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 Annsal, 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 (jod_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) Not 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), CONSTRINT 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 employees2 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 employees2 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)	
Execution (5)	
Viva(5)	
Total (15)	
Faculty Signature	