Task 3:- Developing Quries with DML Single-Row function and Operators

Aim:
To perform the query processing on database for different results of queries using DML, DRL single-row operations using aggregate, data, string, indent functions, set clauses and operator

Procedure:
create table for employee schema and insert around 10 retail-store-retail-store-employees data in this relation perform multi rows

Note:- These queries assume a sample database with an "retail_store_employees" table containing colomns like "retail_employee_id", store-id, retail_employee-name", "salary/any" and "department", "store-phone number", "employee-phonenumber"

Aggregative Operators:
In addition to simply retrieving data, we often want to perform some computation & summarization. we now consider a powerful class of constructs for computing aggregate values such as min and sum.

1. Count:
Count following by a coloumn name return the count of tuple in that column otherwise, it will return count of all the tuple (including duplicates) count (*) indicates all the tuple of the coloumn.

Syntax:- Count (column name)

Example:- SELECT COUNT(*) FROM retail_store_employees;

2. Sum: Sum followed by a column name retu the sum of all the values in that column.
Syntax: SUM (column name)
Example: SELECT SUM(salary) FROM retail_store_employ

3. AVG: AVG followed by a coloumn name return the average value of that colsumn values.
Syntax: AVG (n1, n2 ...)
Example: SELECT AVG(salary) FROM retail_store-employee

4. MAX: MAX followed by a coloumn name return the maximum value of that column.
Syntax: MAX (column name).
Example: SELECT MAX (Salary) from retail_store_emp

SQL> select retail-store-employee-name, from retail_store-employee group by retailstore- name;

SQL> select retailstore_employee-name, max (salary) from retail_store-employees group by having max (salary)<3000;

5. MIN: MIN followed by column name return the minimum value of that column.
Syntax: MIN (column name).
Example: SELECT MIN (Salary) from emp;
SQL> select retailstore-employee-name, min(salary) from group by retail-store-name having.

SQL String functions

String functions are used to perform an operation on input string & return an output string following are the string function defined in S.Q.L:

1. Upper():

Query: SELECT UPPER(retail_employee_name) FROM retail_store_employee WHERE retailstore_employee_id = 1;

2 LOWER()

Query: SELECT LOWER (retailstore-employee-name) FROM retail-store-employee WHERE retailstore-employee-id = 1;

3 LENGTH()

Query: SELECT LENGTH (retailstore-employee-name) FROM retail-store-employee WHERE retailstore-employee-id = 1;

4 SUBSTR()

Query: SELECT SUBSTR (retailstore-employee-name,' ', department) FROM retailstore-employee WHERE retailstore-employee-id = 1;

5 CONCAT()

Query: SELECT CONCAT (retailstore-employee-name,' ', department) FROM retail-store-employee WHERE retailstore-employee-id = 1;

SQL Date and Time functions

the Date & time functions are built-in function in the SQL. These functions can be used in SQL queries to perform various date & time operation and formatting dates for display purposes.

for storing a date or a date and time value in a database, mySQL offers the following data types:

DATE	format YYYY-MM-DD
DATETIME	" YYYY-MM-DD

CURDATE()

Query: SELECT CURRENTDATE from dual;

CUR-TIME()

Query: SELECT CURRENT-TIME () from dual;

2 ADD Date (Date, Days)
Sql > Select Add Date('2018-08-01', 31);

ADDTIME (exp1, exp2)
Sql > Select ADD Time('2018-08-01', 23:59:59.999999
')

3 Day of month (date)
Sql > SELECT Day OF YEAR MONTH ('2018-02-18');

Day of year (date)
Sql > Select Day of YEAR ('2018-02-15');

month (date)
Sql > SELECT MONTH ('2018-08-01);

Time (exp1)
Sql > select TIME('2018-08-01 11:33:25');

Sysdate:
SQL > SELECT SYSDATE FROM DUAL; ~~Next-day (SysDate, 'WED') from Dual~~

next-day:
SQL > Select Next-Day (SYSDATE, "wed") FROM D

add-months:
SQL > SELECT ~~ADD~~ A~~Day~~ mothy (SYS DATE 2) from Du

Months-between:
SQL > SELECT Monthy - BTW (SYS DATE) from

Least:
SQL > select least ('10-Jan-07', '12-OCT-07') fro
D

Trunc:
SQL > SELECT Trunc(SYSDATE, 'Day') from Dua

Single-Row Operators:

1. IS NULL

Query: SELECT * FROM retail-store-employees
WHERE salaryyary IS NULL;

2. IS NOT NULL

Query: SELECT * from retail-store-employees
WHERE salaryyary IS NOT NULL;

3. LIKE

Query: SELECT * from retail-store-employees
retailstore-employee-name LIKE '%.John%';

4. NOT LIKE

Query: SELECT * from retail-store-employees
where retailstore-employee-name NOT like '%.John%';

5. BETWEEN:

Query: SELECT * from retail-store-employees
WHERE salaryyary BETWEEN 5000 AND 100000

[illegible] using clauses, Operators & Functions in queries:

Perform the query processing on database for different retrieval results of queries using DML, DRL operations using aggregate, date, String, indent functions, set clauses & operators.

a. Retrieve all the author who wrote in dbms.

b. Retrieve total number of books offered in the category program core.

c. Retrieve all authno & name who publish books after 2000

d. Retrieve readers name end with letter.

e. Retrieve number of readers studied in each department.

Sample Output:

```
ECE    800
CSE    850
EEE    1000
```

f. Retrieve all the female readers

g. Retrieve all the staff who came library yesteraday.

Result: Thus the Developing queries [illegible] DML single-Row Operators.

