## EXERCISE-1
## Creating and Managing Tables

**OBJECTIVE** AIM: To Create and Manage Tables in SQL

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 employlees ( employee_id number(6), first_name varchar2(20), ..job_id varchar2(10),
CONSTRAINT emp_emp_id_pk PRIMARY KEY (employlee_id));

**Tables Used in this course**

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

SYNTAX

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),
NAME Varchar2(25));
```

Output: Table created

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),
Last_Name varchar2(25), first_name varchar2(25),
Dept_id Number(7)
);
```

Output: Table created

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 varchar2(50);
```

Output: Table Altered

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 coloumns. Name the columns Id, First_name, Last_name, salary and Dept_id respectively.

```
Create Table employees2 AS
Select employee_id AS id, first_name, last_name, salary,
Dept_id as dept_id FROM employees;
```

Output: Table Employees2 created

5. Drop the EMP table.

```
DROP TABLE EMP;
```

Output : Table EMP dropped

6. Rename the EMPLOYEES2 table as EMP.

```
ALTER TABLE employees2 RENAME TO
EMP;
```

Output : Table EMPLOYEES renamed to EMP.

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

```
COMMENT ON TABLE DEPT IS "Department details
including ID, name, and location".
COMMENT ON TABLE EMP IS "Employee details including
ID, names and department"; Output: comment added to table DEPT.
comment added to table EMP.
```

8. Drop the First_name column from the EMP table and confirm it.

```
ALTER TABLE EMP DROP COLUMN first_name;
```

Output:
Column FIRST_NAME dropped from table EMP.

RESULT:
Thus the tables are created and managed in SQL.

| Evaluation Procedure | Marks awarded |
|---|---|
| Query(5) | 5 |
| Execution (5) | 5 |
| Viva(5) | 5 |

4.

| ID | Last_name | First_name | User id | Salary |
|---|---|---|---|---|
| 1 | Patel | Ralph | rPatel | 895 |
| 2 | Dancs | Betty | bdancs | 860 |
| 3 | Biri | Ben | bbiri | 1100 |
| 4 | Newman | Chad | cnewman | 750 |

6.

| ID | Last_name | First_name | User id | Salary |
|---|---|---|---|---|
| 1 | Patel | Ralph | rPatel | 895 |
| 2 | Dancs | Betty | bdancs | 860 |
| 3 | Drexler | Ben | bbiri | 1100 |
| 4 | Newman | Chad | cnewman | 750 |

7.

| ID | Last_name | First_name | Userid | Salary |
|---|---|---|---|---|
| 1 | Patel | Ralph | rpatel | 1000 |
| 2 | Dancs | Betty | bdancs | 1000 |
| 3 | Drexler | Ben | bbiri | 1000 |
| 4 | Newman | Chad | Cnewman | 1000 |

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| ID | Last_name | First_name | User id | Salary |
|---|---|---|---|---|
| 1 | Patel | Ralph | rPatel | 1000 |
| 3 | Drexler | Ben | bbiri | 1100 |
| 4 | Newman | Chad | Cnewman | 1000 |

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| ID | Last_name | First_name | User id | Salary |
|---|---|---|---|---|
| 1 | Patel | Ralph | rPatel | 1000 |
| 3 | Drexler | Ben | Cnewman | 1100 |