Assignment No. -> 4

Data Manipulation (DML) – 2

CODE ->

1. Display empno, ename, sal in ascending order of salary from emp table.

```
SQL> select empno, ename, sal from emp order by sal;

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

2. List ename, sal, job and deptno in descending order of deptno and salary.

```
SQL> select ename, sal, job, deptno from emp order by deptno desc,sal desc;

ENAME             SAL JOB           DEPTNO
---------- ---------- --------- ----------
BLAKE            2850 MANAGER           30
ALLEN            1600 SALESMAN          30
TURNER           1500 SALESMAN          30
WARD             1250 SALESMAN          30
MARTIN           1250 SALESMAN          30
JAMES             950 CLERK             30
FORD             3000 ANALYST           20
SCOTT            3000 ANALYST           20
JONES            2975 MANAGER           20
ADAMS            1100 CLERK             20
SMITH             800 CLERK             20
KING             5000 PRESIDENT         10
CLARK            2450 MANAGER           10
MILLER           1300 CLERK             10
```

2. List ename, sal, PF, HRA, DA and GROSS in ascending order of Gross. [Here PF is 12% of sal, HRA is 15% of sal, DA is 90% of sal and GROSS is sum of sal, PF, HRA, DA]

```
SQL> select ename, sal, sal*0.12 PF, sal*0.15 HRA, sal*0.9 DA,
  2  sal+sal*0.12+sal*0.15+sal*0.9 Gross from Emp order by gross;

ENAME             SAL         PF        HRA         DA      GROSS
---------- ---------- ---------- ---------- ---------- ----------
SMITH             800         96        120        720       1736
JAMES             950        114      142.5        855     2061.5
ADAMS            1100        132        165        990       2387
WARD             1250        150      187.5       1125     2712.5
MARTIN           1250        150      187.5       1125     2712.5
MILLER           1300        156        195       1170       2821
TURNER           1500        180        225       1350       3255
ALLEN            1600        192        240       1440       3472
CLARK            2450        294      367.5       2205     5316.5
BLAKE            2850        342      427.5       2565     6184.5
JONES            2975        357     446.25     2677.5    6455.75
SCOTT            3000        360        450       2700       6510
FORD             3000        360        450       2700       6510
KING             5000        600        750       4500      10850
```

4. List the maximum salary of employee working as a salesman.

```
SQL> select max(sal) from emp group by job having job like 'SALESMAN';

  MAX(SAL)
----------
      1600
```

5. List the average salary and no of employees working in dept 20.

```
SQL> select avg(sal),count(empno) from emp group by deptno having deptno = 20;

  AVG(SAL) COUNT(EMPNO)
---------- ------------
      2175            5
```

6. Display deptno, no. of employees in each department.

```
SQL> select deptno,count(empno) from emp group by deptno;

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

7. List deptno, total salary payable in each department.

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

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

8. List jobs and the no of employees in each job in descending order of no. of employees.

```
SQL> select job,count(empno) No_of_Emp from emp group by job order by No_of_Emp desc;

JOB        NO_OF_EMP
--------- ----------
CLERK              4
SALESMAN           4
MANAGER            3
ANALYST            2
PRESIDENT          1
```

9. List total, maximum, minimum and average salary of employee's job wise.

```
SQL> select job,sum(sal) Total,max(sal) MAX,min(sal) MIN,avg(sal) AVG from emp group by job;

JOB            TOTAL        MAX        MIN        AVG
--------- ---------- ---------- ---------- ----------
CLERK           4150       1300        800     1037.5
SALESMAN        5600       1600       1250       1400
MANAGER         8275       2975       2450 2758.33333
ANALYST         6000       3000       3000       3000
PRESIDENT       5000       5000       5000       5000
```

10. List the average salary for each job excluding manager.

```
SQL> select job,avg(sal) AVG from emp group by job having job not like 'MANAGER';

JOB              AVG
--------- ----------
CLERK         1037.5
SALESMAN        1400
ANALYST         3000
PRESIDENT       5000
```

11. List total, maximum, minimum and average salary of employee's job-wise for dept no. 20 only.

```
SQL> select job, sum(sal) Total, max(sal) MAX, min(sal) MIN, avg(sal) AVG from emp where deptno = 20 group by job;

JOB           TOTAL        MAX        MIN        AVG
--------- ---------- ---------- ---------- ----------
CLERK          1900       1100        800        950
MANAGER        2975       2975       2975       2975
ANALYST        6000       3000       3000       3000
```

12. List average monthly salary for each job within department.

```
SQL> select deptno,job,avg(sal) from emp group by deptno,job;

    DEPTNO JOB         AVG(SAL)
---------- --------- ----------
        20 CLERK            950
        30 SALESMAN        1400
        20 MANAGER         2975
        30 MANAGER         2850
        10 MANAGER         2450
        20 ANALYST         3000
        10 PRESIDENT       5000
        30 CLERK            950
        10 CLERK           1300
```

