

# CSE2007 DBMS LAB

**SLOT: L39+L40**

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**EXPERIMENT NO.-3**

1. List all rows from emp table ,by converting the null values in comm column to 0?\*

Code-

```
SELECT EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COALESCE(COMM, 0) AS COMM, DEPTNO FROM emp;
```

Output

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-1980	800	300	20
7499	ALLEN	SALESMAN	7698	20-FEB-1981	1600	500	30
7521	WARD	SALESMAN	7698	22-FEB-1981	1250	0	30
7566	JONES	MANAGER	7839	02-APR-1981	2975	0	20
7654	MARTIN	SALESMAN	7698	28-SEP-1981	1250	1400	30
7698	BLAKE	MANAGER	7839	01-MAY-1981	2850	0	30
7782	CLARK	MANAGER	7839	09-JUN-1981	2450	0	10
7788	SCOTT	ANALYST	7566	19-APR-1987	3000	0	20
7839	KING	PRESIDENT		17-NOV-1981	5000	0	10
7844	TURNER	SALESMAN	7698	08-SEP-1981	1500	0	30
7876	ADAMS	CLERK	7788	23-MAY-1987	1100	0	20
7900	JAMES	CLERK	7698	03-DEC-1981	950	0	30
7902	FORD	ANALYST	7566	03-DEC-1981	3000	0	20
7934	MILLER	CLERK	7782	23-JAN-1982	1300	0	10

2. List all managers and salesman with salaries over 1500?\*

Code-

```
SELECT * FROM emp WHERE JOB IN ('MANAGER', 'SALESMAN') AND SAL > 1500;
```

Output

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7499	ALLEN	SALESMAN	7698	20-FEB-1981	1600	500	30
7566	JONES	MANAGER	7839	02-APR-1981	2975		20
7698	BLAKE	MANAGER	7839	01-MAY-1981	2850		30
7782	CLARK	MANAGER	7839	09-JUN-1981	2450		10

3. Write a query that will accept a given job title and salary. Display all records according to that title and salary?\*

Code-

```
SELECT * FROM emp
```

```
WHERE JOB = 'your_job_title' AND SAL = your_salary;
```

EX-

```
SELECT * FROM emp
```

```
WHERE JOB = 'SALESMAN' AND SAL = 1250;
```

Output

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7521	WARD	SALESMAN	7698	22-FEB-1981	1250		30
7654	MARTIN	SALESMAN	7698	28-SEP-1981	1250	1400	30

4. List all employees who do not get any commission?\*

Code-

```
SELECT * FROM emp WHERE COMM IS NULL;
```

Output

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7521	WARD	SALESMAN	7698	22-FEB-1981	1250		30
7566	JONES	MANAGER	7839	02-APR-1981	2975		20
7698	BLAKE	MANAGER	7839	01-MAY-1981	2850		30
7782	CLARK	MANAGER	7839	09-JUN-1981	2450		10
7788	SCOTT	ANALYST	7566	19-APR-1987	3000		20
7839	KING	PRESIDENT		17-NOV-1981	5000		10
7876	ADAMS	CLERK	7788	23-MAY-1987	1100		20
7900	JAMES	CLERK	7698	03-DEC-1981	950		30
7902	FORD	ANALYST	7566	03-DEC-1981	3000		20
7934	MILLER	CLERK	7782	23-JAN-1982	1300		10

5. List the names and hiredate of the employees in dept 20. Display hire date formatted as '12/03/84'?

Code-

```
SELECT ENAME, TO_CHAR(HIREDATE, 'DD/MM/YY') AS FORMATTED_HIREDATE
```

```
FROM emp
```

```
WHERE DEPTNO = 20;
```

ENAME		FORMATTED_HIREDATE
-----		-----
JONES		02/04/81
SCOTT		19/04/87
ADAMS		23/05/87
FORD		03/12/81

6. How many months has the president worked for the company? Round to the nearest whole number of months?

CODE-

```
SELECT ENAME, ROUND(MONTHS_BETWEEN(SYSDATE, HIREDATE)) AS MONTHS_WORKED
FROM emp
WHERE JOB = 'PRESIDENT';
```

ENAME		MONTHS_WORKED
-----		-----
KING		42

7. List the names of all employees whose hire date anniversary is in the month of december?

Code-

```
SELECT ENAME
FROM emp
WHERE TO_CHAR(HIREDATE, 'MM') = '12';
```

ENAME
-----
SMITH
JONES
FORD
MILLER

8. Give sql command to find the average salary per job in each dept?\*

Code-

```
SELECT JOB, DEPTNO, AVG(SAL) AS AVG_SALARY FROM emp GROUP BY JOB, DEPTNO;
```

Output

JOB	DEPTNO	AVG_SALARY
ANALYST	20	3000
CLERK	10	1300
CLERK	20	950
CLERK	30	950
MANAGER	10	2450
MANAGER	20	2975
MANAGER	30	2850
PRESIDENT	10	5000
SALESMAN	30	1400

9. Write a query to count the number of people in dept 30 who can receive a salary and the number of people who receive a commission?

