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SUBJECT: DBMS

PRACTICAL 3

A) Using emp table, perform the following queries:

1) Display the details of all employees.

```
SQL> create table emp1 as select * from emp;

Table created.

SQL> select * from emp1;

     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
      7788 SCOTT      ANALYST         7566 19-APR-87       3000                    20
      7902 FORD       ANALYST         7566 03-DEC-81       3000                    20
      7369 SMITH      CLERK           7902 17-DEC-80        800                    20
      7499 ALLEN      SALESMAN        7698 20-FEB-81       1600        300         30
      7521 WARD       SALESMAN        7698 22-FEB-81       1250        500         30
      7654 MARTIN     SALESMAN        7698 28-SEP-81       1250       1400         30
      7844 TURNER     SALESMAN        7698 08-SEP-81       1500          0         30
      7876 ADAMS      CLERK           7788 23-MAY-87       1100                    20
      7900 JAMES      CLERK           7698 03-DEC-81        950                    30
      7934 MILLER     CLERK           7782 23-JAN-82       1300                    10

14 rows selected.
```

2) Display the name and job for all employees.

```
SQL> select ename, job from emp1;

ENAME      JOB
---------- ---------
KING       PRESIDENT
BLAKE      MANAGER
CLARK      MANAGER
JONES      MANAGER
SCOTT      ANALYST
FORD       ANALYST
SMITH      CLERK
ALLEN      SALESMAN
WARD       SALESMAN
MARTIN     SALESMAN
TURNER     SALESMAN
ADAMS      CLERK
JAMES      CLERK
MILLER     CLERK
```

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3) Display name and salary for all employees.

```
SQL> select ename, sal from emp1;

ENAME              SAL
---------- ----------
KING              5000
BLAKE             2850
CLARK             2450
JONES             2975
SCOTT             3000
FORD              3000
SMITH              800
ALLEN             1600
WARD              1250
MARTIN            1250
TURNER            1500
ADAMS             1100
JAMES              950
MILLER            1300
```

4) Display the details of all employees who are earning salary greater than 2000.

```
SQL> select * from emp1
  2  where sal>2000;

     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
      7788 SCOTT      ANALYST         7566 19-APR-87       3000                    20
      7902 FORD       ANALYST         7566 03-DEC-81       3000                    20

6 rows selected.
```

5) Display the details of all employees who are working as Manager.

```
SQL> select * from emp1
  2  where job='MANAGER';

     EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      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
```

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6) Display the names of all employees who are working in department number 10.

```
SQL> select ename from emp1
  2  where deptno=10;

ENAME
----------
KING
CLARK
MILLER
```

7) Display the names of all employees working as clerk and drawing a salary more than 3000.

```
SQL> select ename from emp1
  2  where job='CLERK' and sal>3000;

no rows selected
```

8) Display employee number and names for employee who earn commission.

```
SQL> select empno, ename from emp1
  2  where COMM is NOT NULL;

     EMPNO ENAME
---------- ----------
      7499 ALLEN
      7521 WARD
      7654 MARTIN
      7844 TURNER
```

9) Display names of employees who do not earn any commission.

```
SQL> select ename from emp1
  2  where comm is null;

ENAME
----------
KING
BLAKE
CLARK
JONES
SCOTT
FORD
SMITH
ADAMS
JAMES
MILLER

10 rows selected.
```

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10) Display the names of employees who are working as clerk, salesman or analyst and drawing a salary more than 2000.

```
SQL> select ename from emp1
  2  where (job='CLERK' OR job='SALESMAN' OR job='ANALYST') AND sal>2000;

ENAME
----------
SCOTT
FORD
```

11) Display the names of employees who are working as clerk, salesman or analyst

```
SQL> select ename from emp1
  2  where job='CLERK' or job='SALESMAN' or job='ANALYST';

ENAME
----------
SCOTT
FORD
SMITH
ALLEN
WARD
MARTIN
TURNER
ADAMS
JAMES
MILLER

10 rows selected.
```

12) Display the names of employees working in department number 10 or 20 or 30.

```
SQL> select ename from emp1
  2  where DEPTNO in (10,20,30);

ENAME
----------
KING
BLAKE
CLARK
JONES
SCOTT
FORD
SMITH
ALLEN
WARD
MARTIN
TURNER
ADAMS
JAMES
MILLER

14 rows selected.
```

