

Database Assignment 1

Note : Use Emp, dept and salgrade table

1. To list all records with sal > 2000 and comm>200

Select * from emp Where sal > 2000 and comm >200;

```
SQL> Select * from emp Where sal > 2000 and comm >200;

no rows selected

SQL>
```

If sal > 1000 and comm>200

```
SQL> Select * from emp Where sal > 1000 and comm >200;
```

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

2. To list all record with job='Clerk' or sal>2000

Select * from emp where job='CLERK' or sal>2000;

```
SQL> Select * from emp where job='CLERK' or sal>2000;
```

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
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30
7782	CLARK	MANAGER	7839	09-JUN-81	2450		10
7788	SCOTT	ANALYST	7566	09-DEC-82	3000		20
7839	KING	PRESIDENT		17-NOV-81	5000		10
7876	ADAMS	CLERK	7788	12-JAN-83	1100		20
7900	JAMES	CLERK	7698	03-DEC-81	950		30
7902	FORD	ANALYST	7566	03-DEC-81	3000		20
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

10 rows selected.

```
SQL>
```

3. To list all the record with sal=1250 or 1100 or 2850

Select * from emp where sal in (1250,1100,2850);

```
SQL> Select * from emp where sal in (1250,1100,2850);
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	30
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30
7876	ADAMS	CLERK	7788	12-JAN-83	1100		20

```
SQL>
```

4. To list all employees with sal>1250 and <2850

Select * from emp where sal between 1251 and 2849;

```
SQL> Select * from emp where sal between 1251 and 2849;
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30
7782	CLARK	MANAGER	7839	09-JUN-81	2450		10
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	30
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

```
SQL>
```

5. To list all employees with name ends with AS

Select * from emp where ename like '%AS';

```
SQL> Select * from emp where ename like '%AS';
```

```
no rows selected
```

If name ends with only S;

```
SQL> Select * from emp 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	12-JAN-83	1100		20
7900	JAMES	CLERK	7698	03-DEC-81	950		30

```
SQL>
```

6. To list all employees with job starts with C and ends with K

Select * from emp where job like 'C%K';

```
SQL> Select * from emp where job like 'C%K';
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-80	800		20
7876	ADAMS	CLERK	7788	12-JAN-83	1100		20
7900	JAMES	CLERK	7698	03-DEC-81	950		30
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

```
SQL>
```

7. To list all employees with job contains L at third position and

M at third last position

Select * from emp where job like '__L%M__';

```
SQL> Select * from emp where job like '__L%M__';
```

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

```
SQL>
```

8. To list all the record with sal not equal to 1250 or 1100 or 2850

Select * from emp where sal not in (1250,1100,2850);

```
SQL> Select * from emp where sal not in (1250,1100,2850);
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-80	800		20
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30
7566	JONES	MANAGER	7839	02-APR-81	2975		20
7782	CLARK	MANAGER	7839	09-JUN-81	2450		10
7788	SCOTT	ANALYST	7566	09-DEC-82	3000		20
7839	KING	PRESIDENT		17-NOV-81	5000		10
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	30
7900	JAMES	CLERK	7698	03-DEC-81	950		30
7902	FORD	ANALYST	7566	03-DEC-81	3000		20
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

10 rows selected.

```
SQL>
```

9. To list all employees with sal not >1250 and <2850

Select * from emp where sal not between 1251 and 2849;

```
SQL> Select * from emp where sal not between 1251 and 2849;
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-80	800		20
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30
7566	JONES	MANAGER	7839	02-APR-81	2975		20
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	30
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30
7788	SCOTT	ANALYST	7566	09-DEC-82	3000		20
7839	KING	PRESIDENT		17-NOV-81	5000		10
7876	ADAMS	CLERK	7788	12-JAN-83	1100		20
7900	JAMES	CLERK	7698	03-DEC-81	950		30
7902	FORD	ANALYST	7566	03-DEC-81	3000		20

