CREATE VIEW statement

- a. protects the view by binding it to the database schema
- b. prevents the tables that the view is based on from being deleted
- c. prevents the tables that the view is based on from being modified in a way that affects the view
- d. all of the above

QUESTION 35

Code a statement that changes the database context to a database named TestDB.

- a. USE TestDB;
- b. GO TestDB;
- c. EXEC TestDB;
- d. none of the above

QUESTION 36

Which utility can you use to execute Transact-SQL scripts from a command line?

- a. SQLCMD
- b. Eclipse
- c. Management Studio
- d. SQL

QUESTION 37

Code a statement that assigns the value "Test" to a scalar variable named @Name that's declared with the varchar data type.

- a. SET Test @Name;
- b. SET @Name = 'Test';

- c. DECLARE varchar @Name = 'Test';
- d. DECLARE 'Test' @varchar;

QUESTION 38

In the View Designer, you can

- a. all of the above
- b. edit the design of an existing view
- c. display the results of a view
- d. specify the selection criteria and sort order for a view

QUESTION 39

The scope of a local variable is limited to what?

- a. the database session in which it's defined
- b. the statement in which it's defined
- c. the batch in which it's defined
- d. the script in which it's defined

QUESTION 40

The SELECT statement for a view

- a. can't use an ORDER BY clause
- b. cannot use the ORDER BY clause with the OFFSET and FETCH clauses
- c. can use the ORDER BY clause if it also uses the TOP clause
- d. can include the INTO keyword

QUESTION 1

Unlike most database objects, when you invoke a user-defined function, you must always preface the name of the function with the

- a. schema name
- b. table name
- c. column name
- d. user name

QUESTION 2

How would you code the INSTEAD OF clause for a trigger that's fired whenever a view is deleted?

- a. INSTEAD OF DROP_VIEW
- b. INSTEAD OF DROP VIEW
- c. INSTEAD OF DROP\$VIEW
- d. INSTEAD OF DROP-VIEW

QUESTION 3

To make a parameter for a stored procedure optional, what do you assign to it?

- a. user-defined value
- b. null value
- c. PROC
- d. default value

QUESTION 4

Stored procedures execute faster than an equivalent SQL script because stored procedures are what?

- a. precompiled
- b. constraints
- c. subqueries
- d. triggers

QUESTION 5

How would you code the ON clause for a trigger that's fired after a table is deleted from the current database?

- a. ON CURRENT DATABASE
- b. ON database_name
- c. ON DATABASE database_name
- d. ON DATABASE

QUESTION 6

When passing a list of parameters to a stored procedure by name, you can omit optional parameters by

- a. using the OUTPUT keyword

- b. inserting an extra comma
- c. declaring the optional parameters after the required parameters
- d. omitting the parameter name and value from the list

QUESTION 7

For each type of action query, a table can have

- a. one AFTER trigger and one INSTEAD OF trigger
- b. one AFTER trigger and multiple INSTEAD OF triggers
- c. multiple AFTER triggers and multiple INSTEAD OF triggers
- d. multiple AFTER triggers and one INSTEAD OF trigger

QUESTION 8

Which keyword can you use to pass parameter from a stored procedure back to the calling program?

- a. EXEC
- b. OUTPUT
- c. INPUT
- d. PASS

QUESTION 9

Each of the following statements about triggers is true except for one. Which one?

- a. A trigger doesn't accept input or return output parameters.
- b. The code of a trigger can execute in place of the action query to which it's assigned.
- c. A trigger can have more than one batch.
- d. A trigger can't be directly called or invoked

QUESTION 10

System stored procedures

- a. perform standard tasks on the current database
- b. are stored in the Master database
- c. can change with each version of SQL Server
- d. all of the above

QUESTION 11

When you use Transact-SQL, you can store procedural code in

- a. all of the above
- b. user-defined functions
- c. stored procedures
- d. scripts

QUESTION 12

You can invoke a table-valued user-defined function

- a. anywhere you'd code an expression
- b. anywhere you'd refer to a table or a view
- c. in the WHERE clause of a query
- d. in the SELECT clause of a query

QUESTION 13

```
CREATE PROC spInvoiceTotal1
    @DateVar smalldatetime,
    @VendorID int
AS
SELECT SUM(InvoiceTotal)
FROM Invoices
WHERE VendorID = @VendorID AND InvoiceDate >= @DateVar;
```

Which of the following statements calls the stored procedure and passes the values '2015-12-01' and 122 to its input parameters?

