EXPERIMENT:2

DATE:

DATA MANIPULATIONS

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)

create table EMPLOYEES(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),HIRE_DATE Date Not null , JOB_ID Varchar(10) not null, SALARY Number(8,2),COMMISSION_PCT Number(2,2),MANAGER_ID Number(6),DEPARTMENT Number(4));

Column Name	Data Type	Nullable	Default	Primary Key
EMPLOYEE_ID	NUMBER(6,0)	No	-	-
FIRST_NAME	VARCHAR2(20)	Yes	-	-
LAST_NAME	VARCHAR2(25)	No	-	-
EMAIL	VARCHAR2(25)	No	-	-
PHONE_NUMBER	VARCHAR2(20)	Yes	-	-
HIRE_DATE	DATE	No	-	-
JOB_ID	VARCHAR2(10)	No	-	-
SALARY	NUMBER(8,2)	Yes	-	-
COMMISSION_PCT	NUMBER(2,2)	Yes	-	-
MANAGER_ID	NUMBER(6,0)	Yes	-	-
DEPARTMENT	NUMBER(4,0)	Yes	-	-
				1 - 11

INSERT INTO Employees (EMPLOYEE_ID, FIRST_NAME, LAST_NAME, EMAIL, PHONE_NUMBER, HIRE_DATE, JOB_ID, SALARY, COMMISSION_PCT, MANAGER_ID, DEPARTMENT) VALUES

(1, 'PRIYA', 'MOHAN', 'priya@gamil.com', 'IN001', TO_DATE('09/22/2004', 'MM/DD/YYYY'), 'CS001', 53453, 0.2, 100, 60),

(2, 'JACK', 'STEVE', 'jack@gmail.com', 'IN002', TO_DATE('08/06/2001', 'MM/DD/YYYY'), 'DE002', 4556, 0.09, 100, 30),

(5, 'SREE', 'NIDHI', 'nidhi@gmail.com', 'IN023', TO_DATE('07/23/2000', 'MM/DD/YYYY'), 'EC124', 4355, 0.09, 110, 50),

(6, 'THENU', 'RAVI', 'thenu@gmail.com', 'IN231', TO_DATE('01/09/2002', 'MM/DD/YYYY'), 'CS002', 41323, 0.2, 110, 60),

(3, 'JOEL', 'AUSTIN', 'austin@gmail.com', 'US003', TO_DATE('09/07/2000', 'MM/DD/YYYY'), 'CS004', 3242, 0.4, 103, 80),

(4, 'TOM', 'TONKS', 'tom@gmail.com', 'IT023', TO_DATE('04/18/2020', 'MM/DD/YYYY'), 'AV021', 32643, 0.02, 102, 70);

EDIT	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT
	1	PRIYA	MOHAN	priya@gamil.com	IN001	09/22/2004	CS001	53453	.2	100	60
	2	JACK	STEVE	jack@gmail.com	IN002	08/06/2001	DE002	4556	.09	100	30
	5	SREE	NIDHI	nidhi@gmail.com	IN023	07/23/2000	EC124	4355	.09	110	50
	6	THENU	RAVI	thenu@gmail.com	IN231	01/09/2002	CS002	41323	.2	110	60
	3	JOEL	AUSTIN	austin@gmail.com	US003	09/07/2000	CS004	3242	.4	103	80
	4	TOM	TONKS	tom@gmail.com	IT023	04/18/2020	AV021	32643	.02	102	70

row(s) 1 - 6 of 6

(a) Find out the employee id, names, salaries of all the employees

SELECT Employee_id, First_Name, Last_Name, Salary FROM EMPLOYEES;

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	SALARY
1	PRIYA	MOHAN	53453
2	JACK	STEVE	4556
5	SREE	NIDHI	4355
6	THENU	RAVI	41323
3	JOEL	AUSTIN	3242
4	TOM	TONKS	32643

6 rows returned in 0.01 seconds Download

(b) List out the employees who works under manager 100

SELECT Employee_id, First_Name, Last_Name FROM EMPLOYEES WHERE Manager_id = 100;

EMPLOYEE_ID	FIRST_NAME	LAST_NAME
1	PRIYA	MOHAN
2	JACK	STEVE

2 rows returned in 0.00 seconds Download

(c) Find the names of the employees who have a salary greater than or equal to 4800

SELECT First_Name, Last_Name FROM EMPLOYEES WHERE Salary >= 4800;

FIRST_NAME	LAST_NAME
PRIYA	MOHAN
THENU	RAVI
TOM	TONKS

3 rows returned in 0.00 seconds

(d) List out the employees whose last name is ‗AUSTIN‘

SELECT Employee_id, First_Name, Last_Name FROM EMPLOYEES WHERE Last_Name = 'AUSTIN';

EMPLOYEE_ID	FIRST_NAME	LAST_NAME
3	JOEL	AUSTIN

1 rows returned in 0.00 seconds Download

(e) Find the names of the employees who works in departments 60,70 and 80

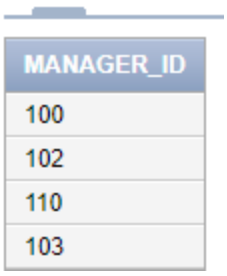
SELECT First_Name, Last_Name FROM EMPLOYEES WHERE Department_id IN (60, 70, 80);

FIRST_NAME	LAST_NAME
PRIYA	MOHAN
THENU	RAVI
JOEL	AUSTIN
TOM	TONKS

4 rows returned in 0.01 seconds

(f) Display the unique Manager_Id.