10 rows selected.

```
SQL>
```

10. To list all employees with job starts with C , E at 3rd position and ends with K

Select * from emp where job like 'C_E%K';

```
SQL> Select * from emp where job like 'C_E%K';
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-80	800		20
7876	ADAMS	CLERK	7788	12-JAN-83	1100		20
7900	JAMES	CLERK	7698	03-DEC-81	950		30
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

```
SQL>
```

Select * from emp where REGEXP_LIKE(job,'^C.E.*K\$');

```
SQL> Select * from emp where REGEXP_LIKE(job,'^C.E.*K$');
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-80	800		20
7876	ADAMS	CLERK	7788	12-JAN-83	1100		20
7900	JAMES	CLERK	7698	03-DEC-81	950		30
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

```
SQL>
```

11. To list all rows with comm is null

Select * from emp where comm is null;

```
SQL> Select * from emp where comm is null;
```

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
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30
7782	CLARK	MANAGER	7839	09-JUN-81	2450		10
7788	SCOTT	ANALYST	7566	09-DEC-82	3000		20
7839	KING	PRESIDENT		17-NOV-81	5000		10
7876	ADAMS	CLERK	7788	12-JAN-83	1100		20
7900	JAMES	CLERK	7698	03-DEC-81	950		30
7902	FORD	ANALYST	7566	03-DEC-81	3000		20
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

10 rows selected.

```
SQL>
```

12. To list all employees with sal is null and name starts with 'S'

Select * from emp where sal is null and ename like 'S%';

```
SQL> Select * from emp where sal is null and ename like 'S%';
```

no rows selected

```
SQL>
```

If comm is null

```
SQL> Select * from emp where comm is null and ename like 'S%';
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-80	800		20
7788	SCOTT	ANALYST	7566	09-DEC-82	3000		20

```
SQL>
```

13. To list all employees with job contains 5 characters

Select * from emp where REGEXP_LIKE(job,'^.....\$');

```
SQL> Select * from emp where REGEXP_LIKE(job,'^.....$');
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-80	800		20
7876	ADAMS	CLERK	7788	12-JAN-83	1100		20
7900	JAMES	CLERK	7698	03-DEC-81	950		30
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

```
SQL>
```

```
Select * from emp where REGEXP_LIKE(job,'^{5}$');
```

```
SQL> Select * from emp where REGEXP_LIKE(job,'^{5}$');
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-80	800		20
7876	ADAMS	CLERK	7788	12-JAN-83	1100		20
7900	JAMES	CLERK	7698	03-DEC-81	950		30
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

```
SQL>
```

14. To list all employees with name contain 'A' at 1 position and job

Contains 5 characters

```
Select * from emp where REGEXP_LIKE(ename,'^A') and REGEXP_LIKE(job,'^.....$');
```

```
SQL> Select * from emp where REGEXP_LIKE(ename,'^A') and REGEXP_LIKE(job,'^.....$');
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7876	ADAMS	CLERK	7788	12-JAN-83	1100		20

```
SQL>
```

Q2. Solve the following

1. Retrieve the details (Name, Salary and dept no) of the emp who are working in department code 20, 30 and 40.

```
Select ename,sal,deptno from emp where deptno in (20,30,40);
```

```
SQL> Select ename,sal,deptno from emp where deptno in (20,30,40);
```

ENAME	SAL	DEPTNO
SMITH	800	20
ALLEN	1600	30
WARD	1250	30
JONES	2975	20
MARTIN	1250	30
BLAKE	2850	30
SCOTT	3000	20
TURNER	1500	30
ADAMS	1100	20
JAMES	950	30
FORD	3000	20

```
11 rows selected.
```

```
SQL>
```

