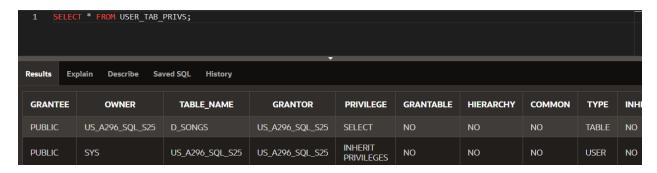
Database Programming with SQL

17-1: Controlling User Access

- 1. What are system privileges concerned with?
 - In Oracle, system privileges pertain to high-level and administrative activities on the database as a whole. They enable users to manage users and database security, as well as create, modify, and remove database objects (such as tables, views, and procedures). CREATE SESSION, CREATE TABLE, ALTER DATABASE, DROP USER, and so on are examples of system privileges. With the help of these right, one can take actions that impact a large number of object or the entire database.
- 2. What are object privileges concerned with?
 - Specific actions that can be carried out on individual database objects (tables, views, procedures, etc) are referred to as object privileges. The activities that a user or role can take on an object are determined by these privileges. For instance, the ability to retrieve, alter, or remove data from a table or view is provided by privileges like SELECT, INSERT, UPDATE, and DELETE. Unlike system privileges, which are applicable to the entire database, object privileges are usually assigned on an individual object basis.
- 3. What is another name for object security?
 - Data security is another term for object security. Only authorized users or roles are able to interact with certain database objects and the data they contain thanks to object security.
- 4. What commands are necessary to allow Scott access to the database with a password of tiger?
 - CREATE USER scott IDENTIFIED BY tiger; GRANT CREATE SESSION TO scott;
- 5. What are the commands to allow Scott to SELECT from and UPDATE the d_clients table?
 - GRANT SELECT, UPDATE ON d clients TO scott;
- 6. What is the command to allow everybody the ability to view the d songs table?



7. Query the data dictionary to view the object privileges granted to you the user.



- 8. What privilege should a user be given to create tables?
 - CREATE TABLE privilege
- 9. If you create a table, how can you pass along privileges to other users just to view your table?
 - If you want to allow other users to **view** (i.e., SELECT data) your table, you can grant them the SELECT privilege.
- 10. What syntax would you use to grant another user access to your copy employees table?
 - GRANT SELECT, INSERT, UPDATE, DELETE ON copy_employees TO another_user;
- 11. How can you find out what privileges you have been granted for columns in the tables belonging to others?
 - SELECT * FROM USER_COL_PRIVS WHERE GRANTEE = 'YOUR USERNAME';

17-2: Creating and Revoking Object Privileges

- 1. What is a role?
 - In a database, a role is a group of rights that can be given to users or other roles. By combining different capabilities, it makes managing user permissions easier and enables DBAs to grant or cancel access to numerous users simultaneously. A DBA can offer roles to users, which can then inherit all the privileges associated with the role, rather to giving each user capabilities.
- 2. What are the advantages of a role to a DBA?
 - Simplified Management
 - Consistency
 - Ease of Revocation
 - Security
 - Reduced Errors

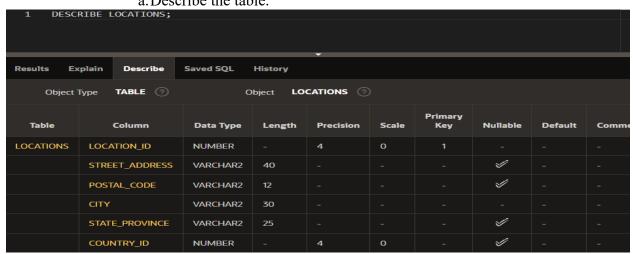
- 3. Give the ability to another user in your class to look at one of your tables. Give him the right to let other students have that ability.
 - GRANT SELECT ON your_table TO other_user WITH GRANT OPTION;
- 4. You are the DBA. You are creating many users who require the same system privileges. What should you use to make your job easier?
 - Roles are a good idea. You can construct a role, give it system privileges, and then assign the position to several users rather than giving each user system privileges separately.
- 5. What is the syntax to accomplish the following?
 - a. Create a role of manager that has the privileges to select, insert, and update and delete from the employees table
 - CREATE ROLE manager; GRANT SELECT, INSERT, UPDATE, DELETE ON employees TO manager;
 - b. Create a role of clerk that just has the privileges of select and insert on the employees table
 - CREATE ROLE clerk; GRANT SELECT, INSERT ON employees TO clerk;
 - c. Grant the manager role to user scott
 - GRANT manager TO scott;
 - d. Revoke the ability to delete from the employees table from the manager role
 - REVOKE DELETE ON employees FROM manager;
- 6. What is the purpose of a database link?
 - A database link allows a user to query or edit data in a remote database by connecting two Oracle databases. As if they were local, it enables a user in one database to access objects (such as tables, views, etc.) from another database. When data must be exchanged across several platforms, distributed databases benefit greatly from this.

17-3: Regular Expressions

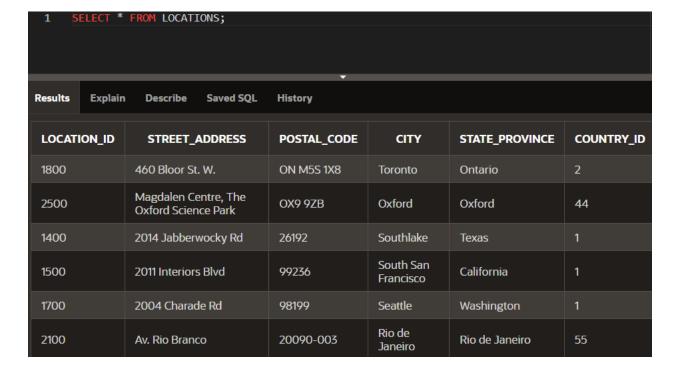
1. Working with the employees table, and using regular expressions, write a query that returns employees whose first names start with a "S" (uppercase) followed by either a "t" (lowercase) or "h" (lowercase).



2. Investigate the LOCATIONS table. a.Describe the table.



b.Perform a select that returns all rows and all columns of that table.



c. Write a query using regular expressions that removes the spaces in the street address column in the LOCATIONS table.

