Vendor: Microsoft

Exam Code: 70-761

Exam Name: Querying Data with Transact-SQL

Version: Demo

QUESTION 1
Note: This question is part of a series of questions that use the same or similar answer choices. An answer choice may be correct for more than one question in the series. Each question is independent of the other questions in this series. Information and details provided in a question apply only to that question.

You create a table named Customers. Data stored in the table must be exchanged between web pages and web servers by using AJAX calls that use REST endpoint.

You need to return all customer information by using a data exchange format that is text- based and lightweight.

Which Transact-SQL statement should you run?

A
```
SELECT CustomerID, FirstName, LastName, TaxIdNumber, Address, AnnualRevenue, DateCreated
FROM Customers
GROUP BY GROUPING SETS(FirstName, LastName), (Address), (CustomerID, AnnualRevenue), (CustomerID), ())
ORDER BY CustomerID, FirstName, LastName, Address, AnnualRevenue
```

B
```
SELECT  FirstName, LastName, Address
FROM Customers
FOR SYSTEM_TIME ALL ORDER BY ValidFrom
```

C
```
SELECT c.CustomerID, c.FirstName, c.LastName, c.Address, c.ValidFrom, c.ValidTo
FROM Customers AS c
ORDER BY c.CustomerID
FOR JSON AUTO, ROOT('Customers')
```

D
```
SELECT * FROM (SELECT CustomerID, FirstName, LastName, Address, AnnualRevenue, DateCreated
FROM Customers) AS Customers PIVOT(AVG(AnnualRevenue)
FOR DateCreated IN([2014])) AS PivotCustomers
ORDER BY LastName, FirstName
```

E
```
SELECT CustomerID, AVG(AnnualRevenue)
AS AverageAnnualRevenue, FirstName, LastName, Address, DateCreated
FROM Customers WHERE YEAR(DateCreated) >= 2014
GROUP BY CustomerID, FirstName, LastName, Address, DateCreated
```

F
```
SELECT c.CustomerID, c.FirstName, c.LastName, c.Address, c.ValidFrom, c.ValidTo
FROM Customers AS c ORDER BY c.CustomerID
FOR XML PATH ('CustomerData'), root ('Customers')
```

G
```
SELECT CustomerID, FirstName, LastName, TaxIdNumber, Address, ValidFrom, ValidTo
FROM Customers FOR SYSTEM_TIME
BETWEEN '2014-01-01 00:00:00.000000' AND '2015-01-01 00:00:00.000000'
```

H
```
SELECT CustomerID, FirstName, LastName, TaxIdNumber, Address, ValidFrom, ValidTo
FROM Customers
WHERE DateCreated
BETWEEN '20140101' AND '20141231'
```

A. Option A
B. Option B
C. Option C
D. Option D

E. Option E
F. Option F
G. Option G
H. Option H

Correct Answer: C
Explanation:
JSON can be used to pass AJAX updates between the client and the server.
Export data from SQL Server as JSON, or format query results as JSON, by adding the FOR JSON clause to a SELECT statement.
When you use the FOR JSON clause, you can specify the structure of the output explicitly, or let the structure of the SELECT statement determine the output.

References: https://msdn.microsoft.com/en-us/library/dn921882.aspx

QUESTION 2
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section. you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You create a table named Customer by running the following Transact-SQL statement:

```
CREATE TABLE Customer (
     CustomerID int IDENTITY(1,1) PRIMARY KEY,
     FirstName varchar(50) NULL,
     LastName varchar(50) NOT NULL,
     DateOfBirth date NOT NULL,
     CreditLimit money CHECK (CreditLimit < 10000),
     TownID int NULL REFERENCES dbo.Town(TownID),
     CreatedDate datetime DEFAULT(Getdate())
)
```

You must insert the following data into the Customer table:

Record	First name	Last name	Date of Birth	Credit limit	Town ID	Created date
Record 1	Yvonne	McKay	1984-05-25	9,000	no town details	current date and time
Record 2	Jossef	Goldberg	1995-06-03	5,500	no town details	current date and time

You need to ensure that both records are inserted or neither record is inserted.