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13) Display the details of employees whose salary lies in the range of 1000 and 2000.

```
SQL> select * from emp1
  2  where sal>1000 and sal<2000;

     EMPNO ENAME      JOB              MGR HIREDATE          SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      7499 ALLEN      SALESMAN         7698 20-FEB-81       1600        300         30
      7521 WARD       SALESMAN         7698 22-FEB-81       1250        500         30
      7654 MARTIN     SALESMAN         7698 28-SEP-81       1250       1400         30
      7844 TURNER     SALESMAN         7698 08-SEP-81       1500          0         30
      7876 ADAMS      CLERK            7788 23-MAY-87       1100                    20
      7934 MILLER     CLERK            7782 23-JAN-82       1300                    10

6 rows selected.
```

14) List the employees in the ascending order of their salaries.

```
SQL> select * from emp1 order by sal asc;

     EMPNO ENAME      JOB              MGR HIREDATE          SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      7369 SMITH      CLERK            7902 17-DEC-80        800                    20
      7900 JAMES      CLERK            7698 03-DEC-81        950                    30
      7876 ADAMS      CLERK            7788 23-MAY-87       1100                    20
      7654 MARTIN     SALESMAN         7698 28-SEP-81       1250       1400         30
      7521 WARD       SALESMAN         7698 22-FEB-81       1250        500         30
      7934 MILLER     CLERK            7782 23-JAN-82       1300                    10
      7844 TURNER     SALESMAN         7698 08-SEP-81       1500          0         30
      7499 ALLEN      SALESMAN         7698 20-FEB-81       1600        300         30
      7782 CLARK      MANAGER          7839 09-JUN-81       2450                    10
      7698 BLAKE      MANAGER          7839 01-MAY-81       2850                    30
      7566 JONES      MANAGER          7839 02-APR-81       2975                    20
      7902 FORD       ANALYST          7566 03-DEC-81       3000                    20
      7788 SCOTT      ANALYST          7566 19-APR-87       3000                    20
      7839 KING       PRESIDENT             17-NOV-81       5000                    10

14 rows selected.
```

15) List the Empno, Ename, Sal of all emps working for Mgr 7369

```
SQL> select empno, ename, sal from emp1
  2  where MGR=7369;

no rows selected
```

16) List the employees who are either ‘CLERK’ or ‘ANALYST’ in the desc order.

```
SQL> select * from emp1
  2  where job in ('CLERK', 'ANALYST')
  3  order by job desc;

     EMPNO ENAME      JOB              MGR HIREDATE          SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      7369 SMITH      CLERK            7902 17-DEC-80        800                    20
      7900 JAMES      CLERK            7698 03-DEC-81        950                    30
      7934 MILLER     CLERK            7782 23-JAN-82       1300                    10
      7876 ADAMS      CLERK            7788 23-MAY-87       1100                    20
      7902 FORD       ANALYST          7566 03-DEC-81       3000                    20
      7788 SCOTT      ANALYST          7566 19-APR-87       3000                    20

6 rows selected.
```

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17) List the employees who are working in Deptno 10 or 20.

```
SQL> select * from emp1
  2  where deptno in(10,20);

     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
      7566 JONES      MANAGER         7839 02-APR-81       2975                    20
      7788 SCOTT      ANALYST         7566 19-APR-87       3000                    20
      7902 FORD       ANALYST         7566 03-DEC-81       3000                    20
      7369 SMITH      CLERK           7902 17-DEC-80        800                    20
      7876 ADAMS      CLERK           7788 23-MAY-87       1100                    20
      7934 MILLER     CLERK           7782 23-JAN-82       1300                    10

8 rows selected.
```

18) List the employees whose name have a character set ‘ll’ together

```
SQL> select * from emp1
  2  where ename LIKE '%LL%';

     EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      7499 ALLEN      SALESMAN         7698 20-FEB-81       1600        300         30
      7934 MILLER     CLERK            7782 23-JAN-82       1300                    10
```

