DBMS LAB REPORT

Lab Number : 07
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Section : CSE -10

Q1A. Create the following table and insert the values.

Employee

EMP_ID	F_NAME	L_NAME	JOB_TYPE	SALARY	COMMISION	DEPT	MANAGER_ID	DOJ
1	arun	khan	manager	90000		production		04-JAN-1998
2	barun	kumar	manager	80000		marketing		09-FEB-1998
3	chitra	kapoor	engineer	60000		production	1	08-JAN-1998
4	dheeraj	mishra	manager	75000		sales	2	27-DEC-2001
5	emma	dutt	engineer	55000		production	1	20-MAR-2002
6	floki	dutt	accountant	70000		accounts		16-JUL-2000
7	dheeraj	kumar	clerk	40000		accounts	6	01-JUL-2016
8	saul	good	engineer	60000		r&d		06-SEP-2014
9	mou	bhat	clerk	30000		sales	4	08-MAR-2018
10	sunny	deol	salesman	20000	10000	marketing	2	31-MAR-01
11	bobby	deol	engineer	35000		r&d	8	17-OCT-17
12	amir	khan	salesman	15000	5000	marketing	2	11-JAN-13

```
SQL> CREATE TABLE EMPLOYEEE(EMP_ID
NUMBER(3) CONSTRAINT
EMPLOYEEE_EMP_ID_PK PRIMARY KEY,
F_NAME VARCHAR2(20), L_NAME
VARCHAR2(20), JOB_TYPE VARCHAR2(20),
SALARY NUMBER(8), COMMISION NUMBER(7),
DEPT VARCHAR(20), MANAGER_ID NUMBER(3),
DOJ DATE);

Table created.

SQL> INSERT INTO employeee
VALUES(1,'arun','khan','manager',90000,null,'producti
on',null,'04-JAN-1998');

1 row created.
```

```
SQL> INSERT INTO employeee
VALUES(2,'barun','kumar','manager',80000,null,'marke
ting',null,'09-FEB-1998');

1 row created.

SQL> INSERT INTO employeee
VALUES(3,'chitra','kapoor','engineer',60000,null,'produ
ction',1,'08-JAN-1998');

1 row created.

SQL> INSERT INTO employeee
VALUES(4,'dheeraj','mishra','manager',75000,null,'sale
s',2,'27-DEC-2001');

1 row created.

SQL> INSERT INTO employeee
VALUES(5,'emma','dutt','engineer',55000,null,'producti
on',1,'20-MAR-2002');

1 row created.

SQL> INSERT INTO employeee
VALUES(6,'floki','dutt','accountant',70000,null,'account
s',null,'16-JUL-2000');

1 row created.

SQL> INSERT INTO employeee
VALUES(7,'dheeraj','kumar','clerk',40000,null,'account
s',6,'01-JUL-2016');
```

1 row created.

SQL> INSERT INTO employeee
VALUES(8,'saul','good','engineer',60000,null,'r and
d',null,'06-SEP-2014');

1 row created.

SQL> INSERT INTO employeee
VALUES(9,'mou','bhat','clerk',30000,null,'sales',4,'08-
MAR-2018');

1 row created.

SQL> INSERT INTO employeee
VALUES(10,'sunny','deol','salesman',20000,10000,'mar
keting',2,'31-MAR-01');

1 row created.

SQL> INSERT INTO employeee
VALUES(11,'bobby','deol','engineer',35000,null,'r and
d',8,'17-OCT-17');

1 row created.

SQL> INSERT INTO employeee
VALUES(12,'amir','khan','salesman',15000,5000,'marke
ting',2,'11-JAN-13');