Solution: You run the following Transact-SQL statement:

```
INSERT INTO Customer (FirstName, LastName, DateOfBirth, CreditLimit, TownID, CreatedDate)
VALUES ('Yvonne', 'McKay', '1984-05-25', 9000, NULL, GETDATE())
INSERT INTO Customer (FirstName, LastName, DateOfBirth, CreditLimit, TownID, CreatedDate)
VALUES ('Jossef', 'Goldberg', '1995-06-03', 5500, NULL, GETDATE())
GO
```

Does the solution meet the goal?

A. Yes
B. No

Correct Answer: B
Explanation:
As there are two separate INSERT INTO statements we cannot ensure that both or neither records is inserted.

QUESTION 3
You have a database named MyDb. You run the following Transact-SQL statements:

```
CREATE TABLE tblRoles (
     RoleId int NOT NULL IDENTITY(1,1) PRIMARY KEY CLUSTERED,
     RoleName varchar(20) NOT NULL
)
CREATE TABLE tblUsers (
     UserId int NOT NULL IDENTITY(10000,1) PRIMARY KEY CLUSTERED,
     UserName varchar(20) UNIQUE NOT NULL,
     RoleId int NULL FOREIGN KEY REFERENCES tbRoles(RoleId),
     IsActive bit NOT NULL DEFAULT(1)
)
```

A value of 1 in the IsActive column indicates that a user is active.

You need to create a count for active users in each role. If a role has no active users. you must display a zero as the active users count.

Which Transact-SQL statement should you run?

A
```
SELECT R.RoleName, COUNT(U.UserId) AS ActiveUserCount FROM tblRoles R
LEFT JOIN (SELECT UserId, RoleId FROM tblUsers WHERE IsActive = 1) U ON U.RoleId = R.RoleId
GROUP BY R.RoleId, R.RoleName
```

B
```
SELECT R.RoleName, U.ActiveUserCount FROM tblRoles R
INNER JOIN (SELECT RoleId, COUNT(*) AS ActiveUserCount FROM tblUsers WHERE IsActive = 1
GROUP BY RoleId) U ON R.RoleId = U.RoleId
```

C
```
SELECT R.RoleName, COUNT(*) AS ActiveUserCount FROM tblRoles R
LEFT JOIN (SELECT UserId, RoleId FROM tblUsers WHERE IsActive = 1)U ON U.RoleId = R.RoleId
GROUP BY R.RoleId, R.RoleName
```

D
```
SELECT R.RoleName, U.ActiveUserCount FROM tblRoles R CROSS JOIN
(SELECT COUNT(*) AS ActiveUserCount FROM tblUsers WHERE IsActive = 1) U
```

A. Option A
B. Option B
C. Option C
D. Option D

Correct Answer: C

QUESTION 4
DRAG DROP
Note: This question is part of a series of questions that use the same scenario. For your convenience, the scenario is repeated in each question. Each question presents a different goal and answer choices, but the text of the scenario is exactly the same in each question on this series.

You have a database that tracks orders and deliveries for customers in North America. System versioning is enabled for all tables. The database contains the Sales.Customers, Application.Cities, and Sales.CustomerCategories tables.

Details for the Sales.Customers table are shown in the following table:

Column	Data type	Notes
CustomerId	int	primary key
CustomerCategoryId	int	foreign key to the Sales.CustomerCategories table
PostalCityID	int	foreign key to the Application.Cities table
DeliveryCityID	int	foreign key to the Application.Cities table
AccountOpenedDate	datetime	does not allow values
StandardDiscountPercentage	int	does not allow values
CreditLimit	decimal(18,2)	null values are permitted
IsOnCreditHold	bit	does not allow values
DeliveryLocation	geography	does not allow values
PhoneNumber	nvarchar(20)	does not allow values
ValidFrom	datetime2(7)	does not allow values, GENERATED ALWAYS AS ROW START
ValidTo	datetime2(7)	does not allow values, GENERATED ALWAYS AS ROW END

Details for the Application.Cities table are shown in the following table:

Column	Data type	Notes
CityID	int	primary key
LatestRecordedPopulation	bigint	null values are permitted