13. List average salary for all departments where more than 5 people are working.

```
SQL> select deptno,count(empno),avg(sal) from emp group by deptno having count(empno) >= 5;

    DEPTNO COUNT(EMPNO)   AVG(SAL)
---------- ------------ ----------
        20            5       2175
        30            6 1566.66667
```

14. List jobs of all employees where maximum salary is greater than or equal to 5000.

```
SQL> select job,max(sal) from emp group by job having max(sal) >= 5000;

JOB          MAX(SAL)
--------- ----------
PRESIDENT        5000
```

15. Display total, maximum, minimum and average salaries of employee's job-wise for department 20 and list only those rows having average salary greater than 1000.

```
SQL> select job,sum(sal),max(sal),min(sal),avg(sal) from emp where deptno = 20 group by job having avg(sal)>=1000;

JOB         SUM(SAL)   MAX(SAL)   MIN(SAL)   AVG(SAL)
--------- ---------- ---------- ---------- ----------
MANAGER         2975       2975       2975       2975
ANALYST         6000       3000       3000       3000
```

16. Display total, maximum, minimum and average salaries of employee's job-wise for department 20 and list only those rows having average salary greater than 1000 and arrange the above output in descending order of total salary.

```
SQL> select job,sum(sal),max(sal),min(sal),avg(sal) from emp where deptno = 20 group by job having avg(sal)>=1000
  2  order by sum(sal) desc;

JOB         SUM(SAL)   MAX(SAL)   MIN(SAL)   AVG(SAL)
--------- ---------- ---------- ---------- ----------
ANALYST         6000       3000       3000       3000
MANAGER         2975       2975       2975       2975
```

17. Calculates the average of the maximum salaries of all the departments from emp table.

```
SQL> select max(avg(sal)) from emp group by deptno;

MAX(AVG(SAL))
-------------
   2916.66667
```

18. Display the standard deviation (sd) of salary for each job type having sd >0 from emp table.

```
SQL> select job,stddev(sal) from emp group by job having stddev(sal)>0;

JOB       STDDEV(SAL)
--------- -----------
CLERK      213.600094
SALESMAN   177.951304
MANAGER    274.241378
```

19. Count no. of employees whose commission is greater than 300.

```
SQL> select count(empno) from emp where comm >=300;

COUNT(EMPNO)
------------
           3
```

20. Display sum of commission for each department after substituting 100 in commission if it is NULL and order the result in descending order of department.

```
SQL> select deptno,sum(NVL(comm,100)) from emp group by deptno order by deptno desc;

    DEPTNO SUM(NVL(COMM,100))
---------- ------------------
        30               2400
        20                500
        10                300
```

21. Display no. of manager present in employee table.

```
SQL> select count(empno) from emp group by job having job like 'MANAGER';

COUNT(EMPNO)
------------
           3
```

22. List of employee names and commissions, substituting "Not Applicable" if the employee receives no commission for those whose name has contained a “M” and order this result as descending order of name.

```
SQL> select ename,sal,nvl(to_char(comm),'Not_Applicable') from emp where ename like
  2  '%M%' order by ename desc;

ENAME             SAL NVL(TO_CHAR(COMM),'NOT_APPLICABLE')
---------- ---------- ---------------------------------------
SMITH             800 Not_Applicable
MILLER           1300 Not_Applicable
MARTIN           1250 1400
JAMES             950 Not_Applicable
ADAMS            1100 Not_Applicable
```

23. List names, salary and commission of employees whose name has contained a “M” when the income of some employees is made up of salary plus commission, or just salary, depending on whether the comm column of employees is null or not and order the result as ascending order of name.

```
SQL> select ename,sal,comm,nvl2(comm,sal+comm,sal) Total from emp where ename like
  2  '%M%' order by ename;

ENAME             SAL       COMM      TOTAL
---------- ---------- ---------- ----------
ADAMS            1100                 1100
JAMES             950                  950
MARTIN           1250       1400      2650
MILLER           1300                 1300
SMITH             800                  800
```

24. Display the name of the employee where first character of each name is capital one.

```
SQL> select initcap(ename) from emp;

INITCAP(EN
----------
Smith
Allen
Ward
Jones
Martin
Blake
Clark
Scott
King
Turner
Adams
James
Ford
Miller
```

25. Select the substring of 3 characters long starting form 2nd character of job type from emp table when job is ‘SALESMAN’.

```
SQL> select substr(job,2,3) from emp group by job having job like 'SALESMAN';

SUBSTR(JOB,2
------------
ALE
```