Assignments:
SQL (Part-2)

Overview:

This assignment has 25 short exercises, each for around 5 minutes. You are expected to complete the course/ reference reading before attempting the exercise. The learning objectives are given below:

S.No	**Exercise**	**Description**	**Learning Objective**
1	Using CREATE	This exercise is about writing Select query for extracting particular data of a row.	Use **Select** query to extract data from the database.
2	Using ALTER ADD	This exercise is about using where clause in a select query.	Use **Where** clause in select statement.
3	Using PRIMARY KEY constraint	This exercise is about using Between-And in select query.	Use **BetweenAnd** in select statement.
4	Using ALTER MODIFY	This exercise is about using where clause in a select query for string	Use **Where** clause in select query for string.
5	Using ALTER ADD	This exercise is about using IS NOT NULL in select query for particular column.	Use **IS NOT NULL** in select query for a column.
6	Using CHECK constraint	This exercise is about using where clause in a select query to retrieve data based on some date.	Use **Where** Clause in select query to retrieve data based on date.
7	Using DISABLE CONSTRAINT	This exercise is about using join and retrieve data	Use **Join** to retrieve data.
8	Using ENABLE CONSTRAINT	This exercise is about using order by clause for sorting data.	Use **Order** by for sorting data.

9	Using LIKE query	This exercise is about using LIKE to match patterns and extract data accordingly.	Use **Like** to match pattern and extract data .
10	Using ALTER ADD	This exercise is about extracting month from date, compare and retrieve data accordingly.	Use **Date** functions.
11	Using FOREIGN KEY	This exercise is about extracting unique data from set of data	Use **DISTINCT** to extract unique data.
12	Using ALTER ADD	This exercise is about using current system date.	Use **SYSDATE** to display current system date.
13	Using CREATE TABLE with SELECT	This exercise is about using AVG() aggregate function.	Use **Aggregate** functions.
14	Using CREATE TABLE with SELECT	This exercise is about using aggregate functions along with conditions.	Use GROUP BY function along with HAVING clause.
15	Using Views	This exercise is about consolidating data based on certain condition.	Use GROUP BY function along with HAVING clause.
16	Updating data via View	This exercise is about retrieving more number of records for given data.	se COUNT, GROUP BY and HAVING to retrieve data.
17	Using Views	This exercise is about retrieving certain records consolidating given data.	Use MAX, GROUP BY and HAVING to retrieve data.
18	Using Views	This exercise is about retrieving certain record consolidating given data.	
19	Using Views with join	This exercise is about retrieving certain records other set of data.	Participant will be able to use **Sub Query**.
20	Using Sequence.	This exercise is about retrieving certain from two different tables based on certain condition.	Use JOIN to retrieve data.

21	Using Sequence	This exercise is about retrieving certain from two different tables based on certain condition.	Use JOIN to retrieve data from two different tables.
22	Using indexes.	This exercise is about retrieving certain from two different tables based on certain condition.	Use JOIN and GROUP BY to retrieve data from two different tables.
23	Using Users, Grant	This exercise is about retrieving certain from two different tables based on certain condition.	Use JOIN and GROUP BY to retrieve data from two different tables.
24	Using Revoke.	This exercise is about retrieving certain from two different columns of same table based on certain condition.	Use SELF JOIN and GROUP BY to retrieve data from two different tables.
25	Querying Database Schema	This exercise is about retrieving certain record consolidating given data.	Use MAX, GROUP BY and HAVING to retrieve data.

Question No: 1
Exercise Objective(s): Using CREATE statement

Exercise:

- *Create a table called **Emp** with only one column **empno**;*

Recommended duration: *2 minutes*

Solution Guidance (if applicable):

Question No: 2
Exercise Objective(s): Using ALTER ADD statement

Exercise:

- *Add column ename varchar2(20) to Emp table.*

Recommended duration: *3 minutes*

Solution Guidance (if applicable):

Question No: 3
Exercise Objective(s): Using PRIMARY KEY constraint

Exercise:

- *Oops I forgot to give the primary key constraint. Add in now.*

Recommended duration: *3 minutes*

Solution Guidance (if applicable):

Question No: 4
Exercise Objective(s): Using ALTER MODIFY

Exercise:

- *Now increase the length of ename column to 30 characters*

Recommended duration: *3 minutes*

Solution Guidance (if applicable):

Question No: 5

Exercise Objective(s): Using ALTER ADD **Exercise:**

- *Add salary column to Emp table.*

Recommended duration: *3 minutes*

Solution Guidance (if applicable):

Question No: 6
Exercise Objective(s): Using CHECK constraint

Exercise:

- *I want to give a validation saying that salary cannot be greater 10,000. So add a check constraint to salary column.(Note: Give a name to this constraint)*

Recommended duration: *5 minutes*

Solution Guidance (if applicable):

Question No: 7
Exercise Objective(s): Using DISABLE CONSTRAINT

Exercise:

- *For the time being I have decided that I will not impose this validation. My boss has agreed to pay more than 10,000. So disable the salary constraint*.