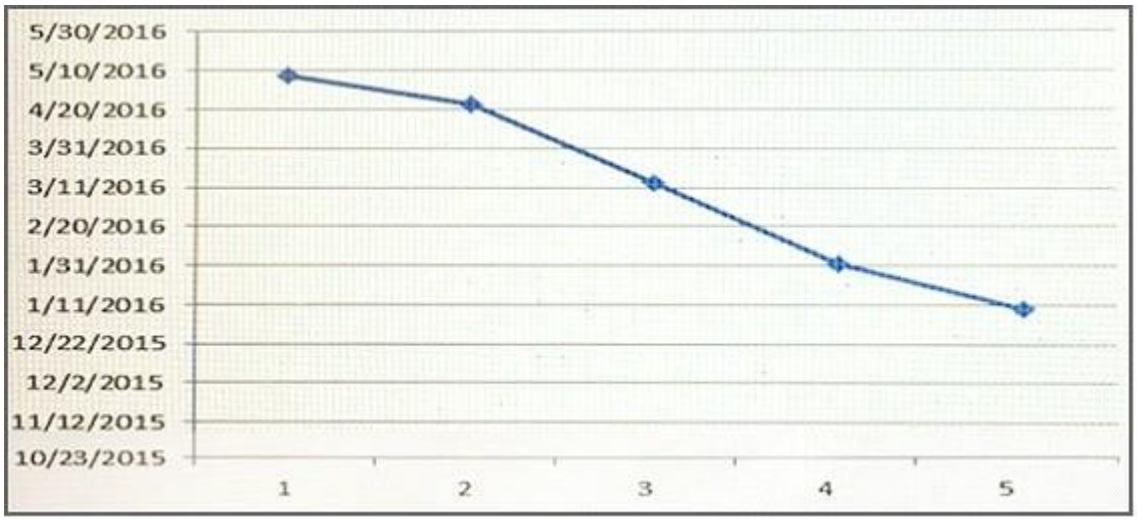
Details for the Sales.CustomerCategories table are shown in the following table:

Column	Data type	Notes
CustomerCategoryID	int	primary key
CustomerCategoryName	nvarchar(50)	does not allow null values

You are creating a report to show when the first customer account was opened in each city. The report contains a line chart with the following characteristics:

- The chart contains a data point for each city, with lines connecting the points.
- The X axis contains the position that the city occupies relative to other cities.
- The Y axis contains the date that the first account in any city was opened.

An example chart is shown below for five cities:



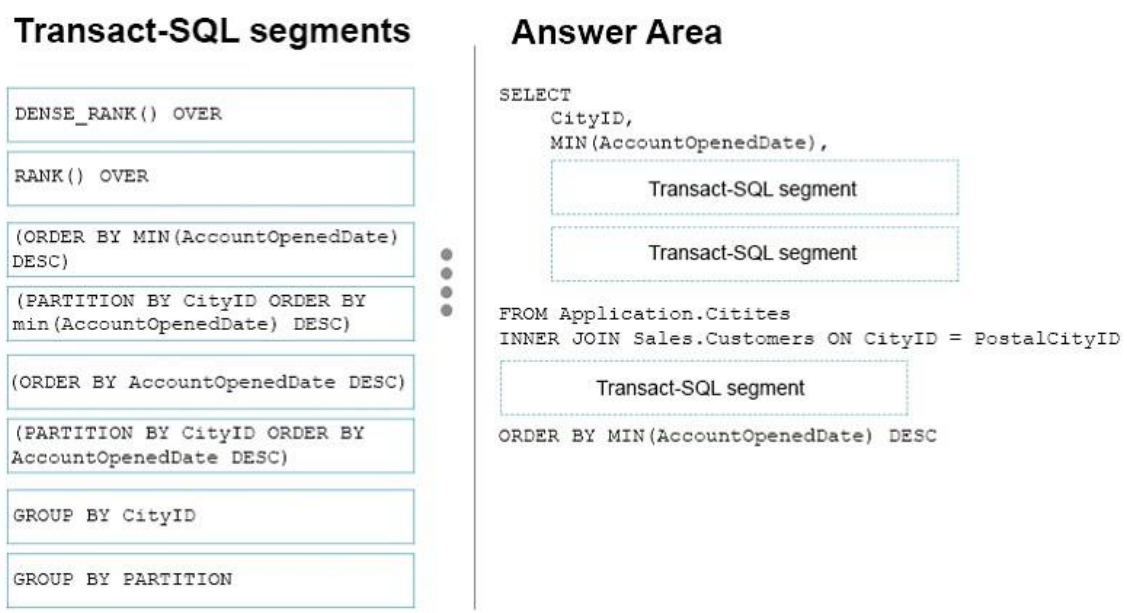
During a sales promotion, customers from various cities open new accounts on the same date.

