DBMS ASSIGNMENT

Lab Sheet-2

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CSE-C

Department Schema

Dept(deptno:integer, dname:String, loc:String)

constraints: deptno is Primary Key.

DEPT table values

10, 'ACCOUNTING', 'NEW YORK'

20, 'RESEARCH', 'DALLAS'

30, 'SALES', 'CHICAGO'

40, 'OPERATIONS', 'BOSTON'

Creating Table Department:

```
CREATE TABLE DEPT (
DEPTNO NUMBER PRIMARY KEY,
DNAME VARCHAR(50),
LOC VARCHAR(50)
)
Table created.
```

Inserting Values in Table Department:

```
INSERT INTO DEPT VALUES (10,'ACCOUNTING','NEWYORK')
```

1 row(s) inserted.
```
INSERT INTO DEPT VALUES (20,'RESEARCH','DELLAS')
```
1 row(s) inserted.
```
INSERT INTO DEPT VALUES (30,'SALES','CHICAGO')
```
1 row(s) inserted.
```
INSERT INTO DEPT VALUES (40,'OPERATIONS','BOSTON')
```
1 row(s) inserted.

```
select * from dept
```

DEPTNO	DNAME	LOC
30	SALES	CHICAGO
40	OPERATIONS	BOSTON
20	RESEARCH	DELLAS
10	ACCOUNTING	NEWYORK

4 rows selected.

Employee Schema

Employee(empno:integer, ename:string, job:string ,mgr:number ,hiredate: date, sal:real, comm:real ,deptno:integer)

constraints: empno id Primary Key, deptno is Foreign Key

Employee Table values

7839, 'KING', 'PRESIDENT', null,17-11-1981',5000, null, 10
7698, 'BLAKE', 'MANAGER', 7839, 1-5-1981', 2850, null, 30
7782, 'CLARK', 'MANAGER', 7839,9-6-1981',2450, null, 10
7566, 'JONES', 'MANAGER', 7839,2-4-1981',2975, null, 20
7788, 'SCOTT', 'ANALYST', 7566,13-07-87',85,3000, null, 20
7902, 'FORD', 'ANALYST', 7566,3-12-1981',3000, null, 20
7369, 'SMITH', 'CLERK', 7902,17-12-1980',800, null, 20
7499, 'ALLEN', 'SALESMAN', 7698,20-2-1981',1600, 300, 30
7521, 'WARD', 'SALESMAN', 7698,22-2-1981',1250, 500, 30
7654, 'MARTIN', 'SALESMAN', 7698,28-9-1981',1250, 1400, 30
7844, 'TURNER', 'SALESMAN', 7698,8-9-1981',1500, 0, 30
7876, 'ADAMS', 'CLERK', 7788,13-07-87',51,1100, null, 20
7900, 'JAMES', 'CLERK', 7698,3-12-1981',950, null, 30

7934, 'MILLER', 'CLERK', 7782,23-1-1982',1300, null, 10

Creating Table Employee:
```
CREATE TABLE EMP(
EMPNO NUMBER PRIMARY KEY,
ENAME VARCHAR(50),
JOB VARCHAR(50),
MGR NUMBER,
HIREDATE DATE,
SAL NUMBER(10,2),
COMM NUMBER(10,2),
DEPTNO NUMBER
)
```
Table created.

ALTER
```
ALTER TABLE EMP ADD FOREIGN KEY(DEPTNO) REFERENCES DEPT(DEPTNO)
```
Table altered.

