

**EXPERIMENT: 2****DATE: 31/07/2024****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 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),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\_id 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_ID	NUMBER(4,0)	Yes	-	-

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EDIT	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID
	1	saravana	M.D	231901046@gmail.com	1111111111	06/13/1995	saro_1001	10000	.5	100	60
	2	priyanga	mohan	231901037@gmail.com	2222222222	09/22/1996	priya_1001	20000	.6	456	70
	3	uday	krish	231901057@gmail.com	3333333333	12/22/1995	uday_1001	30000	.5	463	80
	4	Tharun	H	231901055@gmail.com	4444444444	11/22/1995	Thar_1001	35000	.4	100	80
	5	Sandy	AUSTIN	231901045@gmail.com	5555555555	07/17/1964	Aust_1001	35000	.5	100	70

row(s) 1 - 5 of 5

**INSERT INTO employees (employee\_id, first\_name, last\_name, email, phone\_number, hire\_date, job\_id, salary, commission\_pct, manager\_id, department\_id)**

**VALUES (1, 'saravana', 'M.D', '231901046@gmail.com', '111111111', TO\_DATE('1995-06-13', 'YYYY-MM-DD'), 'saro\_1001', 10000, 0.5, 100, 60);**

**INSERT INTO employees (employee\_id, first\_name, last\_name, email, phone\_number, hire\_date, job\_id, salary, commission\_pct, manager\_id, department\_id)**

**VALUES (2, 'priyanga', 'mohan', '231901037@gmail.com', '2222222222', TO\_DATE('1996-09-22', 'YYYY-MM-DD'), 'priya\_1001', 20000, 0.6, 456, 70);**

**INSERT INTO employees (employee\_id, first\_name, last\_name, email, phone\_number, hire\_date, job\_id, salary, commission\_pct, manager\_id, department\_id)**

**VALUES (3, 'uday', 'krish', '231901057@gmail.com', '3333333333', TO\_DATE('1995-12-22', 'YYYY-MM-DD'), 'uday\_1001', 30000, 0.5, 463, 80);**

**INSERT INTO employees (employee\_id, first\_name, last\_name, email, phone\_number, hire\_date, job\_id, salary, commission\_pct, manager\_id, department\_id)**

**VALUES (4, 'Tharun', 'H', '231901055@gmail.com', '4444444444', TO\_DATE('1995-11-22', 'YYYY-MM-DD'), 'Thar\_1001', 35000, 0.4, 100, 80);**

**INSERT INTO employees (employee\_id, first\_name, last\_name, email, phone\_number, hire\_date, job\_id, salary, commission\_pct, manager\_id, department\_id)**

**VALUES (5, 'Sandy', 'AUSTIN', '231901045@gmail.com', '5555555555', TO\_DATE('1964-07-17', 'YYYY-MM-DD'), 'Aust\_1001', 35000, 0.5, 100, 70);**

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

```
SELECT
    employee_id,
    first_name,
    last_name,
    salary
FROM
    employee;
```

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	SALARY
1	saravana	M.D	10000
2	priyanga	mohan	20000
3	uday	krish	30000
4	Tharun	H	35000
5	Sandy	AUSTIN	35000

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

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	SALARY
1	saravana	M.D	10000
4	Tharun	H	35000
5	Sandy	AUSTIN	35000

```
SELECT
employee_id,
first_name,
last_name,
salary
FROM
employee
WHERE
manager_id = 100;
```

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

FIRST_NAME	LAST_NAME
saravana	M.D
priyanga	mohan
uday	krish
Tharun	H
Sandy	AUSTIN

```
SELECT
    first_name,
    last_name
FROM
    employee
WHERE
    salary >= 4800;
```

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

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	SALARY
4	Sandy	AUSTIN	35000

```
SELECT
    employee_id,
    first_name,
    last_name,
    salary
FROM
    employee
WHERE
    last_name = 'AUSTIN';
```

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

FIRST_NAME	LAST_NAME
saravana	M.D
priyanga	mohan
uday	krish
Tharun	H
Sandy	AUSTIN

**SELECT**

**first\_name,**

**last\_name**

**FROM**

**employee**

**WHERE**

**department\_id IN (60, 70, 80);**

(f ) Display the unique Manager\_Id.

MANAGER_ID
100
463
456

**SELECT DISTINCT**

**manager\_id**

**FROM**

**employees;**

**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 Emp (EmpNo, EmpName, Job, Basic, PF) VALUES (1, 'vedant',
'Manager', 50000, 2500);
INSERT INTO Emp (EmpNo, EmpName, Job, Basic, PF) VALUES (2, 'Tharun',
'Developer', 40000, 2000);

```

```

INSERT INTO Emp (EmpNo, EmpName, Job, Basic, PF) VALUES (3, 'priyanga',
'admin', 35000, 1750);
INSERT INTO Emp (EmpNo, EmpName, Job, Basic, PF) VALUES (4, 'viji', 'director',
45000, 2250);
INSERT INTO Emp (EmpNo, EmpName, Job, Basic, PF) VALUES (5, saravana',
'hacker', 55000, 2750);

```

EDIT	EMPNO	EMPNAME	JOB	BASIC	DA	HRA	PF	GROSSPAY	NETPAY
	1	vedant	manager	50000	15000	20000	2500	37500	35000
	2	Tharun	developer	40000	12000	16000	2000	28000	26000
	3	priyanga	admin	35000	10500	14000	1750	24500	22750
	4	viji	director	45000	13500	18000	2250	31500	29250
	5	saravana	hacker	55000	16500	22000	2750	38500	35750
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
1	vedant	manager	50000	15000	20000	2500	37500	35000
2	Tharun	developer	40000	12000	16000	2000	28000	26000
3	priyanga	admin	35000	10500	14000	1750	24500	22750
4	viji	director	45000	13500	18000	2250	31500	29250
5	saravana	hacker	55000	16500	22000	2750	38500	35750

**(c) If Net Pay is less than**

```

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

```

EMPNO	EMPNAME	JOB	BASIC	DA	HRA	PF	GROSSPAY	NETPAY
1	vedant	manager	50000	15000	20000	2500	37500	35000
2	Tharun	developer	40000	12000	16000	2000	28000	26000
3	priyanga	admin	35000	10500	14000	1750	24500	22750
4	viji	director	45000	13500	18000	2250	31500	29250
5	saravana	hacker	55000	16500	22000	2750	38500	35750

**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**

```

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

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.

<b>Column name</b>	ID	NAME
<b>Key Type</b>		
<b>Nulls/Unique</b>		
<b>FK table</b>		
<b>FK column</b>		
<b>Data Type</b>	Number	Varchar2
<b>Length</b>	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.

<b>Column name</b>	ID	LAST_NAME	FIRST_NAME	DEPT_ID
<b>Key Type</b>				
<b>Nulls/Unique</b>				
<b>FK table</b>				
<b>FK column</b>				
<b>Data Type</b>	Number	Varchar2	Varchar2	Number
<b>Length</b>	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;\
```

<b>Results</b>	Explain	Describe	Si
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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