You need to write a query that returns the data for the chart.

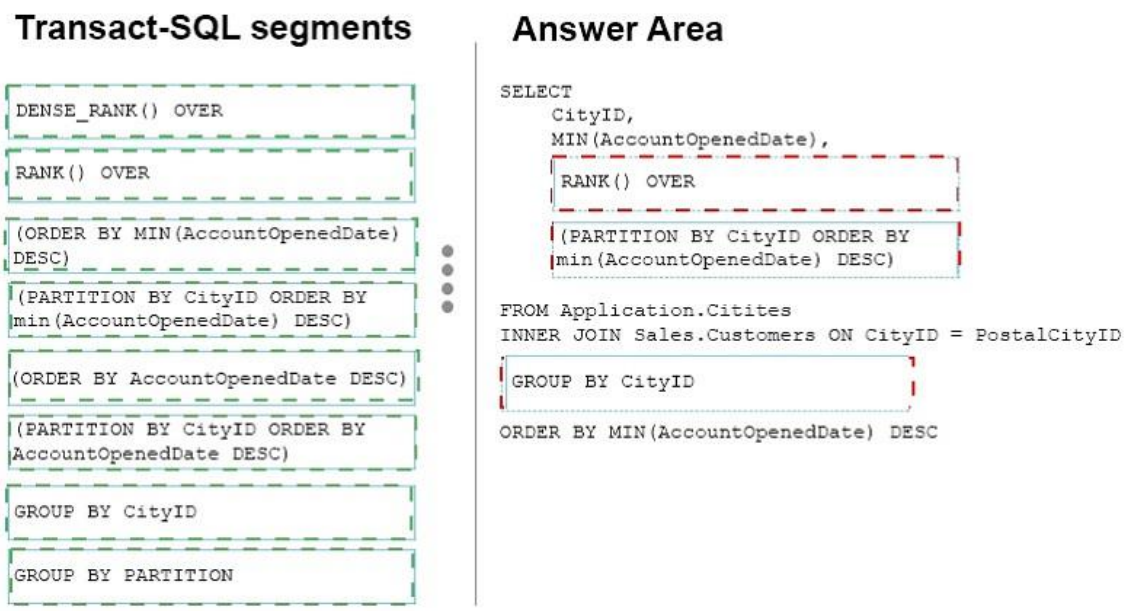
How should you complete the Transact-SQL statement?

To answer, drag the appropriate Transact-SQL segments to the correct locations. Each Transact-SQL segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.



Correct Answer:



QUESTION 5
HOTSPOT
Note: This question is part of a series of questions that use the same scenario. For your convenience, the scenario is repeated in each question. Each question presents a different goal and answer choices, but the text of the scenario is exactly the same in each question in this series.

You are developing a database to track customer orders. The database contains the following tables: Sales.Customers, Sales.Orders, and Sales.OrderLines.

The following table describes the columns in Sales.Customers.

Column name	Data type	Constraints
CustomerID	int	primary key
CustomerName	nvarchar(100)	does not allow null values
PhoneNumber	nvarchar(20)	does not allow null values
AccountOpenedDate	date	does not allow null values
StandardDiscountPercentage	decimal(18,3)	does not allow null values
CreditLimit	decimal(18,2)	null values are permitted
IsOnCreditHold	bit	does not allow null values
DeliveryLocation	geography	does not allow null values
PhoneNumber	nvarchar(20)	does not allow null values

The following table describes the columns in Sales.Orders.

Column name	Data type	Constraints
OrderID	int	primary key
CustomerID	int	foreign key to the Sales.Customers table
OrderDate	date	does not allow null values

The following table describes the columns in Sales.OrderLines.

Column name	Data type	Constraints
OrderLineID	int	primary key
OrderID	int	foreign key to the Sales.Orders table
Quantity	int	does not allow null values
UnitPrice	decimal(18,2)	null values are permitted
TaxRate	decimal(18,3)	does not allow null values

You need to create a database object that calculates the total price of an order including the sales tax. The database object must meet the following requirements:

- Reduce the compilation cost of Transact-SQL code by caching the plans and reusing them for repeated execution.
- Return a value.
- Be callable from a SELECT statement.

How should you complete the Transact-SQL statements?

To answer, select the appropriate Transact-SQL segments in the answer area.