Inserting Values in Table Employee:
```
INSERT INTO EMP VALUES (7839, 'KING', 'PRESIDENT',null, To_Date('17-11-1981','dd-mm-yyyy'), 5000, null, 10)
```
1 row(s) inserted.
```
INSERT INTO EMP VALUES(7698, 'BLAKE', 'MANAGER', 7839,To_Date('1-5-1981','dd-mm-yyyy'),2850, null, 30)
```
1 row(s) inserted.
```
INSERT INTO EMP VALUES(7782, 'CLARK', 'MANAGER', 7839,To_Date('9-6-1981','dd-mm-yyyy'),2450, null, 10)
```
1 row(s) inserted.
```
INSERT INTO EMP VALUES(7566, 'JONES', 'MANAGER', 7839,To_Date('2-4-1981','dd-mm-yyyy'),2975, null, 20)
```
1 row(s) inserted.
```
INSERT INTO EMP VALUES(7788, 'SCOTT', 'ANALYST', 7566,To_Date('13-07-1987','dd-mm-yyyy'),3000, null, 20)
```
1 row(s) inserted.
```
INSERT INTO EMP VALUES(7902, 'FORD', 'ANALYST', 7566,To_Date('3-12-1981','dd-mm-yyyy'),3000, null, 20)
```
1 row(s) inserted.
```
INSERT INTO EMP VALUES(7369, 'SMITH', 'CLERK', 7902,To_Date('17-12-1980','dd-mm-yyyy'),800, null, 20)
```
1 row(s) inserted.
```
INSERT INTO EMP VALUES(7499,'ALLEN','SALESMAN',7698,To_Date('20-2-1981','dd-mm-yyyy'),1600, 300, 30)
```
1 row(s) inserted.
```
INSERT INTO EMP VALUES(7521, 'WARD','SALESMAN',7698,To_Date('22-2-1981','dd-mm-yyyy'),1250, 500, 30)
```

```sql
INSERT INTO EMP VALUES(7844,'TURNER','SALESMAN',7698,to_date('8-9-1981','dd-mm-
yyyy'),1500, 0, 30)
```
```sql
INSERT INTO EMP VALUES(7876, 'ADAMS', 'CLERK', 7788,To_Date('13-07-1987','dd-mm-
yyyy'),1100, null, 20)
```
```sql
INSERT INTO EMP VALUES(7900, 'JAMES', 'CLERK', 7698,To_Date('3-12-1981','dd-mm-
yyyy'),950, null, 30)
```
```sql
INSERT INTO EMP VALUES(7934, 'MILLER', 'CLERK',7782,To_Date('23-1-1982','dd-mm-
yyyy'),1300, null, 10)
```
```sql
INSERT INTO EMP VALUES(7654,'MARTIN','SALESMAN',7698, to_date('28-9-1981','dd-mm-
yyyy'),1250,1400, 30)
```

```sql
select * from emp
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7839	KING	PRESIDENT	-	17-NOV-81	5000	-	10
7782	CLARK	MANAGER	7839	09-JUN-81	2450	-	10
7369	SMITH	CLERK	7902	17-DEC-80	800	-	20
7934	MILLER	CLERK	7782	23-JAN-82	1300	-	10
7788	SCOTT	ANALYST	7566	13-JUL-87	3000	-	20
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30
7902	FORD	ANALYST	7566	03-DEC-81	3000	-	20
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	30
7900	JAMES	CLERK	7698	03-DEC-81	950	-	30
7698	BLAKE	MANAGER	7839	01-MAY-81	2850	-	30
7566	JONES	MANAGER	7839	02-APR-81	2975	-	20
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	30
7876	ADAMS	CLERK	7788	13-JUL-87	1100	-	20

SALGRADE schema

Salgrade(grade:intger,losal:integer,hisal:integer**)**

SALGRADE table values

1, 700, 1200

2, 1201, 1400

3, 1401, 2000

4, 2001, 3000

5, 3001, 9999

Creating Table Salgrade:

```
CREATE TABLE SALGRADE (
GRADE NUMBER,
LOSAL NUMBER,
HISAL NUMBER
)
```
Table created.

Inserting Values in Table Salgrade:

```
INSERT INTO SALGRADE VALUES(1,700,1200)
```
1 row(s) inserted.
```
INSERT INTO SALGRADE VALUES(2,1201,1400)
```
1 row(s) inserted.
```
INSERT INTO SALGRADE VALUES(3,1401,2000)
```
1 row(s) inserted.
```
INSERT INTO SALGRADE VALUES(4,2001,3000)
```
1 row(s) inserted.
```
INSERT INTO SALGRADE VALUES(5,3001,9999)
```
1 row(s) inserted.