- a. CREATE spInvoiceTotal1 @VendorID = 122, @DateVar = '2015- 12-01';
- b. EXEC spInvoiceTotal1 @VendorID = 122, @DateVar = '2015-12- 01';
- c. none of the above
- d. SELECT spInvoiceTotal1 @VendorID = 122, @DateVar = '2015- 12-01';

QUESTION 14

Before you can pass a table to a stored procedure or a function as a parameter, which statement do you use to create a user-defined table type?

- a. SELECT
- b. EXEC
- c. GO
- d. CREATE

QUESTION 15

Which of the following statements executes a stored procedure named spInvoiceCount and stores its return value in a variable named @InvoiceCount?

Assume that the @InvoiceCount variable has already been declared and that the stored procedure doesn't accept any parameters.

- a. EXEC @InvoiceCount = spInvoiceCount;
- b. EXEC @spInvoiceCount = InvoiceCount;
- c. @InvoiceCount = spInvoiceCount;
- d. CREATE @InvoiceCount = spInvoiceCount;

QUESTION 16

If you want to prevent users from examining the SQL code that defines a procedure, function, or trigger, you code the CREATE statement with the _____ option

- a. ENCRYPTION
- b. THROW
- c. PRIVATE
- d. HIDE

QUESTION 17

Which of the following statements returns the value of a variable named @InvoiceCount?

- a. THROW @InvoiceCount;
- b. none of the above
- c. OUTPUT @InvoiceCount;
- d. RETURN @InvoiceCount;

QUESTION 18

Data validation is the process of

- a. preventing errors due to invalid data
- b. using the THROW statement to raise a custom error message
- c. preventing errors due to incorrect Transact-SQL syntax
- d. trapping SQL Server errors so the user doesn't see the system error message

QUESTION 19

Which statement can you use to manually raise an error within a stored procedure?

- a. ERROR
- b. THROW
- c. none of the above
- d. TRY

QUESTION 20

```
CREATE PROC spInvoiceTotal2
    @DateVar smalldatetime,
    @InvoiceTotal money OUTPUT
AS
SELECT @InvoiceTotal = SUM(InvoiceTotal)
FROM Invoices
WHERE InvoiceDate >= @DateVar;
```

(Assume that the @MyInvoiceTotal variable has already been declared, and pass the parameters by position.)

Which of the following statements calls the following stored procedure, passes the value '2015-12-01' to its input parameter, and stores the value of its output parameter in a variable named @MyInvoiceTotal?

- a. EXEC spInvoiceTotal2 '2015-12-01', @MyInvoiceTotal;
- b. CREATE spInvoiceTotal2 '2015-12-01', @MyInvoiceTotal OUTPUT;

- c. EXEC spInvoiceTotal2 '2015-12-01', @MyInvoiceTotal OUTPUT;
- d. EXEC spInvoiceTotal2 '2015-12-01', OUTPUT;

QUESTION 21

A user-defined function

- a. can return multiple scalar values or multiple table values
- b. can't accept input parameters
- c. can return multiple scalar values or a single table value
- d. can return a single scalar value or a single table value

QUESTION 22

You typically use the return value of a stored procedure to

- a. receive an input parameter from the calling program
- b. indicate to the calling program whether the stored procedure completed successfully
- c. return a zero value
- d. return an output parameter to the calling program

QUESTION 23

If you delete a stored procedure, function, or trigger and then create it again

- a. you delete the tables on which the object is based
- b. you disable access to the tables on which the object is based
- c. you delete the security permissions assigned to the object
- d. none of the above

QUESTION 1

Which statement can you use to explicitly start a transaction?

- a. BEGIN TRAN
- b. GO
- c. EXEC
- d. START

QUESTION 2

Each of the following is a valid reason to explicitly code a transaction except for one. Which one?

- a. The values in an UPDATE are based on the results of a SELECT query.
- b. The failure of one query in a set of action queries will violate data integrity.
- c. The results of a SELECT query will be used as a subquery.
- d. Data is being moved from one table to another table.

QUESTION 3

Which system function can you use to determine how many levels deep transactions are nested?