Recommended duration: *4 minutes*

Solution Guidance (if applicable):

Question No: 8
Exercise Objective(s): Using ENABLE CONSTRAINT

Exercise:

- *Ooh! now my boss has changed his mind. He doesn't want to pay more than 10,000. So enable that salary constraint*.

Recommended duration: *5 minutes*

Solution Guidance (if applicable):

Question No: 9
Exercise Objective(s): Using ALTER ADD

Exercise:

- *Add column called as mgr to your Emp table*.

Recommended duration: *5 minutes*

Solution Guidance (if applicable):

Question No: 10
Exercise Objective(s): Using FOREIGN KEY

Exercise:

- *Ooh! This column should be related to empno. Give a command to add this constraint (foreign key).*

Recommended duration: *3 minutes*

Solution Guidance (if applicable):

Question No: 11
Exercise Objective(s): Using ALTER ADD

Exercise:

- *Add deptno column to your Emp table*.

Recommended duration: *3 minutes*

Solution Guidance (if applicable):

Question No: 1 2
Exercise Objective(s): Using foreign key

Exercise:

- *This deptno column should be related to deptno column of Dept table. Give the command to add the constraint (foreign key).*

Recommended duration: *10 minutes*

Solution Guidance (if applicable):

Question No: 13
Exercise Objective(s): CREATE TABLE with SELECT statement

Exercise:

- *Create a table called NewEmp along with copying data from Emp table. (Use Create table <table name> as select ….).*

Recommended duration: *5 minutes*

Solution Guidance (if applicable):

Question No: 14
Exercise Objective(s): Using Create Table with Select

Exercise:

- *Again create a table called Copy_Emp. This table should contain only structure same as Emp table.*

Recommended duration: *5 minutes*

Solution Guidance (if applicable):

Question No: 15
Exercise Objective(s): Using Views

Exercise:

- *Create a simple view on Employees table in HR schema with first_name, last_name, job_id and dept_id.*

Recommended duration: *10 minutes*

Solution Guidance (if applicable):

Question No: 16
Exercise Objective(s): Updating data via View

Exercise:

- *Apply any Add/Update/Delete operation on the above view and verify the View and the base Table contents.*

Recommended duration: *10 minutes*

Solution Guidance (if applicable):

Question No: 17
Exercise Objective(s): Using Views

Exercise:

- *Create a view on Department table in HR schema with Check option for SALES department.*

Recommended duration: *5 minutes*

Solution Guidance (if applicable):

Question No: 18
Exercise Objective(s): Using Views

Exercise:

- *Create a READ ONLY view on Employees table and verify whether it prevent any write operation.*

Recommended duration: *5 minutes*

Solution Guidance (if applicable):

Question No: 19
Exercise Objective(s): Using Views with join

Exercise:

- *Create a Complex view on more than 1 base table using join condition and query the view.*

Recommended duration: *5 minutes*

Solution Guidance (if applicable):

Question No: 20
Exercise Objective(s): Using Sequence

Exercise:

- *Create a Sequence for employee_ID primary key column which will automatically generate ids for the employees.*

Recommended duration: *10 minutes*

Solution Guidance (if applicable):

Question No: 21
Exercise Objective(s): Using Sequence

Exercise:

- *Apply the sequence in insert query on Employees table.*

Recommended duration: *10 minutes*

Solution Guidance (if applicable):

Question No: 22
Exercise Objective(s): Using indexes

Exercise:

- *Create non unique indexes on the non-primary key and non-unique columns which you frequently access in your queries.*

Recommended duration: *10 minutes*

Solution Guidance (if applicable):

Question No: 23
Exercise Objective(s): Using Users, Grant

Exercise:

- *Create 2 new users and grant them 2 different roles which contain system and object privileges.*

Recommended duration: *10 minutes*

Solution Guidance (if applicable):

Question No: 24
Exercise Objective(s): Using Revoke

Exercise:

- *Revoke the roles from respective users and verify the access privileges.*

Recommended duration: *10 minutes*

Solution Guidance (if applicable):

Question No: 25

Exercise Objective(s): Querying Database Schema

Exercise:

- *Display all user objects from a data dictionary view.*

Recommended duration: *15 minutes*

Solution Guidance (if applicable):