Answer Area

Correct Answer:

Answer Area

QUESTION 6
Note: This question is part of a series of questions that use the same or similar answer choices. An answer choice may be correct for more than one question in the series. Each question is independent of the other questions in this series. Information and details provided in a question apply only to that question.

You create a table by running the following Transact-SQL statement:

```
CREATE TABLE Customers (
     CustomerID int NOT NULL PRIMARY KEY CLUSTERED,
     FirstName nvarchar(100) NOT NULL,
     LastName nvarchar(100) NOT NULL,
     TaxIdNumber varchar(20) NOT NULL,
     Address nvarchar(1024) NOT NULL,
     AnnualRevenue decimal(19,2) NOT NULL,
     DateCreated datetime2(2) NOT NULL,
     ValidFrom datetime2(2) GENERATED ALWAYS AS ROW START NOT NULL,
     ValidTo datetime2(2) GENERATED ALWATS AS ROW END NOT NULL,
     PERIOD FOR SYSTEM_TIME(ValidFrom, ValidTo)
)
WITH (SYSTEM_VERSIONING = ON (HISTORY_TABLE = CustomersHistory))
```

You need to return normalized data for all customers that were added in the year 2014.

Which Transact-SQL statement should you run?

A
```
SELECT CustomerID, FirstName, LastName, TaxIdNumber, Address, AnnualRevenue, DateCreated
FROM Customers
GROUP BY GROUPING SETS((FirstName, LastName), (Address), (CustomerID, AnnualRevenue), (CustomerID), ())
ORDER BY CustomerID, FirstName, LastName, Address, AnnualRevenue
```

B
```
SELECT  FirstName, LastName, Address
FROM Customers
FOR SYSTEM_TIME ALL ORDER BY ValidFrom
```

C
```
SELECT c.CustomerID, c.FirstName, c.LastName, c.Address, c.ValidFrom, c.ValidTo
FROM Customers AS c
ORDER BY c.CustomerID
FOR JSON AUTO, ROOT('Customers')
```

D
```
SELECT * FROM (SELECT CustomerID, FirstName, LastName, Address, AnnualRevenue, DateCreated
FROM Customers) AS Customers PIVOT(AVG(AnnualRevenue)
FOR DateCreated IN([2014])) AS PivotCustomers
ORDER BY LastName, FirstName
```

E
```
SELECT CustomerID, AVG(AnnualRevenue)
AS AverageAnnualRevenue, FirstName, LastName, Address, DateCreated
FROM Customers WHERE YEAR(DateCreated) >= 2014
GROUP BY CustomerID, FirstName, LastName, Address, DateCreated
```

A. Option A
B. Option B
C. Option C
D. Option D.
E. Option E.
F. Option F.

G. Option G.
H. Option H.

Correct Answer: G
Explanation:
The following query searches for row versions for Employee row with EmployeeID = 1000 that were active at least for a portion of period between 1st January of 2014 and 1st January 2015 (including the upper boundary):
SELECT * FROM Employee
FOR SYSTEM_TIME
BETWEEN '2014-01-01 00:00:00.0000000' AND '2015-01-01 00:00:00.0000000' WHERE EmployeeID = 1000 ORDER BY ValidFrom;

References: https://msdn.microsoft.com/en-us/library/dn935015.aspx

QUESTION 7
Note: This question is part of a series of questions that use the same or similar answer choices. An answer choice may be correct for more than one question in the series. Each question is independent of the other questions in this series. Information and details provided in a question apply only to that question.

You have a database that stores sales and order information.

Users must be able to extract information from the tables on an ad hoc basis. They must also be able to reference the extracted information as a single table.

You need to implement a solution that allows users to retrieve the data required, based on variables defined at the time of the query.

