1) **The sales tax rate for a state just changed. How would you update the state sales tax table to reflect the changes? Assume that this table has an ID column, a RATE column, and a STATE column.**

-UPDATE state sales tax

SET RATE = newValue

WHERE STATE = N’State’

**2) The Revenue Division has requested that you provide a report on what the actual sales taxes would have been for all orders in the past year, assuming the retroactivity of the new sales tax rate. How would you calculate this?**

- CREATE A NEW COLUMN ON THE TABLE WITH THE NEW CALCULATED DATA. DO NOT MODIFY THE ORIGINAL DATA THAT WAS STORED.

**3) Explain how the proprietary assignment update command works.**

-The property assignment update command can be used to update table data and it can be used to assign values to variables.

**4) What is one very important purpose of the MERGE SQL statement? What is ETL (not in book)?**

-An important purpose of the MERGE SQL statement is that it can be used to merge data from one source into a target source and apply various actions based on conditional logic.

-ETL stands for Extract, Transform, and Load. It is a process used to collect data from various sources, transform the data depending on business rules/needs and load the data into a destination database.

**5) What are the semantics of MERGE?**

-MERGE semantics are based on JOIN semantics. You specify the target table name in the MERGE clause and the source table name in the USING clause. You define a merge condition by specifying a predicate in the ON clause. The merge condition defines which rows in the source table have matches in the target and which ones do not. You define the action to take when a match is found in a clause called WHEN MATCHED THEN, and then the action to take when a match is not found in the WHEN NOT MATCHED THEN clause.

6) Write a typical INSERT OUTPUT statement.

INSERT INTO dbo.T1(datacol)

OUTPUT inserted.keycol, inserted.datacol

SELECT lastname

FROM HR.Employees

WHERE country = N’USA’;

7) Write a typical UPDATE OUTPUT statement.

UPDATE dbo.OrderDetails

SET discount += 0.05

OUTPUT

inserted.orderid,

inserted.productid,

deleted.discount AS olddiscount,

inserted.discount AS newdiscount

WHERE productid = 51;

8) Write a typical DELETE OUTPUT statement.

DELETE FROM dbo.Orders

OUTPUT

deleted.orderid,

deleted.orderdate,

deleted.empid,

deleted.custid

WHERE orderdate < '20160101';

9) Write a typical MERGE OUTPUT statement.

MERGE INTO dbo.Customers as TGT

USING dbo.CustomersStage AS SRC

ON TGT.custid = SRC.custid

WHEN MATCHED THEN

UPDATE SET

TGT.companyname = SRC.companyname,

TGT.phone = SRC.phone,

TGT.address = SRC.address

WHEN NOT MATCHED THEN

INSERT (custid, companyname, phone, address)

VALUES (SRC.custid, SRC.companyname, SRC.phone, SRC.address)

OUTPUT $action AS theaction, inserted.custid,

deleted.companyname AS oldcompanyname,

inserted.companyname AS newcompanyname,

deleted.phone AS oldphone,

inserted.phone AS newphone,

deleted.address AS oldaddress,

inserted.address AS newaddress;

10) What is nested DML?

-Nested DML is a feature that you can use to directly insert into the final target table only the subset of rows you need from the fill set of modified rows from the OUTPUT clause.