- a. TRANCOUNT
- b. @@COUNTLEVELS
- c. none of the above
- d. @@TRANCOUNT

QUESTION 4

Concurrency is:

- a. more of a problem on larger systems with more users and more transactions
- b. only a problem when data is being modified, not when two or more transactions simply read the same data
- c. the ability of a system to support two or more transactions working with the same data at the same time
- d. all of the above

QUESTION 5

This indicates that SQL Server plans to obtain a shared lock or an exclusive lock on a finer-grain resource.

- a. intent lock
- b. update (U) lock
- c. none of the above
- d. schema lock

QUESTION 6

What is lock promotion?

- a. the conversion from a less restrictive transaction isolation level to a more restrictive transaction isolation level
- b. the conversion of several finer-grained locks to a single coarse-grain lock
- c. the conversion of an exclusive lock to an intent lock
- d. the conversion of a less exclusive lock to a more exclusive lock

QUESTION 7

Which of the following is true about a transaction?

- a. It is a group of database operations that are combined into a logical unit.
- b. You can combine any number of SQL statements into a single transaction.
- c. all of the above
- d. By default, each SQL statement is treated as a separate transaction.

QUESTION 8

What kind of lock only allows one transaction to access a resource?

- a. exclusive
- b. combination
- c. fine-grain
- d. coarse-grain

QUESTION 9

The relative amount of data that's included in a resource can be referred to as the resource's

- a. granularity
- b. transparency
- c. dirty read
- d. ISOLATION LEVEL

QUESTION 10

By default, SQL Server is in autocommit mode, this means

- a. all of the above
- b. unless you explicitly start a transaction using the BEGIN TRAN statement, each statement is automatically treated as a separate transaction
- c. if a statement does not commit an error, it is automatically rolled back
- d. if a statement causes an error, it's automatically committed

QUESTION 11

If you've declared save points, the COMMIT TRAN statement

- a. commits the entire transaction
- b. commits the changes since the most recent save point
- c. doesn't commit the transaction
- d. commits the changes since the save point named in the COMMIT TRAN statement

QUESTION 12

What is lock escalation?

- a. the conversion of an exclusive lock to an intent lock
- b. the conversion of several finer-grained locks to a single coarse-grain lock
- c. the conversion from a less restrictive transaction isolation level to a more restrictive transaction isolation level
- d. the conversion of a less exclusive lock mode to a more exclusive lock mode

QUESTION 13

Each of the following techniques can help to prevent deadlocks except for one. Which one?

- a. Don't leave transactions open any longer than necessary.
- b. Use the highest transaction isolation level possible.
- c. Schedule transactions that modify a large number of rows to run when no other transactions will be running
- d. If you code two transactions that update the same resources, code the updates in the same order in each transaction

QUESTION 14

If you don't group statements into explicit transactions, SQL Server automatically treats each SQL statement as a separate what?

- a. transaction
- b. statement
- c. subquery
- d. object

QUESTION 15

Which of the following is the default transaction isolation level for SQL Server?

- a. READ COMMITTED
- b. READ UNCOMMITTED
- c. SERIALIZABLE
- d. REPEATABLE READ

QUESTION 16

Which is not one of the four types of concurrency problems?

- a. phantom reads
- b. dirty reads
- c. nonrepeatable reads
- d. integrity reads

QUESTION 17

SQL Server's lock manager always tries to lock resources

- a. with a shared lock
- b. at the lowest possible granularity
- c. with an exclusive lock
- d. at the highest possible granularity

QUESTION 18

A dirty read occurs when

- a. a transaction selects data that isn't committed by another transaction
- b. you perform an update on a set of rows when another transaction is performing an insert that affects one or more rows in that same set of rows
- c. two transactions select the same row and then update the row based on the values originally selected
- d. two SELECT statements that select the same data get different values because another transaction has updated the data in the time between the two statements

QUESTION 19

Which of the following is the most restrictive transaction isolation level?

- a. READ UNCOMMITTED
- b. READ COMMITTED
- c. SERIALIZABLE
- d. REPEATABLE READ

QUESTION 20

One of the drawbacks of using the SERIALIZABLE isolation level is

- a. it allows too many transactions to be executed at the same time
- b. it can cause security problems
- c. it can cause severe performance problems
- d. it can result in lost updates

QUESTION 21

If neither of two transactions can be committed because they each have a lock on a resource needed by the other, it's called a/an

- a. deadlock
- b. update (U) lock
- c. schema lock
- d. intent lock

QUESTION 22

A lost update occurs when

- a. you perform an update on a set of rows when another transaction is performing an insert that affects one or more rows in that same set of rows
- b. two SELECT statements that select the same data get different values because another transaction has updated the data in the time between the two statements
- c. a transaction selects data that isn't committed by another transaction
- d. two transactions select the same row and then update the row based on the values originally selected

QUESTION 23

SQL Server automatically avoids some concurrency problems by using what?