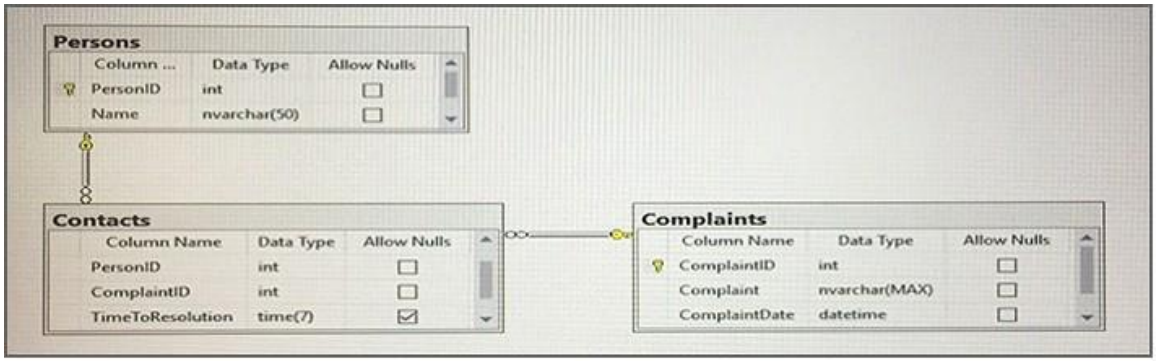
What should you implement?

A. the COALESCE function
B. a view
C. a table-valued function
D. the TRY_PARSE function
E. a stored procedure
F. the ISNULL function
G. a scalar function
H. the TRY_CONVERT function

Correct Answer: C
Explanation:
User-defined functions that return a table data type can be powerful alternatives to views. These functions are referred to as table-valued functions. A table-valued user-defined function can be used where table or view expressions are allowed in Transact-SQL queries. While views are limited to a single SELECT statement, user-defined functions can contain additional statements that allow more powerful logic than is possible in views. A table-valued user-defined function can also replace stored procedures that return a single result set.

References: https://technet.microsoft.com/en-us/library/ms191165(v=sql.105).aspx

QUESTION 8
CORRECT TEXT
You have a database that contains the following tables.



You need to create a query that lists all complaints from the Complaints table, and the name of the person handling the complaints if a person is assigned. The ComplaintID must be displayed first, followed by the person name.

Construct the query using the following guidelines:

- Use two-part column names.
- Use one-part table names.
- Do not use aliases for column names or table names.
- Do not use Transact-SQL functions.
- Do not use implicit joins.
- Do not surround object names with square brackets.

Part of the correct Transact-SQL has been provided in the answer area below. Enter the code in the answer area that resolves the problem and meets the stated goals or requirements. You can add code within the code that has been provided as well as below it.

Keywords

ADD
ALL
ALTER
AND
ANY
AS
ASC
AUTHORIZATION
BACKUP
BEGIN
BETWEEN
BREAK
BROWSE
BULK
BY
CASCADE
CASE
CHECK
CHECKPOINT
CLOSE
CLUSTERED
COALESCE
COLLATE
COLUMN
COMMIT
COMPUTE
CONCAT
CONSTRAINT
CONTAINS
CONTAINSTABLE
CONTINUE
CONVERT
CREATE
CROSS
CURRENT
CURRENT_DATE
CURRENT_TIME
CURRENT_TIMESTAMP
CURENT_USER
CURSOR
DATABASE
DBCC
DEALLOCATE
DECLARE
DEFAULT
DELETE
DENY
DESC
DISK
DISTINCT
DISTRIBUTED
DOUBLE
DROP
DUMP
ELSE
END
ERRLVL
ESCAPE
ESCEPT
EXEC
EXECUTE
EXISTS
EXIT
EXTERNAL
FETCH
FILE
FILLFACTOR
FORFOREIGN
FREETEXT
FREETEXTTABLE
FROM
FULL
FUNCTION
GOTO
GRANT
GROUP
HAVING
HOLDLOCK
IDENTITY
IDENTITY_INSERT
IDENTITYCOL
IF
IN
INDEX
INNER
INSERT
INTERSECT
INTO
IS
JOIN
KEY
KILL
LEFT
LIKE
LINENO
LOAD
MERGE
NATIONAL
NOCHECK
NONCLUSTERED
NOT
NULL
NULLIF
OF
OFF
OFFSETS
ON
OPEN
OPENDATASOURCE
OPENQUERY
OPENROWSET
OPENXML
OPTION
OR
ORDER
OUTER
OVER
PERCENT
PIVOT
PLAN
PRECISION
PRIMARY
PRINT
PROC
PROCEDURE
PUBLIC
RAISERROR
READ
READTEXT
RECONFIGURE
REFERENCES
REPLICATION
RESTORE
RESTRICT
RETURN
REVERT
REVOKE
RIGHT
ROLLBACK
ROWCOUNT
ROWGUIDCOL
RULE
SAVE
SCHEMA
SECURITYAUDIT
SELECT
SEMANTICKEYPHRASETABLE
SEMANTICSIMILARITYDETAILSTABLE
SEMANTICSIMILARITYTABLE
SESSION_USER
SET
SETUSER
SHUTDOWN
SOME
STATISTICS
SYSTEM_USER
TABLE
TABLESAMPLE
TEXTSIZE
THEN
TO
TOP
TRAN
TRANSACTION
TRIGGER
TRUNCATE
TRY_CONVERT
TSEQUAL
UNION
UNIQUE
UNPIVOT
UPDATE
UPDATETEXT
USE
USER
VALUES
VARYING
VIEW
WAITFOR
WHEN
WHERE
WHILE
WITH
WITHIN GROUP
WRITETEXT

```
1 SELECT Complaints.ComplaintId,
2 FROM
3 JOIN
4 JOIN
```