Code-

```
SELECT DEPTNO, COUNT(*) AS TOTAL, SUM(CASE WHEN COMM IS NOT NULL THEN 1 ELSE 0 END) AS WITH_COMM, SUM(CASE WHEN COMM IS NULL THEN 1 ELSE 0 END) AS WITHOUT_COMM
```

```
FROM emp
```

```
WHERE DEPTNO = 30
```

```
GROUP BY DEPTNO;
```

Output

DEPTNO	TOTAL	WITH_COMM	WITHOUT_COMM
30	6	3	3

10. Compute the average, minimum, and maximum salaries of the employees having the job is clerk or manager?

Code-

```
SELECT JOB, AVG(SAL) AS AVG_SALARY, MIN(SAL) AS MIN_SALARY, MAX(SAL) AS MAX_SALARY FROM emp WHERE JOB IN ('CLERK', 'MANAGER') GROUP BY JOB;
```

Output

JOB	AVG_SALARY	MIN_SALARY	MAX_SALARY
CLERK	1037.5	800	1300
MANAGER	2758.3333333333335	2450	2975

11. Calculate the total compensation expense for each dept. for one year. The comm figures in the emp table are for each month. Assume that employees who do not earn a commission receive non-monetary benefits that are worth \$100 a month?

Code-

```
SELECT DEPTNO, SUM(SAL + NVL(COMM, 100) * 12) AS TOTAL_COMPENSATION
```

```
FROM emp
```

```
GROUP BY DEPTNO;
```

DEPTNO	TOTAL_COMPENSATION
10	57800
20	143400
30	33500

12. Write a query to do a case insensitive search for a list of employees with a job that a user enters(e.g. clerk)?

Code-

```
SELECT * FROM EMP WHERE LOWER(JOB) = LOWER('clerk');
```

Output

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-1980	800	300	20
7876	ADAMS	CLERK	7788	23-MAY-1987	1100		20
7900	JAMES	CLERK	7698	03-DEC-1981	950		30
7934	MILLER	CLERK	7782	23-JAN-1982	1300		10

13. Write a query to produce the following output: smith(clerk)

Code-

```
SELECT ENAME || '(' || JOB || ')' AS OUTPUT FROM emp WHERE ENAME = 'SMITH';
```

Output

OUTPUT
SMITH(CLERK)

14. Write a query to find the employees who earn less than 30% to the president's salary?

Code-

```
SELECT ENAME FROM emp WHERE SAL < (SELECT 0.3*SAL FROM emp WHERE JOB = 'PRESIDENT');
```

#### Output

ENAME
SMITH
WARD
MARTIN
ADAMS
JAMES
MILLER

15. Display the average monthly salary bill for each job type within a department?

Code-

```
SELECT JOB, DEPTNO, AVG(SAL / 12) AS AVG_MONTHLY_SALARY FROM emp GROUP BY JOB, DEPTNO;
```

#### Output

JOB	DEPTNO	AVG_MONTHLY_SALARY
ANALYST	20	250
CLERK	10	108
CLERK	20	78.5
CLERK	30	79
MANAGER	10	204
MANAGER	20	247
MANAGER	30	237
PRESIDENT	10	416
SALESMAN	30	116.5

16. Find out the difference between highest and lowest salaries across job types, depts, and all?

Code-

```
SELECT MAX(SAL) - MIN(SAL) AS SALARY_DIFFERENCE FROM emp;
```

#### Output

SALARY_DIFFERENCE
4200

17. Find all departments which have more than 3 employees?\*

Code-

```
SELECT DEPTNO, COUNT(*) AS EMP_COUNT FROM EMP GROUP BY DEPTNO HAVING COUNT(*) > 3;
```

**Output**

DEPTNO	EMP_COUNT
20	5
30	6

18. Check whether all employees ids are indeed unique?

Code-

```
SELECT COUNT(*) AS EMP_COUNT, COUNT(DISTINCT EMPNO) AS UNIQUE_EMP_COUNT FROM EMP;
```

**Output**

EMP_COUNT	UNIQUE_EMP_COUNT
14	14

19. List all employees who were paid less than his manager?

Code-

```
SELECT e1.* FROM emp e1 JOIN emp e2 ON e1.MGR = e2.EMPNO WHERE e1.SAL < e2.SAL;
```