- a. locks
- b. Constraints
- c. checks
- d. reads

QUESTION 24

Which of the following is the most restrictive transaction isolation level?

- a. READ COMMITTED
- b. REPEATABLE READ
- c. SERIALIZABLE
- d. READ UNCOMMITTED

QUESTION 25

When you commit a transaction,

- a. you can only roll back a portion of the transaction
- b. you can still undo all of the changes made to the database since the beginning of the transaction by rolling back the transaction
- c. the operations performed by the SQL statements become a permanent part of the database
- d. all of the above

QUESTION 26

If @@TRANCOUNT is equal to 1, then the COMMIT TRAN statement

- a. commits the transaction but doesn't decrement @@TRANCOUNT
- b. decrements @@TRANCOUNT but doesn't commit the transaction

- c. decrements @@TRANCOUNT and commits the transaction
- d. partially commits the transaction

QUESTION 1

The highest level at which you can grant permissions is the _____ level.

- a. database
- b. server
- c. table
- d. column

QUESTION 2

Which statement is true about the DENY and REVOKE statements?

- a. A denied permission can be granted by role membership, but a revoked permission cannot
- b. Both DENY and REVOKE work exactly the same
- c. A denied permission can't be granted by role membership, but a revoked permission can
- d. Neither a revoked permission or a denied permission can override a permission granted by role membership

QUESTION 3

Which statement can you use to create a user-defined database role?

- a. DATABASE ROLE
- b. CREATE ROLE
- c. MEMBER ROLE
- d. SERVER ROLE

QUESTION 4

Which of the following statements creates a SQL Server login ID for a user named TomBrown with the password 'abc123XYZ'.

- a. CREATE LOGIN TomBrown WITH PASSWORD = 'abc123XYZ';
- b. CREATE TomBrown WITH PASSWORD = 'abc123XYZ';
- c. CREATE LOGIN TomBrown WITH 'abc123XYZ';
- d. EXEC LOGIN TomBrown WITH PASSWORD = 'abc123XYZ';

QUESTION 5

Where would you go to create, modify, or delete logins using the Management Studio?

- a. the Users folder for the server
- b. the Security folder for the database
- c. the Security folder for the server
- d. the Users folder for the database

QUESTION 6

With the ALTER LOGIN statement, you can

- a. all of the above

- b. change the default database or language
- c. enable or disable a login ID
- d. change the name for a login ID

QUESTION 7

You can use the GRANT statement to give users permission to use each of the following items except for one. Which one?

- a. a database object
- b. a DDL statement
- c. all the objects in a database
- d. all the objects in a schema

QUESTION 8

A user who's granted the REFERENCES object permission can do what?

- a. select but not insert, update, or delete data in the object
- b. all of the above
- c. refer to the object in a subquery
- d. create objects that refer to the object

QUESTION 9

Before you can delete a server role, you must

- a. delete the server
- b. DROP AUTHORIZATION
- c. create the DROP SERVER ROLE
- d. delete all of its members

QUESTION 10

Users who are involved in the administration of the server are typically assigned to one of the _____ roles that are built into SQL Server.

- a. fixed server
- b. dbcreator
- c. sysadmin
- d. fixed database

QUESTION 11

After you create a schema, you can create any object within that schema by

- a. restarting the server
- b. qualifying the object name with the schema name
- c. defining a role with you in it
- d. getting permission from one of the principals

QUESTION 12

The dbcreator role

- a. lets members create, alter, and drop databases
- b. all of the above
- c. allows new members to be added to the role
- d. is intended for those users who need to be able to work with database objects

QUESTION 13

Which of the following statements creates a database user in the current database from a TomBrown SQL Server login ID?

- a. CREATE DB USER TomBrown;
- b. USER TomBrown;
- c. EXEC USER TomBrown;
- d. CREATE USER TomBrown;

QUESTION 14

Each of the outcomes listed below is a result of executing the following script except for one. Which one?

CREATE ROLE ExampleRole;

ALTER ROLE db_datareader ADD MEMBER ExampleRole;

GRANT INSERT,UPDATE

ON Vendors

TO ExampleRole;

DENY INSERT

ON Vendors

TO ASmith;

ALTER ROLE ExampleRole ADD MEMBER ASmith;

- a. By being assigned to the role ExampleRole, a user would be granted INSERT and UPDATE permission to the Vendors table and SELECT permission to all user tables.
- b. The user named ASmith is granted UPDATE permission to the Vendors table and SELECT permission to all user tables.
- c. The user named ASmith can't be granted INSERT permission to the Vendors table by being assigned to the role ExampleRole.
- d. By being assigned to the role db_datareader, a user would be granted INSERT and UPDATE permission to the Vendors table and SELECT permission to all user tables.

QUESTION 15

To log on to SQL Server using your Windows login ID, you use _____ authentication.

- a. SQL Server
- b. server
- c. Windows
- d. mixed

QUESTION 16

Which option can you use to make SQL Server prompt the user for a new password the first time the login ID is used?

- a. CHECK_EXPIRATION
- b. MUST_CHANGE
- c. CREATE LOGIN
- d. CHANGE_LOGIN

QUESTION 17

To log on to SQL Server using your SQL Server login ID, you use _____ authentication

- a. SQL Server
- b. server
- c. Windows
- d. mixed

QUESTION 18

The entities that can be secured on a server are called _____.

- a. principals
- b. securables
- c. permissions
- d. IDs

QUESTION 19

To transfer a database object from one schema to another, you use the which statement?

- a. TRANSFER SCHEMA
- b. TRANSFER LOGIN
- c. ALTER LOGIN
- d. ALTER SCHEMA

QUESTION 20

Which of the following statements creates a login ID for a Windows user named AliceJackson in a domain named Sales?

- a. CREATE LOGIN Sales\AliceJackson FROM WINDOWS;

- b. CREATE LOGIN [Sales\AliceJackson];
- c. EXEC LOGIN [Sales\AliceJackson] FROM WINDOWS;
- d. CREATE LOGIN [Sales\AliceJackson] FROM WINDOWS;

QUESTION 21

A user who's granted the EXECUTE object permission can execute what?

- a. a SELECT query
- b. a GRANT statement
- c. a DELETE query through dynamic SQL
- d. a stored procedure or function

QUESTION 22

To allow users to log on using either type of authentication, you need to set the SQL Server authentication to _____ mode.

- a. database
- b. Windows
- c. server
- d. mixed

QUESTION 23

The users, groups, logins, and roles that have access to a server are called _____.

- a. permissions
- b. principals
- c. IDs
- d. securables

QUESTION 24

All of the following statements about application roles are true except for one. Which one?

- a. An application role is activated by executing a stored procedure.
- b. Unlike a standard database role, an application role can contain only one member.
- c. Once a connection activates the application role, its security profile changes from that of the login ID to that of the application role.
- d. Once a connection activates an application role, its security profile can only be changed back to that of the login ID if a cookie is created when the role was activated.

QUESTION 1

Which statement do you use to add an XML Schema Definition to a database?

- a. CREATE XML SCHEMA COLLECTION
- b. CREATE XML SCHEMA
- c. CREATE XML
- d. CREATE XML COLLECTION

QUESTION 2

What can you use to create an XML Schema Definition for an XML document?

- a. Query Editor
- b. XML Editor
- c. Subquery Editor
- d. Table Designer

QUESTION 3

Which method would you use to parse an xml data type that has been stored in a database into multiple columns?

- a. modify
- b. query
- c. value
- d. nodes

QUESTION 4

Which of the following defines a table column named ErrorData that can contain XML data and that will be validated using an XML schema named ErrorDataSchema? Assume that the column can't contain null values.

- a. Error xml (ErrorDataSchema) NOT NULL
- b. ErrorData xml (ErrorDataSchema) NULL
- c. ErrorData xml (ErrorDataSchema) NOT NULL
- d. ErrorData xml = NOT NULL

QUESTION 5

What is used to structure the data in an XML document?

- a. root tags

- b. parent tags
- c. XML tags
- d. start tags

QUESTION 6

What can you use to convert XML data into relational data?

- a. FOR XML clause of the SELECT statement
- b. FORXML statement
- c. OPENXML statement
- d. OPEN XML clause of the SELECT statement

QUESTION 7

What is the name of the language that's designed to query an XML document?

- a. XML DML
- b. QUERYX
- c. XQUERY
- d. QUERYX-TREME

QUESTION 8

What can you use to convert relational data that's stored in a database to XML?

