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 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
// CREATE TABLE table_name(column_name type(size)…);

Create table table_name as select column_name1,column_name2,……colmn_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 Annual, 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_nname);

ALTER TABLE ADD CONSTRAINT Constraint_name PRIMARY KEY (Colum_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, firstname 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 coloumns. 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	8/9/25