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

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),
    constraint  emp dept_fk Forgien key (Dept_ID) Refer (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));
```

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

Employee table
create table employee{
Employee_id number(6), not null
first_Name varchar(20),
Last_Name Varchar(25) Not null
Email Varchar(25) Not Null
Phone_Number varchar(20)
Job_id varchar(10), Not null
Hire_date date Not Null,
Salary Number(8,2)
Commission_pct Number(2,2)
manager_id Number(6)
department_id Number(4)
primary key (employee_id)
}

Department table
create table department
{Dept_id Number(6) PK
Dept_name varchar(20) Not null
manager_id Number(6)
location_id Number(4)
Primary key (Dept_id)
}

Location table
create table location
location_id Number(4) Not Null,
St_address varchar(40)
Postal_code varchar(12)
City varchar(30) Not Null
St_province varchar(25)
country_id char(2)
primary key (location_id)
}

create table Job_grade{
grade_level varchar(2), Not Null, lowest_sal Number,
Highest_sal Number, Primary key (grade_level)
}

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
```

5. Drop the EMP table.

```
Drop table employees
```

6. Rename the EMPLOYEES2 table as EMP.

```
Rename EmployEES TOEMP;
```

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 COLUM first_NAME;
```

Evaluation Procedure	Marks awarded
Query(5)	5
Execution (5)	5
Viva(5)	5
Total (15)	15
Faculty Signature	