```
select * from salgrade
```

GRADE	LOSAL	HISAL
3	1401	2000
2	1201	1400
5	3001	9999
1	700	1200
4	2001	3000

5 rows selected.

LAB SHEET - 2

1) List empno,ename and salary?

SELECT EMPNO,ENAME,SAL FROM EMP

EMPNO	ENAME	SAL
7839	KING	5000
7698	BLAKE	2850
7782	CLARK	2450
7566	JONES	2975
7788	SCOTT	3000
7902	FORD	3000
7369	SMITH	800
7499	ALLEN	1600
7521	WARD	1250
7844	TURNER	1500
7876	ADAMS	1100
7900	JAMES	950
7934	MILLER	1300
7654	MARTIN	1250

14 rows selected.

2) List the names of all managers?

SELECT ENAME FROM EMP WHERE JOB='MANAGER'

ENAME

BLAKE
CLARK
JONES

3 rows selected.

3) List all clerks in deptno 30?

SELECT * FROM EMP WHERE JOB='CLERK' AND DEPTNO=30

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7900	JAMES	CLERK	7698	03-DEC-81	950	-	30

4) List the employes to who manager is 7698?

SELECT * FROM EMP WHERE JOB='MANAGER' AND EMPNO=7698

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7698	BLAKE	MANAGER	7839	01-MAY-81	2850	-	30

5) List jobs in dept 20?

SELECT JOB FROM EMP WHERE DEPTNO=20 GROUP BY JOB

JOB
ANALYST
CLERK
MANAGER

3 rows selected.

6) List employee names whose salary is between 2000 and 3000?

SELECT ENAME FROM EMP WHERE SAL BETWEEN 2000 AND 3000

ENAME
BLAKE
CLARK
JONES
SCOTT
FORD

5 rows selected.

7) List employees in departments 10,20?

SELECT * FROM EMP WHERE DEPTNO IN(10,20)

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-80	800	-	20
7566	JONES	MANAGER	7839	02-APR-81	2975	-	20
7782	CLARK	MANAGER	7839	09-JUN-81	2450	-	10
7788	SCOTT	ANALYST	7566	13-JUL-87	3000	-	20
7839	KING	PRESIDENT	-	17-NOV-81	5000	-	10
7876	ADAMS	CLERK	7788	13-JUL-87	1100	-	20
7902	FORD	ANALYST	7566	03-DEC-81	3000	-	20

| 7934 | MILLER | CLERK | | 7782 | 23-JAN-82 | 1300 | - | | 10 |

8 rows selected.

8) List ename which begin with s?

SELECT ENAME FROM EMP WHERE ENAME LIKE 'S%'

ENAME

SCOTT

SMITH

2 rows selected.

9) List ename having 'A' in their names?

SELECT ENAME FROM EMP WHERE ENAME LIKE '%A%'

ENAME

BLAKE

CLARK

ALLEN

WARD

ADAMS

JAMES

MARTIN

7 rows selected.

10) List employees who have joined in JAN?

SELECT * FROM EMP WHERE TO_CHAR(HIREDATE,'MON')='JAN'

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7934	MILLER	CLERK	7782	23-JAN-82	1300	-	10

11) List employees who have joined in the year 81?

SELECT * FROM EMP WHERE TO_CHAR(HIREDATE,'YY')='81'

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7839	KING	PRESIDENT	-	17-NOV-81	5000	-	10
7698	BLAKE	MANAGER	7839	01-MAY-81	2850	-	30
7782	CLARK	MANAGER	7839	09-JUN-81	2450	-	10

7566	JONES	MANAGER	7839	02-APR-81	2975	-	20
7902	FORD	ANALYST	7566	03-DEC-81	3000	-	20
