Institute of Engineering & Management
Department of Computer Science & Engineering
Data-Base Management System Lab for 3rd year 6th semester 2019
Code: CS 691

Date: 21/02/19

WEEK-2

Problem Statement-1: write query to select all the columns of emp table

SQL :

```
SQL> select * from emp;
```

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
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
7782	CLARK	MANAGER	7839	09-JUN-81	2450		10
7788	SCOTT	ANALYST	7566	19-APR-87	3000		20
7839	KING	PRESIDENT		17-NOV-81	5000		10
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
7902	FORD	ANALYST	7566	03-DEC-81	3000		20
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

```
14 rows selected.
```

Problem Statement-2: write query to select unique Jobs.

SQL :

```
SQL> select distinct job from rana_emp;

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

Problem Statement-3: write query to select only those employees who are salesman

SQL :

```
SQL> select ename from rana_emp where job='SALESMAN';

ENAME
----------
ALLEN
WARD
```

```
MARTIN
TURNER
```

Problem Statement-4: select employee name , grade and salary , in the order of their salary

SQL :

```
SQL> select ename, sal from rana_emp order by sal;

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

14 rows selected.
```

Problem Statement-5: Mgmt. is considering a pay raise, however they want to find out, if they give a flat 200/- increment to all, then what % each person is getting. So in your result display, ename , salary and pctincr

SQL :

```
SQL> select ename,sal,(200*100/sal) pctincr from rana_emp;

ENAME             SAL    PCTINCR
---------- ---------- ----------
SMITH              800         25
ALLEN             1600       12.5
WARD              1250         16
JONES             2975 6.72268908
MARTIN            1250         16
BLAKE             2850 7.01754386
CLARK             2450 8.16326531
SCOTT             3000 6.66666667
KING              5000          4
TURNER            1500 13.3333333
ADAMS             1100 18.1818182
JAMES              950 21.0526316
FORD              3000 6.66666667
MILLER            1300 15.3846154

14 rows selected.
```

Problem Statement-6: Express work experience of each of the employees by using sysdate and hiredate in terms of no of years. Hints : you would need to use cast

SQL :

```
SQL> select trunc(months_between(sysdate, hiredate)/12, 0) Experience
  2  from rana_emp;

EXPERIENCE
----------
        38
        38
```

```
        37
        37
        37
        37
        37
        31
        37
        37
        31
        37
        37
        37

14 rows selected.
```

Problem Statement-7: Select only those employees who are a clerk and a manager. Use all of 'or' condition , 'IN' and 'NOT IN' clause Comment on the case sensitivity of the string literal within single quote

SQL :

```
SQL> select ename from rana_emp where job='CLERK' or job='MANAGER';

ENAME
----------
SMITH
JONES
BLAKE
CLARK
ADAMS
JAMES
MILLER

7 rows selected.

SQL> select ename from rana_emp where job in ('CLERK','MANAGER');

ENAME
----------
SMITH
JONES
BLAKE
CLARK
ADAMS
JAMES
MILLER

7 rows selected.

SQL> select ename from rana_emp where job not in ('SALESMAN', 'ANALYST',
'PRESID
ENT');

ENAME
----------
SMITH
JONES
BLAKE
CLARK
ADAMS
JAMES
MILLER

7 rows selected.
```

Problem Statement-8: Use emp table and use different columns and string concatenation to display a message like below for each of the employees Output Example: JAMES is a CLERK and is working in the company for last 32 Years

SQL :

```
SQL> select ename || ' is a ' || job || ' and is working in the company for
last ' || round(months_between(sysdate, hiredate)/12, 0 ) || ' years.'
details  from rana_emp;

DETAILS
--------------------------------------------------------------------------------
SMITH is a CLERK and is working in the company for last 38 years.
ALLEN is a SALESMAN and is working in the company for last 38 years.
WARD is a SALESMAN and is working in the company for last 38 years.
JONES is a MANAGER and is working in the company for last 38 years.
MARTIN is a SALESMAN and is working in the company for last 37 years.
BLAKE is a MANAGER and is working in the company for last 38 years.
CLARK is a MANAGER and is working in the company for last 38 years.
SCOTT is a ANALYST and is working in the company for last 32 years.
KING is a PRESIDENT and is working in the company for last 37 years.
TURNER is a SALESMAN and is working in the company for last 37 years.
ADAMS is a CLERK and is working in the company for last 32 years.
JAMES is a CLERK and is working in the company for last 37 years.
FORD is a ANALYST and is working in the company for last 37 years.
MILLER is a CLERK and is working in the company for last 37 years.