Use the Check Syntax button to verify your work. Any syntax or spelling errors will be reported by line and character position.

Correct Answer: Pending

QUESTION 9
DRAG DROP
Note: This question is part of a series of questions that use the same scenario. For your convenience, the scenario is repeated in each question. Each question presents a different goal and answer choices, but the text of the scenario is exactly the same in each question in this series.

You are developing a database to track customer orders. The database contains the following tables: Sales.Customers, Sales.Orders, and Sales.OrderLines. The following table describes the columns in Sales.Customers.

Column name	Data type	Constraints
CustomerID	int	primary key
CustomerName	nvarchar(100)	does not allow null values
PhoneNumber	nvarchar(20)	does not allow null values
AccountOpenedDate	date	does not allow null values
StandardDiscountPercentage	decimal(18,3)	does not allow null values
CreditLimit	decimal(18,2)	null values are permitted
IsOnCreditHold	bit	does not allow null values
DeliveryLocation	geography	does not allow null values
PhoneNumber	nvarchar(20)	does not allow null values

The following table describes the columns in Sales.Orders.

Column name	Data type	Constraints
OrderID	int	primary key
CustomerID	int	foreign key to the Sales.Customers table
OrderDate	date	does not allow null values

The following table describes the columns in Sales.OrderLines.

Column name	Data type	Constraints
OrderLineID	int	primary key
OrderID	int	foreign key to the Sales.Orders table
Quantity	int	does not allow null values
UnitPrice	decimal(18,2)	null values are permitted
TaxRate	decimal(18,3)	does not allow null values

You need to create a function that calculates the highest tax rate charged for an item in a specific order.

Which five Transact-SQL segments should you use to develop the solution?

To answer, move the appropriate Transact-SQL segments from the list of Transact-SQL segments to the answer area and arrange them in the correct order.

Transact-SQL segments

```
RETURNS decimal(18,2)
```

```
CREATE FUNCTION Sales.Calcula-
teTaxRate ()
```

```
CREATE FUNCTION Sales.Calcu-
lateTaxRate (
    @OrderID int
)
```

```
RETURN @CalculatedRate
END
```