**Output**

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-1980	800	300	20
7499	ALLEN	SALESMAN	7698	20-FEB-1981	1600	500	30
7521	WARD	SALESMAN	7698	22-FEB-1981	1250		30
7566	JONES	MANAGER	7839	02-APR-1981	2975		20
7654	MARTIN	SALESMAN	7698	28-SEP-1981	1250	1400	30
7698	BLAKE	MANAGER	7839	01-MAY-1981	2850		30
7782	CLARK	MANAGER	7839	09-JUN-1981	2450		10
7844	TURNER	SALESMAN	7698	08-SEP-1981	1500	0	30
7876	ADAMS	CLERK	7788	23-MAY-1987	1100		20
7900	JAMES	CLERK	7698	03-DEC-1981	950		30
7934	MILLER	CLERK	7782	23-JAN-1982	1300		10

20. Display all employee names and their department names in department order?

Code-

```
SELECT E.ENAME, D.DNAME FROM EMP E JOIN DEPT D ON E.DEPTNO = D.DEPTNO ORDER BY D.DEPTNO;
```

**Output**

ENAME	DNAME
CLARK	ACCOUNTING
KING	ACCOUNTING
MILLER	ACCOUNTING
SMITH	RESEARCH
JONES	RESEARCH
SCOTT	RESEARCH
ADAMS	RESEARCH
FORD	RESEARCH
ALLEN	SALES
WARD	SALES
MARTIN	SALES
BLAKE	SALES
TURNER	SALES
JAMES	SALES

21. Display all employee name, department number and name?\*

Code-

```
SELECT E.ENAME, E.DEPTNO, D.DNAME
```

```
FROM EMP E
```

```
JOIN DEPT D ON E.DEPTNO = D.DEPTNO;
```

**Output**

ENAME	DEPTNO	DNAME
SMITH	20	RESEARCH
ALLEN	30	SALES
WARD	30	SALES
JONES	20	RESEARCH
MARTIN	30	SALES
BLAKE	30	SALES
CLARK	10	ACCOUNTING
SCOTT	20	RESEARCH
KING	10	ACCOUNTING
TURNER	30	SALES
ADAMS	20	RESEARCH
JAMES	30	SALES
FORD	20	RESEARCH
MILLER	10	ACCOUNTING

22. Display the department that has TWO employees?

Code-

```
SELECT D.DEPTNO, D.DNAME, COUNT(*) AS EMP_COUNT FROM EMP E JOIN DEPT D ON E.DEPTNO =  
D.DEPTNO GROUP BY D.DEPTNO, D.DNAME HAVING COUNT(*) = 2;
```

**Output**

SQL query successfully executed. However, the result set is empty.

23. Find all employees who joined the company before their manager?

Code-

```
SELECT e1.*
```

```
FROM emp e1
```



JOIN emp e2 ON e1.MGR = e2.EMPNO

WHERE e1.HIREDATE < e2.HIREDATE;

Output							
EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7566	JONES	MANAGER	7839	02-APR-1981	2975		20
7698	BLAKE	MANAGER	7839	01-MAY-1981	2850		30
7782	CLARK	MANAGER	7839	09-JUN-1981	2450		10

24. Display minimum salary department wise or of specific department.

Code-

SELECT DEPTNO, MIN(SAL) AS MIN\_SALARY FROM emp GROUP BY DEPTNO;

Output	
DEPTNO	MIN_SALARY
10	1300
20	800
30	950

25. Display employees who earn more than lowest salary in dept 30?\*

Code-

SELECT \* FROM emp WHERE SAL > (SELECT MIN(SAL) FROM emp WHERE DEPTNO = 30);

Output							
EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7499	ALLEN	SALESMAN	7698	20-FEB-1981	1600	500	30
7521	WARD	SALESMAN	7698	22-FEB-1981	1250		30
7566	JONES	MANAGER	7839	02-APR-1981	2975		20
7654	MARTIN	SALESMAN	7698	28-SEP-1981	1250	1400	30
7698	BLAKE	MANAGER	7839	01-MAY-1981	2850		30
7782	CLARK	MANAGER	7839	09-JUN-1981	2450		10
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7839	KING	PRESIDENT		17-NOV-1981	5000		10
7844	TURNER	SALESMAN	7698	08-SEP-1981	1500	0	30
7876	ADAMS	CLERK	7788	23-MAY-1987	1100		20
7902	FORD	ANALYST	7566	03-DEC-1981	3000		20
7934	MILLER	CLERK	7782	23-JAN-1982	1300		10