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	30
7900	JAMES	CLERK	7698	03-DEC-81	950	-	30
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	30

10 rows selected.

12) List all distinct jobs?

SELECT DISTINCT JOB FROM EMP

JOB

ANALYST

CLERK

SALESMAN

MANAGER

PRESIDENT

5 rows selected.

13) List ename in alphabetical order?

SELECT ENAME FROM EMP ORDER BY ENAME ASC

ENAME

ADAMS

ALLEN

BLAKE

CLARK

FORD

JAMES

JONES

KING

MARTIN

MILLER

SCOTT

SMITH

TURNER

WARD

14 rows selected.

14) List ename alphabetically department wise?

SELECT E.ENAME

FROM EMP E , DEPT D

WHERE E.DEPTNO=D.DEPTNO

ORDER BY D.DNAME ASC

ENAME

CLARK

MILLER

KING

FORD

SCOTT

JONES

SMITH

ADAMS

WARD

TURNER

BLAKE

JAMES

ALLEN

MARTIN

14 rows selected.

15) List employee names alphabetically job wise?

SELECT ENAME FROM EMP ORDER BY JOB ASC

ENAME

FORD

SCOTT

SMITH

MILLER

JAMES

ADAMS

BLAKE

JONES

CLARK

KING

MARTIN

ALLEN

WARD

TURNER

14 rows selected.

16) List eno,ename,sal,DA(15% of sal) and PF(10% of sal)?

SELECT EMPNO,ENAME,SAL,SAL/100*15 AS DA,SAL/100*10 AS PF FROM EMP

EMPNO	ENAME	SAL	DA	PF
7839	KING	5000	750	500
7698	BLAKE	2850	427.5	285
7782	CLARK	2450	367.5	245
7566	JONES	2975	446.25	297.5
7788	SCOTT	3000	450	300
7902	FORD	3000	450	300
7369	SMITH	800	120	80
7499	ALLEN	1600	240	160
7521	WARD	1250	187.5	125
7844	TURNER	1500	225	150
7876	ADAMS	1100	165	110
7900	JAMES	950	142.5	95
7934	MILLER	1300	195	130
7654	MARTIN	1250	187.5	125

14 rows selected.

17) List enames having an experience more than 15 years?

SELECT ENAME FROM EMP WHERE ((months_between(sysdate,hiredate))/12) > 15

ENAME
KING
BLAKE
CLARK

JONES

SCOTT

FORD

SMITH

ALLEN

WARD

TURNER

ADAMS

JAMES

MILLER

MARTIN
14 rows selected.

18) List ename whose commission is NULL?

SELECT ENAME FROM EMP WHERE COMM IS NULL

ENAME

KING

BLAKE

CLARK

JONES

SCOTT

FORD

SMITH

ADAMS

JAMES

MILLER
10 rows selected.

19) List employees who donot report to anybody?

SELECT ename,mgr FROM emp WHERE mgr is null

ENAME	MGR
KING	-

20) List max sal,min sal,avg sal?

SELECT MAX(SAL),MIN(SAL),AVG(SAL) FROM EMP

MAX(SAL)	MIN(SAL)	AVG(SAL)
5000	800	2073.2142857142857142857142857142857

21) List number of jobs?

SELECT COUNT(DISTINCT(JOB)) FROM EMP

COUNT(DISTINCT(JOB))
5

22) List the numbers of people and average salary in deptno 30?

SELECT COUNT(*),AVG(SAL) FROM EMP WHERE DEPTNO=30

COUNT(EMPNO)	AVG(SAL)
6	1566.6666666666666666666666666666666667

23) List max sal and min sal in the designation SALESMAN and CLERK?

SELECT count(*),max(sal),avg(sal) from emp where job in('SALESMAN','CLERK')

COUNT(*)	MAX(SAL)	AVG(SAL)
8	1600	1218.75

24) List the number of people and average salary of employees joined in 81,82 and 83?

SELECT COUNT(*),AVG(SAL) FROM EMP WHERE TO_CHAR(HIREDATE,'YY') IN ('81','82','83')

COUNT(ENAME)	AVG(SAL)
11	2193.1818181818181818181818181818181818

25) List jobs that are unique to dept 20?

SELECT DISTINCT JOB FROM EMP WHERE DEPTNO=20

JOB

ANALYST

CLERK

MANAGER

3 rows selected.

26) Display todays date and present time

SELECT CURRENT_TIMESTAMP FROM DUAL

CURRENT_TIMESTAMP

02-JUL-21 07.25.44.528890 AM US/PACIFIC

27) Display a given date as a string in different formats.

SELECT TO_CHAR(SYSDATE, 'DDSPTH MONTH YEAR') FROM DUAL

TO_CHAR(SYSDATE,'DDSPTHMONTHYEAR')

THIRD JULY TWENTY TWENTY-ONE

28) List employee names and there experience in years?

SELECT ENAME,((months_between(sysdate,hiredate))/12) AS EXPERIENCE FROM EMP

ENAME	EXPERIENCE
KING	39.62798763565312624452409398645957785742
BLAKE	40.17099838834129828753484667463162086817
CLARK	40.06615967866387893269613699721222660295
JONES	40.25
SCOTT	33.97207365715850258861011549183592194342
FORD	39.58228871092194344882516925527678221585
SMITH	40.54465430231979291119076065312624452408
ALLEN	40.36992311952409398645957785742731979292
WARD	40.36454677543807248108323377140581441658
TURNER	39.81884785070688968538430904022301871767
ADAMS	33.97207365715850258861011549183592194342
JAMES	39.58228871092194344882516925527678221585
MILLER	39.44519193672839506172839506172839506175
MARTIN	39.76508440984667463162086818000796495417

29) List empnames who joined in DEC and on MONDAY or FRIDAY?

SELECT ENAME,TO_CHAR(HIREDATE,'DAY MON') FROM EMP

WHERE TO_CHAR(HIREDATE,'MON') = 'DEC'

AND TO_CHAR(HIREDATE,'DAY') = 'FRIDAY'

OR TO_CHAR(HIREDATE,'DAY') = 'MONDAY'

no data found

30) List ename and there joining date in the following formats

a) SMITH 17th DEC NINETEEN EIGHTY

SELECT ENAME || ' ' || TO_CHAR(HIREDATE,'DDTH MON YEAR') FROM EMP WHERE ENAME = 'SMITH'

ENAME||''||TO_CHAR(HIREDATE,'DDTHMONYEAR')
SMITH 17TH DEC NINETEEN EIGHTY

b) Smith seventeenth dec nineteen eighty

SELECT ENAME || ' ' || TO_CHAR(HIREDATE,'DDSPTH MON YEAR') FROM EMP WHERE ENAME = 'SMITH'

ENAME||''||TO_CHAR(HIREDATE,'DDSPTHMONYEAR')
SMITH SEVENTEENTH DEC NINETEEN EIGHTY

c) Smith weekday of joining

SELECT ENAME || ' ' || TO_CHAR(HIREDATE,'DAY') FROM EMP WHERE ENAME = 'SMITH'

ENAME||''||TO_CHAR(HIREDATE,'DAY')
SMITH WEDNESDAY

d) Smith 17/12/1980

SELECT ENAME || ' ' || TO_CHAR(HIREDATE,' DD/MM/YY') FROM EMP WHERE ENAME = 'SMITH'

ENAME||''||TO_CHAR(HIREDATE,'DD/MM/YY')

SMITH 17/12/80