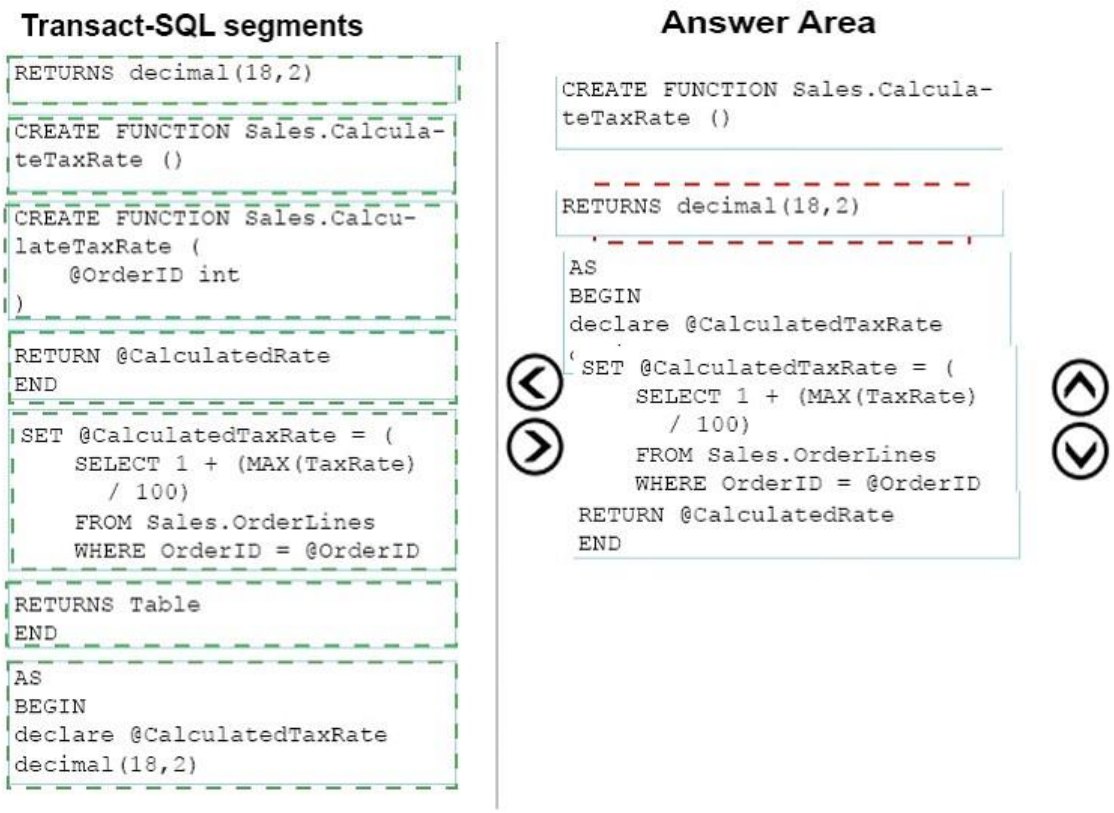
```
SET @CalculatedTaxRate = (
    SELECT 1 + (MAX(TaxRate)
      / 100)
    FROM Sales.OrderLines
    WHERE OrderID = @OrderID
```

```
RETURNS Table
END
```

```
AS
BEGIN
declare @CalculatedTaxRate
decimal(18,2)
```

Answer Area

Correct Answer:

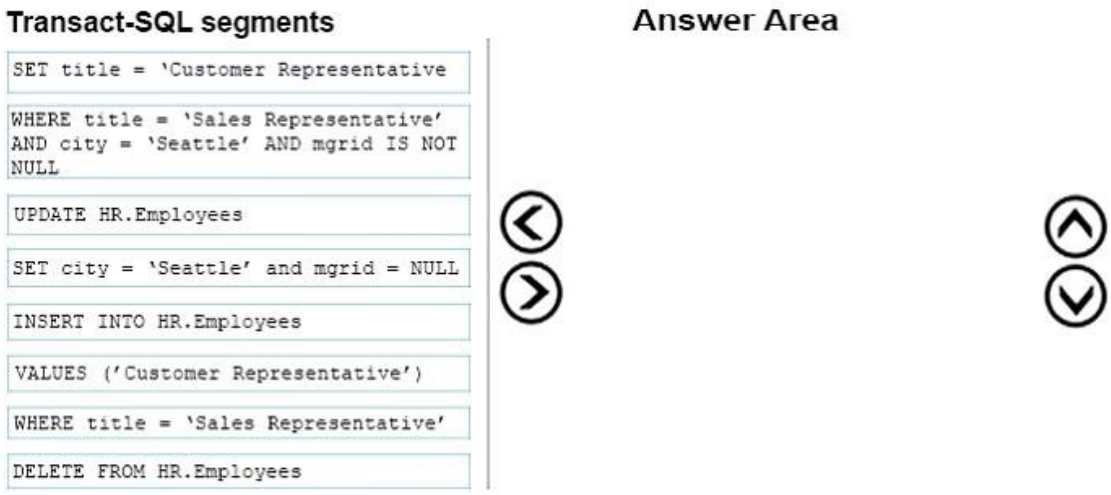


QUESTION 10
DRAG DROP
You have a table named HR.Employees as shown in the exhibit. (Click the exhibit button.)

You need to write a query that will change the value of the job title column to Customer Representative for any employee who lives in Seattle and has a job title of Sales Representative. If the employee does not have a manager defined, you must not change the title.

Which three Transact-SQL segments should you use to develop the solution?

To answer, move the appropriate Transact-SQL segments from the list of Transact-SQL segments to the answer area and arrange them in the correct order.



Correct Answer: