Lab 8. Views, Privileges and Transactions

Point Distribution:

Question Number	Points
Individual Questions – Part A	
1, 16, 23	0.8 pt x 3
2, 4, 6, 7, 8, 9, 11, 12, 14, 15, 17, 18, 19, 20, 21, 22	2.6 pts x 16
3, 5, 10, 13	4 pts x 4
	60 pts
Pairwork Questions – Part B	
7, 14	1pt x 2
1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13	2.6 pts x 12
15, 16	3.4 pts x 2
	40 pts
Total	100 pts

Submission:

- There will be no check-off questions for Lab 8.
- **You will need to work with a partner to answer Part B.**

Objectives:

- Practice managing user privilege on database objects
- Practice querying database objects located in another schema
- Practice transaction management
- Practice creating database views
- Practice using database views

Questions

Individual Questions	
A1	Run the following statements to create a table CUSTOMER_NEW in your own schema by copying (selecting) it from CNIT372TA schema. CREATE TABLE CUSTOMER_NEW AS SELECT * FROM CNIT372TA.CUSTOMER_NEW; ALTER TABLE CUSTOMER_NEW ADD PRIMARY KEY (CustomerID);
A2	Create a view named CUSTOMER_NEW_VIEW that lists customer name, company name, address, city, state, postal code, phone, and email address from the CUSTOMER_NEW table in your schema. Do NOT include CustomerID in your view. **State your assumptions very clearly as to how you define the same customer.** Query this view to validate it and include this query and the results in your submission.

A3	Add customer "John Doe" with address "401 N. Grant St., West Lafayette, IN 47907" to the CUSTOMER_NEW_VIEW view you created in question 2. Are you able to add this customer? Explain why or why not.
A4	Create a view named CUSTOMER_ALL that lists customer ID, customer name, company name, address, postal code, city, state, phone, and email address from your original CUSTOMER table along with the CUSTOMER_NEW table in your schema. You will need to **concatenate** the records from the two tables. **State your assumptions very clearly as to how you define the same customer.** Query this view to validate it and include this query and the results in your submission.
A5	Add customer "John Doe" with ID "C-001" and address "401 N. Grant St., West Lafayette, IN 47907" to CUSTOMER_ALL view you created in question 4. Are you able to add this customer? Explain why or why not.
A6	Create a view called INDIANA_CUSTOMER that lists all customer who live in Indiana (state is "IN") from the CUSTOMER_NEW table in your schema. Make sure to include all attributes (columns) from the CUSTOMER_NEW table.
A7	Add customer "John Doe" with ID "C-001" and address "401 N. Grant St., West Lafayette, IN 47906" to INDIANA_CUSTOMER view. Commit the transaction. Are you able to add this customer? Explain why or why not.
A8	Remove customer "C-001" from INDIANA_CUSTOMER view. Do NOT commit the transaction. Query the table/view to check whether this customer exists in INDIANA_CUSTOMER view and CUSTOMER_NEW table. Explain the results. Now commit the Transaction.
A9	Delete all data from your CUSTOMER_NEW table. Do NOT commit the transaction. Query the table to check the result. Now rollback the transaction. Query the table to check your result. Explain both results.
A10	Truncate CUSTOMER_NEW table. Do NOT commit the transaction. Query the table to check the result. Now rollback the transaction and query the table to check your result. Compare this result with Question 9. Explain the differences between the two results.
A11	Grant read privilege on CUSTOMER_ALL view to CNIT372TA.
A12	Remove the read privilege on CUSTOMER_ALL view from CNIT372TA.
A13	Using a single statement, grant select, insert, and delete privileges on CUSTOMER_ALL view to CNIT372TA.
A14	Using a single statement, remove select, insert, and delete privileges on CUSTOMER_ALL view from CNIT372TA.
A15	Try to remove select privilege on CUSTOMER_ALL view from yourself. What do you see?

A16	Include the following statements: DROP TABLE CUSTOMER_NEW; DROP VIEW CUSTOMER_NEW_VIEW; DROP VIEW CUSTOMER_ALL; DROP VIEW INDIANA_CUSTOMER;
A17	In lab 4 part 2 you created several versions of procedures HELLO_WORLD. Pick one to use for the following questions. Using the Oracle documentation, determine what privilege(s) are necessary to allow another user (for example: CNIT372TA) to execute your HELLO_WORLD procedures. Make certain to cite your sources.
A18	Give the CNIT372TA user the ability to execute your NUMBER_OF_EMPLOYEES function from Lab4 Part 2. Include the SQL code used to provide this privilege / these privileges in your submission.
A19	Explicitly remove the execution privilege on your NUMBER_OF_EMPLOYEES function from the CNIT372TA user. Include the SQL code used to remove this privilege in your submission.
A20	Remove the HELLO_WORLD procedure from your schema (e.g., drop it). Subsequently re-create the HELLO_WORLD procedure using the code from lab4. Now check permissions on this procedure by running SELECT * FROM USER_TAB_PRIVS; Does the CNIT372TA user still retain execution permissions on the HELLO_WORLD?
A21	Add the execution privilege for NUMBER_OF_EMPLOYEES back to CNIT372TA.
A22	Recreate the NUMBER_OF_EMPLOYEES procedure using the CREATE OR REPLACE functionality in its definition from Lab 4. Do NOT drop the procedure. Now check permissions on this procedure. Does the CNIT372TA user still retain execution permissions on the NUMBER_OF_EMPLOYEES?
A23	Based on the results of A20-22, does recreating (e.g., replacing) a procedure remove permissions on it?
Group Questions: Work with a partner • **You will be assigned with a partner automatically by Brightspace.** • **Please indicate who is partner 1 and partner 2 in your submission.** • **Please submit one file containing your answers to the group questions as a group to "lab 8 – group" on Gradescope.**	
B1	**Partner 1**: Create a view named SUPERVISOR that lists the ID and number of employees each supervisor has from EMPLOYEE table, sort the results by ID. Query this view to validate it and include this query and the results in your submission.
B2	**Partner 1**: Grant read privilege on the SUPERVISOR view to Partner 2.
B3	**Partner 2**: Query the SUPERVISOR view in Partner 1's schema. Make sure to include this query and the results in your submission.

B4	**Partner 1**: Insert a new employee (you may create a fictional person) into the EMPLOYEE table. Make sure the employee you insert has a supervisor. Do NOT commit the change.
B5	**Partner 1**: Query the SUPERVISOR view in your schema. Make sure to include this query and the results in your submission. Do you see the new employee? Explain why or why not.
B6	**Partner 2**: Query the SUPERVISOR view in Partner 1's schema. Make sure to include this query and the results in your submission. Do you see the new Employee? Explain why or why not.
B7	**Partner 1**: Commit the change.
B8	**Partner 2**: Query the SUPERVISOR view again in Partner 1's schema. Make sure to include this query and the results in your submission. Do you see the new Employee? Explain why or why not.
B9	**Partner 1**: Delete the employee you inserted in question 20 from the EMPLOYEE table. Do NOT commit the change.
B10	**Partner 1**: Query the SUPERVISOR view in your schema. Make sure to include this query and the results in your submission. Do you see the new employee? Explain why or why not.
B11	**Partner 2**: Query the SUPERVISOR view in Partner 1's schema. Make sure to include this query and the results in your submission. Do you still see the new employee? Explain why or why not.
B12	**Partner 1**: Remove read privilege on the SUPERVISOR view from Partner 2.
B13	**Partner 2**: Query the SUPERVISOR view in Partner 1's schema. Make sure to include this query and the results in your submission. You should receive an error. Explain why you are receiving the error. Is the error message misleading?
B14	**Partner 1**: run the following statement to remove the view from your schema. DROP VIEW SUPERVISOR;
B15	**Please work on the following question together:** CNIT 372 students lack a database privilege required to create materialized views. Look through the documentation on materialized views (linked below) and identify the privilege you are lacking. http://docs.oracle.com/cd/B19306_01/server.102/b14200/statements_6002.htm Specify the privilege lacking in your submission. Why do you think you were not provided this privilege by the ECN database administrators?
B16	Please work on the following question together:

	CNIT 372 students lack a database privilege required to create a role. Look through the documentation on database roles (linked below) and identify the privilege you are lacking. https://docs.oracle.com/cd/B19306_01/server.102/b14200/statements_6012.htm Specify the privilege lacking in your submission. Why do you think you were not provided this privilege by the ECN database administrators?