1 row created.

```
SQL> set linesize 200;
SQL> select * from employeee;

    EMP_ID F_NAME               L_NAME               JOB_TYPE               SALARY  COMMISION DEPT                 MANAGER_ID DOJ
---------- -------------------- -------------------- -------------------- ---------- ---------- -------------------- ---------- ---------
         1 arun                 khan                 manager                 90000            production                       04-JAN-98
         2 barun                kumar                manager                 80000            marketing                        09-FEB-98
         3 chitra               kapoor               engineer                60000            production                    1 08-JAN-98
         4 dheeraj              mishra               manager                 75000            sales                         2 27-DEC-01
         5 emma                 dutt                 engineer                55000            production                    1 20-MAR-02
         6 floki                dutt                 accountant              70000            accounts                         16-JUL-00
         7 dheeraj              kumar                clerk                   40000            accounts                      6 01-JUL-16
         8 saul                 good                 engineer                60000            r and d                          06-SEP-14
         9 mou                  bhat                 clerk                   30000            sales                         4 08-MAR-18
        10 sunny                deol                 salesman                20000      10000 marketing                     2 31-MAR-01
        11 bobby                deol                 engineer                35000            r and d                       8 17-OCT-17

    EMP_ID F_NAME               L_NAME               JOB_TYPE               SALARY  COMMISION DEPT                 MANAGER_ID DOJ
---------- -------------------- -------------------- -------------------- ---------- ---------- -------------------- ---------- ---------
        12 amir                 khan                 salesman                15000       5000 marketing                     2 11-JAN-13

12 rows selected.
```

Q1B. Create the following table and insert the values.

Job_History

Emp_id	Start_Date	End_Date	Job_Type	D_Name
1	4-Jan-1998	30-Jun-2001	Engineer	Production
2	9-Feb-1998	28-Feb-2002	Salesman	Sales
1	1-Jul-2001	31-Dec-2010	Manager	R&D
4	27-Dec-2001	19-Sep-2016	Sales_Executive	Marketing
2	1-Mar-2002	30-Mar-2015	Sales_Executive	Marketing

2	1-Apr-2016	15-Dec-2017	Manager	Sales
4	20-Sep-2016	16-Dec-2017	Asst.Manager	Sales
6	16-Jul-2000	30-Nov-2006	Clerk	Accounts
5	20-Mar-2002	12-Aug-2011	Engineer	R&D
1	1-Jan-2011	31-Jan-2012	Engineer	Production

Using the above Job_History table and the Employee table write SQL statements for the following queries.

SQL> create table job_history(emp_id number(3),start_date date ,end_date date, job_type varchar(20), d_name varchar(20));

Table created.

SQL> insert into job_history values(1, '04-Jan-1998' , '30-Jun-2001' , 'Engineer' , 'Production');

1 row created.

SQL> insert into job_history values(2, '09-Feb-1998' , '28-Feb-2002' , 'Salesman' , 'Sales');

1 row created.

```
SQL> insert into job_history values(1, '01-Jul-2001' ,
'31-Dec-2010' , 'Manager' , 'R AND D' );

1 row created.

SQL> insert into job_history values(4, '27-Dec-2001' ,
'19-Sep-2016' , 'Sales_Executive' , 'Marketing' );

1 row created.

SQL> insert into job_history values(2, '01-Mar-2002' ,
'30-Mar-2015' , 'Sales_Executive' , 'Marketing' );

1 row created.

SQL> insert into job_history values(2, '01-Apr-2016' ,
'15-Dec-2017' , 'Manager' , 'Sales' );

1 row created.

SQL> insert into job_history values(4, '20-Sep-2016' ,
'16-Dec-2017' , 'Asst.Manager' , 'Sales' );

1 row created.

SQL> insert into job_history values(6, '16-Jul-2000' ,
'30-Nov-2006' , 'Clerk' , 'Accounts' );

1 row created.

SQL> insert into job_history values(5, '20-Mar-2002' ,
'12-Aug-2011' , 'Engineer' , 'R AND D' );
```

1 row created.

SQL> insert into job_history values(1, '01-Jan-2011' , '31-Jan-2012' , 'Engineer' , 'Production');

1 row created.

```
SQL> select * from job_history;

    EMP_ID START_DAT END_DATE  JOB_TYPE            D_NAME
---------- --------- --------- -------------------- --------------------
         1 04-JAN-98 30-JUN-01 Engineer             Production
         2 09-FEB-98 28-FEB-02 Salesman             Sales
         1 01-JUL-01 31-DEC-10 Manager              R AND D
         4 27-DEC-01 19-SEP-16 Sales_Executive      Marketing
         2 01-MAR-02 30-MAR-15 Sales_Executive      Marketing
         2 01-APR-16 15-DEC-17 Manager              Sales
         4 20-SEP-16 16-DEC-17 Asst.Manager         Sales
         6 16-JUL-00 30-NOV-06 Clerk                Accounts
         5 20-MAR-02 12-AUG-11 Engineer             R AND D
         1 01-JAN-11 31-JAN-12 Engineer             Production

10 rows selected.
```