19) List the employees in ascending order of their names.

```
SQL> select * from emp1
  2  order by ename asc;

     EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      7876 ADAMS      CLERK            7788 23-MAY-87       1100                    20
      7499 ALLEN      SALESMAN         7698 20-FEB-81       1600        300         30
      7698 BLAKE      MANAGER          7839 01-MAY-81       2850                    30
      7782 CLARK      MANAGER          7839 09-JUN-81       2450                    10
      7902 FORD       ANALYST          7566 03-DEC-81       3000                    20
      7900 JAMES      CLERK            7698 03-DEC-81        950                    30
      7566 JONES      MANAGER          7839 02-APR-81       2975                    20
      7839 KING       PRESIDENT             17-NOV-81       5000                    10
      7654 MARTIN     SALESMAN         7698 28-SEP-81       1250       1400         30
      7934 MILLER     CLERK            7782 23-JAN-82       1300                    10
      7788 SCOTT      ANALYST          7566 19-APR-87       3000                    20
      7369 SMITH      CLERK            7902 17-DEC-80        800                    20
      7844 TURNER     SALESMAN         7698 08-SEP-81       1500          0         30
      7521 WARD       SALESMAN         7698 22-FEB-81       1250        500         30

14 rows selected.
```

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20) List the employees in descending order of their names.

```
SQL> select * from emp1
  2  order by ename desc;

     EMPNO ENAME      JOB              MGR HIREDATE          SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      7521 WARD       SALESMAN         7698 22-FEB-81       1250        500         30
      7844 TURNER     SALESMAN         7698 08-SEP-81       1500          0         30
      7369 SMITH      CLERK            7902 17-DEC-80        800                    20
      7788 SCOTT      ANALYST          7566 19-APR-87       3000                    20
      7934 MILLER     CLERK            7782 23-JAN-82       1300                    10
      7654 MARTIN     SALESMAN         7698 28-SEP-81       1250       1400         30
      7839 KING       PRESIDENT             17-NOV-81       5000                    10
      7566 JONES      MANAGER          7839 02-APR-81       2975                    20
      7900 JAMES      CLERK            7698 03-DEC-81        950                    30
      7902 FORD       ANALYST          7566 03-DEC-81       3000                    20
      7782 CLARK      MANAGER          7839 09-JUN-81       2450                    10
      7698 BLAKE      MANAGER          7839 01-MAY-81       2850                    30
      7499 ALLEN      SALESMAN         7698 20-FEB-81       1600        300         30
      7876 ADAMS      CLERK            7788 23-MAY-87       1100                    20

14 rows selected.
```

21) List the employees who do not belong to Deptno 20.

```
SQL> select * from emp1
  2  where deptno! =20;

     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
      7499 ALLEN      SALESMAN         7698 20-FEB-81       1600        300         30
      7521 WARD       SALESMAN         7698 22-FEB-81       1250        500         30
      7654 MARTIN     SALESMAN         7698 28-SEP-81       1250       1400         30
      7844 TURNER     SALESMAN         7698 08-SEP-81       1500          0         30
      7900 JAMES      CLERK            7698 03-DEC-81        950                    30
      7934 MILLER     CLERK            7782 23-JAN-82       1300                    10

9 rows selected.
```

22) List all the employees except PRESIDENT and MANAGER.

```
SQL> select * from emp1
  2  where job!='PRESIDENT' AND job!='MANAGER';

     EMPNO ENAME      JOB              MGR HIREDATE          SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      7788 SCOTT      ANALYST          7566 19-APR-87       3000                    20
      7902 FORD       ANALYST          7566 03-DEC-81       3000                    20
      7369 SMITH      CLERK            7902 17-DEC-80        800                    20
      7499 ALLEN      SALESMAN         7698 20-FEB-81       1600        300         30
      7521 WARD       SALESMAN         7698 22-FEB-81       1250        500         30
      7654 MARTIN     SALESMAN         7698 28-SEP-81       1250       1400         30
      7844 TURNER     SALESMAN         7698 08-SEP-81       1500          0         30
      7876 ADAMS      CLERK            7788 23-MAY-87       1100                    20
      7900 JAMES      CLERK            7698 03-DEC-81        950                    30
      7934 MILLER     CLERK            7782 23-JAN-82       1300                    10

10 rows selected.
```