SELECT DISTINCT Manager_id FROM EMPLOYEES WHERE Manager_id IS NOT NULL;



MANAGER_ID
100
102
110
103

Create an Emp table with the following fields: (EmpNo, EmpName, Job,Basic, DA, HRA,PF, GrossPay, NetPay) (Calculate DA as 30% of Basic and HRA as 40% of Basic)

```
CREATE TABLE EMP1 (
    EmpNo INT PRIMARY KEY, EmpName VARCHAR(100), Job VARCHAR(50),
    Basic DECIMAL(10, 2),
    DA DECIMAL(10, 2),
    HRA DECIMAL(10, 2),
    PF DECIMAL(10, 2),
    GrossPay DECIMAL(10, 2),
    NetPay DECIMAL(10, 2)
);
```

```
UPDATE Emp1
SET    DA = Basic * 0.30,
```

HRA = Basic * 0.40,

GrossPay = Basic + DA + HRA,

NetPay = GrossPay - PF;

Column Name	Data Type	Nullable	Default	Primary Key
EMPNO	NUMBER	No	-	1
EMPNAME	VARCHAR2(100)	Yes	-	-
JOB	VARCHAR2(50)	Yes	-	-
BASIC	NUMBER(10,2)	Yes	-	-
DA	NUMBER(10,2)	Yes	-	-
HRA	NUMBER(10,2)	Yes	-	-
PF	NUMBER(10,2)	Yes	-	-
GROSSPAY	NUMBER(10,2)	Yes	-	-
NETPAY	NUMBER(10,2)	Yes	-	-

1 - 9

(a) Insert Five Records and calculate GrossPay and NetPay.

INSERT INTO emp1 (EMPNO, EMPNAME, JOB, BASIC, PF) VALUES

(2, 'STEVE', 'DESIGNER', 20000, 5000),
(3, 'THENU', 'HR', 15000, 2000),
(4, 'SANDY', 'ANALYST', 25000, 4000),
(5, 'TOM', 'BUSINESS', 30000, 7000),
(1, 'PRIYA', 'CYBER', 10000, 5000);

EDIT	EMPNO	EMPNAME	JOB	BASIC	DA	HRA	PF	GROSSPAY	NETPAY
	2	STEVE	DESIGNER	20000	6000	8000	5000	34000	29000
	3	THENU	HR	15000	4500	6000	2000	25500	23500
	4	SANDY	ANALYST	25000	7500	10000	4000	42500	38500
	5	TOM	BUSINESS	30000	9000	12000	7000	51000	44000
	1	PRIYA	CYBER	10000	3000	4000	5000	17000	12000

row(s) 1 - 5 of 5

(b) Display the employees whose Basic is lowest in each department.

SELECT EmpNo, EmpName, Job, Basic, DA, HRA, PF, GrossPay, NetPay FROM Emp1 WHERE (Job, Basic) IN (SELECT Job, MIN(Basic) FROM Emp1 GROUP BY Job);

EMPNO	EMPNAME	JOB	BASIC	DA	HRA	PF	GROSSPAY	NETPAY
2	STEVE	DESIGNER	20000	6000	8000	5000	34000	29000
3	THENU	HR	15000	4500	6000	2000	25500	23500
4	SANDY	ANALYST	25000	7500	10000	4000	42500	38500
5	TOM	BUSINESS	30000	9000	12000	7000	51000	44000
1	PRIYA	CYBER	10000	3000	4000	5000	17000	12000

(c) If Net Pay is less than 40000

SELECT EmpNo, EmpName, Job, Basic, DA, HRA, PF, GrossPay, NetPay FROM Emp1 WHERE NetPay < 40000;

EMPNO	EMPNAME	JOB	BASIC	DA	HRA	PF	GROSSPAY	NETPAY
2	STEVE	DESIGNER	20000	6000	8000	5000	34000	29000
3	THENU	HR	15000	4500	6000	2000	25500	23500
4	SANDY	ANALYST	25000	7500	10000	4000	42500	38500
1	PRIYA	CYBER	10000	3000	4000	5000	17000	12000

4 rows returned in 0.00 seconds Download

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)

```
CREATE TABLE Department (
   Dept_id NUMBER(6) NOT NULL,
   Dept_name VARCHAR2(20) NOT NULL,
   Manager_id NUMBER(6),
   Location_id NUMBER(4),
   PRIMARY KEY (Dept_id)
);
```