14 rows selected.
```

Problem Statement-9: Use emp table to display only those employees who have joined in the year 80 and 81. Comment on if between clauses is inclusive or exclusive

SQL :

```
SQL> select ename from rana_emp where hiredate between '31-DEC-1979' and
'01-JAN-1982';

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

11 rows selected.
```

Problem Statement-10: Use like statement to display name of the employees which start with ‘A’ Write your remarks on use of wildcards with like statement

SQL :

```
SQL> select ename from rana_emp where ename like 'A%';

ENAME
----------
ALLEN
ADAMS
```

Problem Statement-11: Select those employees , who has joined on or before 31st December 1982 and is either a clerk or having a salary greater than 2500

SQL :

```
SQL> select ename from rana_emp where hiredate<='31-DEC-1982'and job='CLERK'
or
sal>2500;

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

8 rows selected.
```

Problem Statement-12: List down no of employees, minimum salary , maximum salary for each department

SQL :

```
SQL> select deptno, count(*), min(sal), max(sal) from rana_emp group by
deptno;

    DEPTNO   COUNT(*)   MIN(SAL)   MAX(SAL)
---------- ---------- ---------- ----------
        30          6        950       2850
        20          5        800       3000
        10          3       1300       5000
```

Problem Statement-13: Update Email_id , if department id is a) < 1000 update the EMAIL field by appending @oracle.com b) < 5000 update the EMAIL field by appending @oracle.co.uk c) Else update it as oracle.co.in

SQL :

```
SQL> update emp
  2  set email=
  3  case
  4  when department_id<1000 then concat(email,'@oracle.com')
  5  when department_id<5000 then concat(email,'@oracle.co.uk')
  6  else concat(email,'@oracle.co.in')
  7  end;

107 rows updated.
```

Problem Statement-14: Display a department id wise count of employees getting salary more than 5000

SQL :

```
SQL> select department_id, count(*) from emp where salary>5000 group by
department_id  2  ;

DEPARTMENT_ID   COUNT(*)
------------- ----------
          100          6
           30          1
                       1
           90          3
           20          2
           70          1
          110          2
           50          5
           80         34
```

```
            40          1
            60          2

11 rows selected.
```

Problem Statement-15: Apart from the above condition, select only those departments which has an average salary in excess of 6500

SQL :

```
SQL> select department_id, count(*) from emp group by department_id
  2  having avg(salary)>6500  3  ;

DEPARTMENT_ID   COUNT(*)
------------- ----------
          100          6
                       1
           90          3
           20          2
           70          1
          110          2
           80         34

7 rows selected.
```

Problem Statement-16: You want to add a new row in the employees table with employee id 10000, First Name = 'Scott' , Last Name = 'Tiger' , Email = Stiger, Hire Date , 01/02/2014, Job id PR_Prsdnt (Title 'Company President') Department_id 280 (Department_Name 'Database') Salary 50000

SQL :

```
SQL> insert into emp values (10000, 'Scott', 'Tiger', 'Stiger', '01-feb-
2014', 'PR_Prsdnt', 50000, 10000, 280);

1 row created.
```

Problem Statement-17: After the update is over in the email column, use instr and substr to display email id and domain information separately.

SQL :

```
SQL> select email, substr(email, 1, instr(email, '@')-1) as email_id,
  2  substr(email, instr(email, '@')+1, length(email)) as domain
  3  from rana_emp;

EMAIL                     EMAIL_ID                  DOMAIN
------------------------- ------------------------- ------------
AHUNOLD@oracle.com        AHUNOLD                   oracle.com
BERNST@oracle.com         BERNST                    oracle.com
DAUSTIN@oracle.com        DAUSTIN                   oracle.com
VPATABAL@oracle.com       VPATABAL                  oracle.com
DLORENTZ@oracle.com       DLORENTZ                  oracle.com
NGREENBE@oracle.com       NGREENBE                  oracle.com
HBAER@oracle.com          HBAER                     oracle.com
SHIGGINS@oracle.com       SHIGGINS                  oracle.com

8 rows selected.
```

Problem Statement-18: Display day , month and year of the hire date of the employees

SQL :

```
SQL> select employee_id, extract(day from hire_date) as day,
  2  extract(month from hire_date) as month,
  3  extract(year from hire_date) as year from rana_emp;

EMPLOYEE_ID        DAY      MONTH       YEAR
```

```
---------- ---------- ---------- ----------
       103          3          1       1990
       104         21          5       1991
       105         25          6       1997
       106          5          2       1998
       107          7          2       1999
       108         17          8       1994
       204          7          6       1994
       205          7          6       1994

8 rows selected.
```

Problem Statement-19: Display the last name of the employees in a manner, so that they are right aligned. However please make sure the last name is displayed in a manner , so that they are sorted in descending order by the no. of character in each name

SQL :

```
SQL> select employee_id,
  2  lpad(last_name, 20, ' ') as Lname from rana_emp
  3  order by length(last_name) desc;

EMPLOYEE_ID LNAME
----------- --------------------
       106            Pataballa
       108            Greenberg
       205              Higgins
       107              Lorentz
       105               Austin
       103               Hunold
       104                Ernst
       204                 Baer

8 rows selected.
```