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23) List the employees whose name starts with A.

```
SQL> select * from emp1
  2  where ename LIKE 'A%';

     EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      7499 ALLEN      SALESMAN         7698 20-FEB-81       1600        300         30
      7876 ADAMS      CLERK            7788 23-MAY-87       1100                    20
```

24) List all the Clerks of Deptno 20.

```
SQL> select * from emp1
  2  where job='CLERK' and deptno=20;

     EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      7369 SMITH      CLERK            7902 17-DEC-80        800                    20
      7876 ADAMS      CLERK            7788 23-MAY-87       1100                    20
```

25) List the employees whose name starts with S.

```
SQL> select * from emp1
  2  where ename LIKE '%S';

     EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      7566 JONES      MANAGER          7839 02-APR-81       2975                    20
      7876 ADAMS      CLERK            7788 23-MAY-87       1100                    20
      7900 JAMES      CLERK            7698 03-DEC-81        950                    30
```

26) List the employees who has name of exactly 4 characters.

```
SQL> select * from emp1
  2  where ename LIKE '____';

     EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      7839 KING       PRESIDENT             17-NOV-81       5000                    10
      7902 FORD       ANALYST          7566 03-DEC-81       3000                    20
      7521 WARD       SALESMAN         7698 22-FEB-81       1250        500         30
```

27) List the names of the employees who are working as MANAGER in department 10.

```
SQL> select ename from emp1
  2  where job='MANAGER' and deptno=10;

ENAME
----------
CLARK
```

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28) List the total salary of employees working as ANALYST.

```
SQL> select sum(sal) as total_salary from emp1
  2  where job='ANALYST';

TOTAL_SALARY
------------
        6000
```

29) List the minimum, maximum and average salary of the employees.

```
SQL> select min(sal), max(sal), avg(sal) from emp1;

  MIN(SAL)   MAX(SAL)   AVG(SAL)
---------- ---------- ----------
       800       5000 2073.21429
```

30) List the total number of employees working in department 10.

```
SQL> select count(ename) from emp1
  2  where deptno=10;

COUNT(ENAME)
------------
           3
```

B) Answer the following queries:

1) Display the total salary of employees department wise.

```
SQL> select deptno, sum(sal) from emp1
  2  group by deptno;

    DEPTNO   SUM(SAL)
---------- ----------
        30       9400
        20      10875
        10       8750
```

2) Display the total salary of employees job wise in ascending order of job.

```
SQL> select job, sum(sal) from emp1
  2  group by job
  3  order by job asc;

JOB         SUM(SAL)
--------- ----------
ANALYST         6000
CLERK           4150
MANAGER         8275
PRESIDENT       5000
SALESMAN        5600
```

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3) Display the total number of employees with specific job.

```
SQL> select job, count(ename) from emp1
  2  group by job;

JOB       COUNT(ENAME)
--------- ------------
CLERK                4
SALESMAN             4
PRESIDENT            1
MANAGER              3
ANALYST              2
```

4) Display the total number of employees working in each department.

```
SQL> select deptno, count(ename) from emp1
  2  group by deptno;

    DEPTNO COUNT(ENAME)
---------- ------------
        30            6
        20            5
        10            3
```

5) Display the total salary of employees specific to job and department in ascending order of job.

```
SQL> select job, deptno, sum(sal) from emp1
  2  group by job, deptno
  3  order by job asc;

JOB           DEPTNO   SUM(SAL)
--------- ---------- ----------
ANALYST           20       6000
CLERK             10       1300
CLERK             20       1900
CLERK             30        950
MANAGER           10       2450
MANAGER           20       2975
MANAGER           30       2850
PRESIDENT         10       5000
SALESMAN          30       5600

9 rows selected.
```

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6) Display the total salary of the employees specific to job when employee count is greater than 1.

```
SQL> select job, sum(sal), count(*) from emp1
  2  group by job
  3  having count(job)>1;

JOB         SUM(SAL)   COUNT(*)
--------- ---------- ----------
CLERK           4150          4
SALESMAN        5600          4
MANAGER         8275          3
ANALYST         6000          2
```

7) Display unique jobs of employees

```
SQL> select unique job from emp1;

JOB
---------
CLERK
SALESMAN
PRESIDENT
MANAGER
ANALYST
```