Column Name	Data Type	Nullable	Default	Primary Key
DEPT_ID	NUMBER(6,0)	No	-	1
DEPT_NAME	VARCHAR2(20)	No	-	-
MANAGER_ID	NUMBER(6,0)	Yes	-	-
LOCATION_ID	NUMBER(4,0)	Yes	-	-
				1 - 4

JOB_GRADE TABLE

NAME	NULL?	TYPE
Grade_level		Varchar(2)
Lowest_sal		Number
Highest_sal		Number

```
CREATE TABLE JOB_GRADE (
    Grade_level VARCHAR2(2),
    Lowest_sal NUMBER,
    Highest_sal NUMBER
);
```

Column Name	Data Type	Nullable	Default	Primary Key
GRADE_LEVEL	VARCHAR2(2)	Yes	-	-
LOWEST_SAL	NUMBER	Yes	-	-
HIGHEST_SAL	NUMBER	Yes	-	-
				1 - 3

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)

```
CREATE TABLE LOCATION (
    Location_id NUMBER(4) NOT NULL,
```

St_addr VARCHAR2(40),

Postal_code VARCHAR2(12),

City VARCHAR2(30) NOT NULL,

State_province VARCHAR2(25),

Country_id CHAR(2),

PRIMARY KEY (Location_id)

);

Column Name	Data Type	Nullable	Default	Primary Key
LOCATION_ID	NUMBER(4,0)	No	-	1
ST_ADDR	VARCHAR2(40)	Yes	-	-
POSTAL_CODE	VARCHAR2(12)	Yes	-	-
CITY	VARCHAR2(30)	No	-	-
STATE_PROVINCE	VARCHAR2(25)	Yes	-	-
COUNTRY_ID	CHAR(2)	Yes	-	-
				1 - 6

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 DEPT1 (

ID NUMBER(7) NOT NULL,

NAME VARCHAR2(25) NOT NULL,

PRIMARY KEY (ID)

);

Column Name	Data Type	Nullable	Default	Primary Key
ID	NUMBER(7,0)	No	-	1
NAME	VARCHAR2(25)	No	-	-
				1 - 2

SELECT table_name

FROM user_tables

WHERE table_name = 'DEPT1';

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 EMP2 (
ID NUMBER(7) NOT NULL,
LAST_NAME VARCHAR2(25) NOT NULL,
FIRST_NAME VARCHAR2(25),
DEPT_ID NUMBER(7),
PRIMARY KEY (ID)
);

Column Name	Data Type	Nullable	Default	Primary Key
ID	NUMBER(7,0)	No	-	1
LAST_NAME	VARCHAR2(25)	No	-	-
FIRST_NAME	VARCHAR2(25)	Yes	-	-
DEPT_ID	NUMBER(7,0)	Yes	-	-
				1 - 4

SELECT table_name

```
FROM user_tables
WHERE table_name = 'EMP';
```

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

```
ALTER TABLE EMP2 MODIFY (LAST_NAME VARCHAR2(50));
SELECT column_name, data_type, data_length
FROM user_tab_columns
WHERE table_name = 'EMP2'
  AND column_name = 'LAST_NAME';
```

COLUMN_NAME	DATA_TYPE	DATA_LENGTH
LAST_NAME	VARCHAR2	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 (
    Id NUMBER(6) PRIMARY KEY,          -- Corresponds to Employee_id
    First_name VARCHAR2(20),           -- Corresponds to First_Name
    Last_name VARCHAR2(25) NOT NULL,   -- Corresponds to Last_Name
    salary NUMBER(8, 2),               -- Corresponds to Salary
    Dept_id NUMBER(4)                  -- Corresponds to Department_id
);
```

Column Name	Data Type	Nullable	Default	Primary Key
ID	NUMBER(6,0)	No	-	1
FIRST_NAME	VARCHAR2(20)	Yes	-	-
LAST_NAME	VARCHAR2(25)	No	-	-
SALARY	NUMBER(8,2)	Yes	-	-
DEPT_ID	NUMBER(4,0)	Yes	-	-

1 - 5

5 Drop the EMP table.

```
DROP TABLE EMP2;
```

Results Explain Describe Sa

```
Table dropped.
```

6 Rename the EMPLOYEES2 table as EMP.

```
ALTER TABLE EMPLOYEES2 RENAME TO EMP2;
```

```
Table altered.
```

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

```
COMMENT ON TABLE DEPT1 IS 'Department details';
COMMENT ON TABLE EMP2 IS 'Employee details';
SELECT table_name, comments
FROM user_tab_comments
WHERE table_name IN ('DEPT1', 'EMP2');
```

TABLE_NAME	COMMENTS
DEPT1	Department details
EMP2	Employee details

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

```
ALTER TABLE EMP DROP COLUMN FIRST_NAME;
SELECT column_name
FROM user_tab_columns
WHERE table_name = 'EMP2';
```

COLUMN_NAME
ID
LAST_NAME
SALARY
DEPT_ID