2. Display the total salary of all employees . Total salary will be calculated as

sal+comm+sal*0.10

```
select sal,nvl(comm,0) comm, sal + nvl(comm,0)+sal*0.1 net_sal from emp;
```

```
SQL> select  sal,comm, sal + nvl(comm,0)+sal*0.1  net_sal from emp;
```

SAL	COMM	NET_SAL
800		880
1600	300	2060
1250	500	1875
2975		3272.5
1250	1400	2775
2850		3135
2450		2695
3000		3300
5000		5500
1500	0	1650
1100		1210
950		1045
3000		3300
1300		1430

```
14 rows selected.
```

```
SQL>
```

3. List the Name and job of the emp who have joined before 1 jan 1986 and whose salary range is between 1200 and 2500. Display the columns with user defined Column headers.

Select * from emp where sal between 1200 and 2500 and hiredate<'1-jan-86';

```
SQL> Select * from emp where sal between 1200 and 2500 and hiredate<'1-jan-86';
```

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
7782	CLARK	MANAGER	7839	09-JUN-81	2450		10
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	30
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

6 rows selected.

```
SQL>
```

4. List the empno, name, and department number of the emp works under manager with id 7698

select empno,ename,deptno from emp where mgr=7698;

```
SQL> select empno,ename,deptno from emp where mgr=7698;
```

EMPNO	ENAME	DEPTNO
7499	ALLEN	30
7521	WARD	30
7654	MARTIN	30
7844	TURNER	30
7900	JAMES	30

```
SQL>
```

5. List the name, job, and salary of the emp who are working in departments 10 and 30.

Select ename,job,sal from emp where deptno in (10,30);


```
SQL> Select ename,job,sal from emp where deptno in (10,30);
```

ENAME	JOB	SAL
ALLEN	SALESMAN	1600
WARD	SALESMAN	1250
MARTIN	SALESMAN	1250
BLAKE	MANAGER	2850
CLARK	MANAGER	2450
KING	PRESIDENT	5000
TURNER	SALESMAN	1500
JAMES	CLERK	950
MILLER	CLERK	1300

```
9 rows selected.
```

```
SQL>
```

6. Display name concatenated with dept code separated by comma and space. Name the column as 'Emp info'.

```
Select ename,deptno, ename || ',' || ' ' ||deptno AS empinfo from emp;
```

```
SQL> Select ename,deptno, ename || ',' || ' ' ||deptno AS empinfo from emp;
```

ENAME	DEPTNO	EMPINFO
SMITH	20	SMITH, 20
ALLEN	30	ALLEN, 30
WARD	30	WARD, 30
JONES	20	JONES, 20
MARTIN	30	MARTIN, 30
BLAKE	30	BLAKE, 30
CLARK	10	CLARK, 10
SCOTT	20	SCOTT, 20
KING	10	KING, 10
TURNER	30	TURNER, 30
ADAMS	20	ADAMS, 20
JAMES	30	JAMES, 30
FORD	20	FORD, 20
MILLER	10	MILLER, 10

```
14 rows selected.
```

```
SQL>
```

Select ename,deptno,concat(concat(concat(ename,','),' '),deptno) AS empinfo from emp;

```
SQL> Select ename,deptno,concat(concat(concat(ename,','),' '),deptno) AS empinfo from emp;
```

ENAME	DEPTNO	EMPINFO
SMITH	20	SMITH, 20
ALLEN	30	ALLEN, 30
WARD	30	WARD, 30
JONES	20	JONES, 20
MARTIN	30	MARTIN, 30
BLAKE	30	BLAKE, 30
CLARK	10	CLARK, 10
SCOTT	20	SCOTT, 20
KING	10	KING, 10
TURNER	30	TURNER, 30
ADAMS	20	ADAMS, 20
JAMES	30	JAMES, 30
FORD	20	FORD, 20
MILLER	10	MILLER, 10

14 rows selected.

```
SQL>
```

7. Display the emp details who do not have manager.

Select * from emp where mgr is null;

```
SQL> Select * from emp where mgr is null;
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7839	KING	PRESIDENT		17-NOV-81	5000		10

