

## **EXERCISE-1**

### **Creating and Managing Tables**

#### **OBJECTIVE**

After the completion of this exercise, students should be able to do the following:

- Create tables
- Describing the data types that can be used when specifying column definition
- Alter table definitions
- Drop, rename, and truncate tables

#### **NAMING RULES**

Table names and column names:

- Must begin with a letter
- Must be 1-30 characters long
- Must contain only A-Z, a-z, 0-9, \_, \$, and #
- Must not duplicate the name of another object owned by the same user
- Must not be an oracle server reserve words
- 2 different tables should not have same name.
- Should specify a unique column name.
- Should specify proper data type along with width
- Can include "not null" condition when needed. By default it is 'null'.

#### **The CREATE TABLE Statement**

**Table:** Basic unit of storage; composed of rows and columns

**Syntax: 1** Create table table\_name (column\_name1 data\_type (size)  
column\_name2 data\_type (size)...);

**Syntax: 2** Create table table\_name (column\_name1 data\_type (size) constraints,  
column\_name2 data\_type constraints ...);

#### **Example:**

Create table employees ( employee\_id number(6), first\_name varchar2(20), . . job\_id varchar2(10),  
CONSTRAINT emp\_emp\_id\_pk PRIMARY KEY (employee\_id));

#### **Tables Used in this course**

#### **Creating a table by using a Sub query**

#### **SYNTAX**

// CREATE TABLE table\_name(column\_name type(size)...);

Create table table\_name as select column\_name1,column\_name2,.....column\_namen from  
table\_name where predicate;

#### **AS Subquery**



Subquery is the select statement that defines the set of rows to be inserted into the new table

### Example

Create table dept80 as select employee\_id, last\_name, salary\*12 Annisal, hire\_date  
from employees where dept\_id=80;

### The ALTER TABLE Statement

The ALTER statement is used to

- Add a new column
- Modify an existing column
- Define a default value to the new column
- Drop a column
- To include or drop integrity constraint.

### SYNTAX

ALTER TABLE table\_name ADD MODIFY(Column\_name type(size));

ALTER TABLE table\_name DROP COLUMN (Column\_name);

ALTER TABLE ADD CONSTRAINT Constraint\_name PRIMARY KEY (Column\_Name);

#### Example:

Alter table dept80 add (job\_id varchar2(9));

Alter table dept80 modify (last\_name varchar2(30));

Alter table dept80 drop column job\_id;

**NOTE:** Once the column is dropped it cannot be recovered.

### DROPPING A TABLE

- All data and structure in the table is deleted.
- Any pending transactions are committed.
- All indexes are dropped.
- Cannot roll back the drop table statement.

#### Syntax

Drop table tablename;

#### Example:

Drop table dept80;

### RENAMING A TABLE

To rename a table or view

#### Syntax

RENAME old\_name to new\_name

**Example:**

Rename dept to detail\_dept;

**TRUNCATING A TABLE**

Removes all rows from the table.

Releases the storage space used by that table.

**Syntax**

TRUNCATE TABLE *table\_name*;

**Example:**

TRUNCATE TABLE copy\_emp;

**Find the Solution for the following:**

Create the following tables with the given structure.

**EMPLOYEES TABLE**

| NAME           | NULL?    | TYPE        |
|----------------|----------|-------------|
| Employee_id    | Not null | Number(6)   |
| First_Name     |          | Varchar(20) |
| Last_Name      | Not null | Varchar(25) |
| Email          | Not null | Varchar(25) |
| Phone_Number   |          | Varchar(20) |
| Hire_date      | Not null | Date        |
| Job_id         | Not null | Varchar(10) |
| Salary         |          | Number(8,2) |
| Commission_pct |          | Number(2,2) |
| Manager_id     |          | Number(6)   |
| Department_id  |          | Number(4)   |

**DEPARTMENT TABLE**

| NAME        | NULL?    | TYPE        |
|-------------|----------|-------------|
| Dept_id     | Not null | Number(6)   |
| Dept_name   | Not null | Varchar(20) |
| Manager_id  |          | Number(6)   |
| Location_id |          | Number(4)   |

**JOB\_GRADE TABLE**

| NAME        | NULL? | TYPE       |
|-------------|-------|------------|
| Grade_level |       | Varchar(2) |
| Lowest_sal  |       | Number     |



|             |        |
|-------------|--------|
| Highest sal | Number |
|-------------|--------|

### LOCATION TABLE

| NAME           | NULL?    | TYPE        |
|----------------|----------|-------------|
| Location_id    | Not null | Number(4)   |
| St_addr        |          | Varchar(40) |
| Postal code    |          | Varchar(12) |
| City           | Not null | Varchar(30) |
| State_province |          | Varchar(25) |
| Country_id     |          | Char(2)     |

1. Create the DEPT table based on the DEPARTMENT following the table instance chart below. Confirm that the table is created.

| Column name  | ID     | NAME     |
|--------------|--------|----------|
| Key Type     |        |          |
| Nulls Unique |        |          |
| FK table     |        |          |
| FK column    |        |          |
| Data Type    | Number | Varchar2 |
| Length       | 7      | 25       |

create table dept (ID number(7) constraint dept-id-pk primary key, Name Varchar(25) NO NULL);

2. Create the EMP table based on the following instance chart. Confirm that the table is created.

| Column name  | ID     | LAST_NAME | FIRST_NAME | DEPT_ID |
|--------------|--------|-----------|------------|---------|
| Key Type     |        |           |            |         |
| Nulls Unique |        |           |            |         |
| FK table     |        |           |            |         |
| FK column    |        |           |            |         |
| Data Type    | Number | Varchar2  | Varchar2   | Number  |
| Length       | 7      | 25        | 25         | 7       |

create Table emp (ID number(7) constraint emp-id-pk primary key, last\_name varchar(25) NOT NULL, first\_name varchar(25), Dept-ID number(7), constraint emp\_dept fk FOREIGN key (Dept-ID) References DEPT(ID))

3. Modify the EMP table to allow for longer employee last names. Confirm the modification (Hint: Increase the size to 50)

ALTER TABLE EMP  
MODIFY LAST\_NAME VARCHAR(50);

4. Create the EMPLOYEES2 table based on the structure of EMPLOYEES table. Include Only the Employee\_id, First\_name, Last\_name, Salary and Dept\_id columns. Name the columns Id, First\_name, Last\_name, salary and Dept\_id respectively.

Create table employee2 As Select

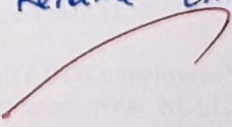
Employee\_id AS ID,  
First\_name ,  
Last\_name,  
Salary,  
Department id AS Dept-Id  
FROM EMPLOYEES;

5. Drop the EMP table.

drop table employees;

6. Rename the EMPLOYEES2 table as EMP.

Rename employee2 to emp;





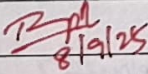
7. Add a comment on DEPT and EMP tables. Confirm the modification by describing the table.

Comment on Table Emp Is 'Employee details table linked to dept table via department ID';

8. Drop the First\_name column from the EMP table and confirm it.

Alter table Emp

Drop column first\_Name;

| Evaluation Procedure | Marks awarded   |
|----------------------|---|
| Query(5)             | 5   |
| Execution (5)        | 5   |
| Viva(5)              | 5   |
| Total (15)           | 15  |
| Faculty Signature    | <br>8/9/25 |