Q2. Display the emp_id along with every job_type they have worked (including their current job_type). (use union)

```
SQL>  select emp_id,job_type from job_history union select emp_id,job_type from employeee;

    EMP_ID JOB_TYPE
---------- --------------------
         1 Engineer
         1 Manager
         2 Manager
         2 Sales_Executive
         2 Salesman
         4 Asst.Manager
         4 Sales_Executive
         5 Engineer
         6 Clerk

9 rows selected.
```

Q3. Display the emp_id, d_name, and job_types current and previous (if any) of all employees.(use union)

```
SQL> select emp_id,job_type,d_name from job_history union select emp_id,job_type,dept from employeee;

    EMP_ID JOB_TYPE            D_NAME
---------- ------------------- -------------------
         1 Engineer            Production
         1 Manager             R AND D
         2 Manager             Sales
         2 Sales_Executive     Marketing
         2 Salesman            Sales
         4 Asst.Manager        Sales
         4 Sales_Executive     Marketing
         5 Engineer            R AND D
         6 Clerk               Accounts

9 rows selected.
```

Q4. Display the emp_id and the job_type of employees who currently have a job title that they held previously.(use intersect)

```
SQL> select emp_id, job_type from job_history intersect select emp_id, job_type from job_history;

    EMP_ID JOB_TYPE
---------- -------------------
         1 Engineer
         1 Manager
         2 Manager
         2 Sales_Executive
         2 Salesman
         4 Asst.Manager
         4 Sales_Executive
         5 Engineer
         6 Clerk

9 rows selected.
```

Q5. Find the employees who have changed their job for once.(use minus)

```
SQL> SELECT EMP_ID FROM EMPLOYEEE MINUS SELECT EMP_ID FROM JOB_HISTORY;

    EMP_ID
----------
         3
         7
         8
         9
        10
        11
        12

7 rows selected.
```

Q6. Find the employees who earn more than Chitra. (use single-row subquery)

```
SQL> set linesize 200;
SQL> SELECT * FROM EMPLOYEEE WHERE F_NAME!='chitra' and salary>(SELECT SALARY FROM EMPLOYEEE WHERE F_NAME='chitra');

    EMP_ID F_NAME               L_NAME               JOB_TYPE               SALARY  COMMISION DEPT                MANAGER_ID DOJ
---------- -------------------- -------------------- -------------------- ---------- ---------- -------------------- ---------- ---------
         1 arun                 khan                 manager                 90000               production                     04-JAN-98
         2 barun                kumar                manager                 80000               marketing                      09-FEB-98
         4 dheeraj              mishra               manager                 75000               sales                        2 27-DEC-01
         6 floki                dutt                 accountant              70000               accounts                       16-JUL-00
```

Q7. Find the employees details who have the same job_type as of emp_id 7. (use single-row subquery)

```
SQL> SELECT * FROM EMPLOYEEE WHERE JOB_TYPE=(SELECT JOB_TYPE FROM EMPLOYEEE WHERE EMP_ID=7);

    EMP_ID F_NAME               L_NAME               JOB_TYPE               SALARY  COMMISION DEPT                MANAGER_ID DOJ
---------- -------------------- -------------------- -------------------- ---------- ---------- -------------------- ---------- ---------
         7 dheeraj              kumar                clerk                   40000               accounts                     6 01-JUL-16
         9 mou                  bhat                 clerk                   30000               sales                        4 08-MAR-18
```

Q8.Display the employee names whose job is the same as employee 3 and earn more than employee 7. (use single-row subquery)

```
SQL> SELECT F_NAME, L_NAME FROM EMPLOYEEE WHERE JOB_TYPE=(SELECT JOB_TYPE FROM EMPLOYEEE WHERE EMP_ID=3) AND SALARY>(SELECT SALARY FROM EMPLOYEEE WHERE EMP_ID=7);

F_NAME             L_NAME
------------------ ------------------
chitra             kapoor
emma               dutt
saul               good
```