```
SQL>
```

8. Write a query which will display name, department no and date of joining of all employee who were joined January 1, 1981 and March 31, 1983. Sort it based on date of joining (ascending).

Select ename,deptno,hiredate from emp where hiredate between '01-jan-81' and '31-mar-83' order by hiredate;

```

SQL> Select ename,deptno,hiredate from emp where hiredate between '01-jan-81' and '31-mar-83' order by hiredate;

ENAME          DEPTNO HIREDATE
-----
ALLEN           30 20-FEB-81
WARD            30 22-FEB-81
JONES           20 02-APR-81
BLAKE           30 01-MAY-81
CLARK           10 09-JUN-81
TURNER          30 08-SEP-81
MARTIN          30 28-SEP-81
KING            10 17-NOV-81
JAMES           30 03-DEC-81
FORD            20 03-DEC-81
MILLER          10 23-JAN-82
SCOTT           20 09-DEC-82
ADAMS           20 12-JAN-83

13 rows selected.

SQL>

```

9. Display the employee details where the job contains word 'AGE' anywhere in the Job

Select * from emp where REGEXP_LIKE(job,'AGE*');

```

SQL> Select * from emp where REGEXP_LIKE(job,'AGE*');

EMPNO ENAME      JOB              MGR HIREDATE          SAL        COMM      DEPTNO
-----
7566 JONES       MANAGER          7839 02-APR-81         2975              20
7698 BLAKE       MANAGER          7839 01-MAY-81         2850              30
7782 CLARK       MANAGER          7839 09-JUN-81         2450              10

SQL>

```

11. List the details of the employee , whose names start with 'A' and end with 'S' or whose names contains N as the second or third character, and ending with either 'N' or 'S'.

select * from emp where REGEXP_LIKE(ename,'^A.*S\$|^..?N.*[NS]\$');

```

SQL> select * from emp where REGEXP_LIKE(ename,'^A.*S$|^..?N.*[NS]$');

EMPNO ENAME      JOB              MGR HIREDATE          SAL        COMM      DEPTNO
-----
7566 JONES       MANAGER          7839 02-APR-81         2975              20
7876 ADAMS       CLERK            7788 12-JAN-83         1100              20

SQL>

```

12. List the names of the emp having '_' character in their name.

Select * from emp where REGEXP_LIKE(ename,'_+');

```
SQL> Select * from emp where REGEXP_LIKE(ename,'_+');  
  
no rows selected  
  
SQL>
```

Group functions

1. Display the Highest, Lowest, Total & Average salary of all employee. Label the columns Maximum, Minimum, Total and Average respectively for each Department. Also round the result to the nearest whole number.

```
SQL> select deptno,max(sal) maximum,min(sal) minimum,sum(sal) total,round(avg(sal),0) average from emp group by deptno;
```

DEPTNO	MAXIMUM	MINIMUM	TOTAL	AVERAGE
30	2850	950	9400	1567
20	3000	800	10875	2175
10	5000	1300	8750	2917

2. Display Department no and number of managers working in that department. Label the column as 'Total Number of Managers' for each department.

```
SQL> select deptno,count(*) total_number_of_manager from emp where job='MANAGER' group by deptno;
```

DEPTNO	TOTAL_NUMBER_OF_MANAGER
30	1
20	1
10	1

```
SQL>
```

3. Get the Department number, and sum of Salary of all non managers where the sum is greater than 20000.

```
SQL> select deptno,sum(sal) from emp where job!='MANAGER' group by deptno having sum(sal)>20000;  
  
no rows selected
```

If sum > 2000

```
SQL> select deptno,sum(sal) from emp where job!='MANAGER' group by deptno having sum(sal)>2000;
```

DEPTNO	SUM(SAL)
30	6550
20	7900
10	6300

```
SQL>
```