- a. FOR XML clause of the SELECT statement
- b. FORXML statement
- c. OPEN XML clause of the SELECT statement
- d. OPENXML statement

QUESTION 9

An XML schema can prevent all but one of the following from being stored in a column or variable declared with the xml type. Which one?

- a. a document that doesn't contain all the tags specified by the schema
- b. a string that doesn't use XML tags
- c. a document with tags that don't match the tags specified by the schema
- d. a null value

QUESTION 10

What is the name of the language that's designed to insert, update, or delete nodes from an XML document?

- a. QUERYX
- b. XQUERY
- c. QUERY X-TREME
- d. XML DML

QUESTION 11

Code example 18-1

<Error ErrorNumber = 6901>

<ErrorSeverity>16</ErrorNumber>

<ErrorMessage>XML Validation: XML instance must be a document.</ErrorMessage>

</Error>

(Refer to code example 18-1.) Which of the following SELECT clauses could you use to retrieve the value of the ErrorNumber attribute? Assume that the XML document in the example is stored in a column named ErrorData.

- a. `SELECT ErrorData.value('(Error/@ErrorNumber)[1]', 'int')`
`AS ErrorNumber`
- b. `SELECT ErrorData.value('(Error/ErrorNumber)[1]', 'int')`
`AS ErrorNumber`
- c. `SELECT ErrorData.value('(Error/@ErrorNumber)', 'int') AS`
`ErrorNumber`
- d. `SELECT ErrorData.value('(Error/ErrorNumber)', 'int') AS`
`ErrorNumber`

QUESTION 12

The highest-level element in an XML document is called the what?

- a. child element
- b. parent element
- c. super element
- d. root element

QUESTION 13

An element that is contained within another element is called what?

- a. super element
- b. child element
- c. root element
- d. parent element

QUESTION 14

Code a statement that defines a variable named @EventData that can hold XML data

- a. CREATE @EventData xml;
- b. EXEC @EventData xml;
- c. DECRY @EventData xml;
- d. DECLARE @EventData xml;

QUESTION 15

Code example 18-1

<Error ErrorNumber = 6901>

<ErrorSeverity>16</ErrorNumber>

<ErrorMessage>XML Validation: XML instance must be a document.</ErrorMessage>

</Error>

(Refer to code example 18-1.) Which of the following statements could you use to determine if the @ErrorData variable contains the ErrorMessage element? Assume that the @ErrorData variable is declared with the xml data type and that it contains the XML data shown in the example.

- a. IF @ErrorData('ErrorMessage').exist
- b. IF @ErrorData.exist('ErrorMessage')
- c. IF @ErrorData('/Error/ErrorMessage').exist = 1
- d. IF @ErrorData.exist('/Error/ErrorMessage') = 1

QUESTION 16

If you want to make sure that the data you attempt to store in the xml data type is valid, you can

- a. specify an XSD for the xml data type when you define a column or variable
- b. use the ISVALID function to check the data before storing it as XML
- c. convert the data to the varchar type
- d. none of the above

QUESTION 17

What can you call the set of rules that an XML document must follow to be valid?

- a. XML tag
- b. XML namespace
- c. XML schema
- d. XML rulebook

QUESTION 18

A well-formed XML document can have only one of which type of element?

- a. parent
- b. root
- c. EventType
- d. child

QUESTION 19

Which of the following INSERT statements inserts a row into a table named ErrorLog that consists of an identity column and a column that contains XML data?

- a. UPDATE ErrorLog VALUES('<Error>An error occurred</Error>');
- b. INSERT INTO ErrorLog ('<Error>An error occurred</Error>');
- c. INSERT INTO ErrorLog VALUES('<Error>An error occurred</Error>' xml);
- d. INSERT INTO ErrorLog VALUES('<Error>An error occurred</Error>');

QUESTION 20

When you use the Query Editor to run a query that returns an xml type, the Management Studio displays the XML data in blue with underlining to indicate that it is what?

- a. XML data
- b. misspelled
- c. a link
- d. XML blue

QUESTION 21

Which method would you use to split the nodes of the current xml data type into rows?

- a. nodes

- b. value
- c. modify
- d. query

QUESTION 22

You can code one or more _____ within the start tag of an element.

- a. contents
- b. attributes
- c. documents
- d. definitions

QUESTION 23

What can you call an element that contains other elements?

- a. child element
- b. super element
- c. sub element
- d. parent element