Q9. Display the employees earning less than the average salary. (use single-row subquery)

```
SQL> SELECT * FROM EMPLOYEEE WHERE SALARY<(SELECT AVG(SALARY) FROM EMPLOYEEE);

    EMP_ID F_NAME             L_NAME             JOB_TYPE             SALARY  COMMISION DEPT                 MANAGER_ID DOJ
---------- ------------------ ------------------ ------------------ ---------- ---------- ------------------ ---------- ---------
         7 dheeraj            kumar              clerk                 40000            accounts                    6 01-JUL-16
         9 mou                bhat               clerk                 30000            sales                       4 08-MAR-18
        10 sunny              deol               salesman              20000      10000 marketing                   2 31-MAR-01
        11 bobby              deol               engineer              35000            r and d                     8 17-OCT-17
        12 amir               khan               salesman              15000       5000 marketing                   2 11-JAN-13
```

Q10. Find the job_type with the lowest average salary. (use single-row subquery)

```
SQL> select * from(select avg(salary),job_type from employeee group by job_type order by avg(salary) asc) where rownum=1;

AVG(SALARY) JOB_TYPE
----------- --------------------
      17500 salesman
```

Q11. Display all the department names whose minimum salary is greater than the minimum salary of the Sales department.

```
SQL> select dept from employeee where salary IN (select min(salary) as salary from employeee where salary > (select min(salary) from employeee where dept='sales') group by
dept);

DEPT
--------------------
marketing
sales
production
accounts
r and d
```

Q12. Select the employee names, department and salary who are the lowest earners of their corresponding department (use multi-row subquery).

```
SQL> SELECT F_NAME, L_NAME, DEPT, SALARY FROM EMPLOYEEE WHERE SALARY<SOME(SELECT MIN(SALARY) FROM EMPLOYEEE GROUP BY DEPT);

F_NAME               L_NAME               DEPT                    SALARY
-------------------- -------------------- -------------------- ----------
dheeraj              kumar                accounts                 40000
mou                  bhat                 sales                    30000
sunny                deol                 marketing                20000
bobby                deol                 r and d                  35000
amir                 khan                 marketing                15000
```

Q13. Find the highest earners of each job_type.(use multi-row subquery).

```
SQL> SELECT F_NAME, L_NAME, JOB_TYPE, SALARY FROM EMPLOYEEE WHERE SALARY=SOME(SELECT MAX(SALARY) FROM EMPLOYEEE GROUP BY JOB_TYPE);

F_NAME               L_NAME               JOB_TYPE               SALARY
-------------------- -------------------- -------------------- ----------
arun                 khan                 manager                 90000
chitra               kapoor               engineer                60000
floki                dutt                 accountant              70000
dheeraj              kumar                clerk                   40000
saul                 good                 engineer                60000
sunny                deol                 salesman                20000

6 rows selected.
```

Q14. Display the employees who are not engineers and earn less than any engineer.(use multi-row subquery).

```
SQL> SELECT F_NAME, L_NAME FROM EMPLOYEEE WHERE SALARY<SOME(SELECT MIN(SALARY) FROM EMPLOYEEE WHERE JOB_TYPE='engineer' GROUP BY JOB_TYPE);

F_NAME               L_NAME
-------------------- --------------------
mou                  bhat
sunny                deol
amir                 khan
```

Q15. Display the employees who are not clerks but earn more than all clerks.(use multi-row subquery).

```
SQL> SELECT F_NAME, L_NAME FROM EMPLOYEEE WHERE SALARY>SOME(SELECT MAX(SALARY) FROM EMPLOYEEE WHERE JOB_TYPE='clerk' GROUP BY JOB_TYPE);

F_NAME               L_NAME
-------------------- --------------------
arun                 khan
barun                kumar
chitra               kapoor
dheeraj              mishra
emma                 dutt
floki                dutt
saul                 good

7 rows selected.
```

Q16. Display the top 5 highest earning employees.

```
SQL> SELECT * FROM (SELECT F_NAME,L_NAME FROM EMPLOYEEE ORDER BY SALARY DESC) WHERE ROWNUM<=5;

F_NAME               L_NAME
-------------------- --------------------
arun                 khan
barun                kumar
dheeraj              mishra
floki                dutt
chitra               kapoor
```

Q17. Display the name and department of the top 2 highest paid managers.

```
SQL> select * from (select f_name,l_name from employeee where job_type='manager' order by salary desc ) where rownum<=2;

F_NAME               L_NAME
-------------------- --------------------
arun                 khan
barun                kumar
```

Q18. Update the salary of the employees working as managers to the average salary of all the employees.

```
SQL> UPDATE EMPLOYEEE SET SALARY =(SELECT AVG(SALARY) FROM EMPLOYEEE )WHERE JOB_TYPE='manager';

3 rows updated.
```