14/8/25

Task-3 Developing queries with DML single-row function & operators.

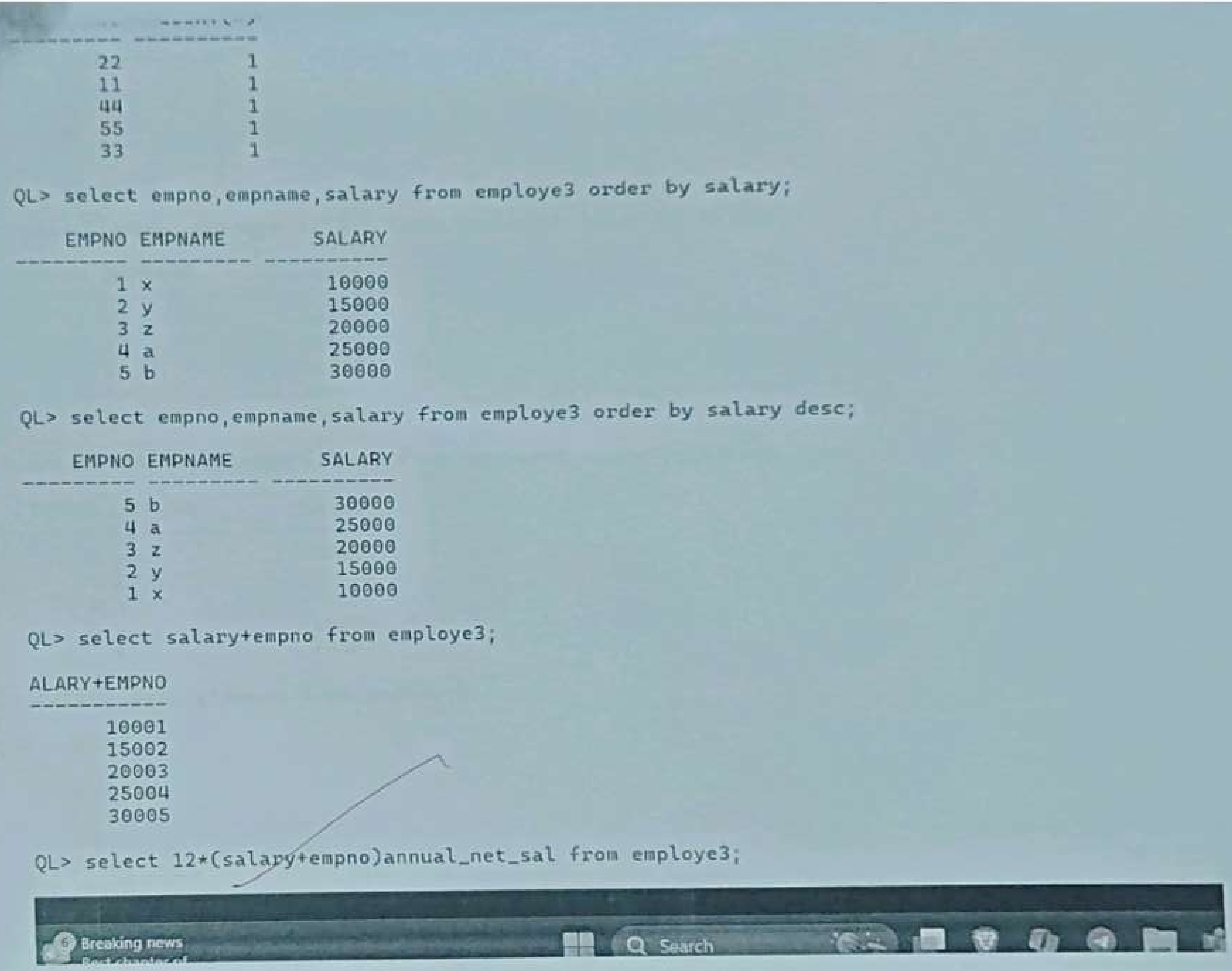
```
SQL> create table employe3(empno number(3), empname varchar(9), department vrachar(6), deptno number(5), salary number(5), age number(5));
create table employe3(empno number(3), empname varchar(9), department vrachar(6), deptno number(5), salary number(5), age number(5))

ERROR at line 1:
ORA-00907: missing right parenthesis


SQL> create table employe3(empno number(3),empname varchar(9),department varchar(6),deptno number(5),salary number(5),age number(5));

Table created.

SQL> desc employe3
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 EMPNO                                              NUMBER(3)
 EMPNAME                                            VARCHAR2(9)
 DEPARTMENT                                         VARCHAR2(6)
 DEPTNO                                             NUMBER(5)
 SALARY                                             NUMBER(5)
 AGE                                                NUMBER(5)

SQL> insert into employe3 values(1,'x','xx',11,10000,24);

1 row created.

SQL> insert into employe3 values(2,'y','yy',22,15000,25);

1 row created.

SQL> insert into employe3 values(3,'z','zz',33,20000,26);

1 row created.

SQL> insert into employe3 values(4,'a','aa',44,25000,27);

1 row created.

SQL> insert into employe3 values(5,'b','bb',55,30000,23);
```

```
1 row created.

SQL> select*from employe3
  2
SQL> select*from employe3;

     EMPNO EMPNAME    DEPART     DEPTNO     SALARY        AGE
---------- --------- ------ ---------- ---------- ----------
         1 x          xx             11      10000         24
         2 y          yy             22      15000         25
         3 z          zz             33      20000         26
         4 a          aa             44      25000         27
         5 b          bb             55      30000         23

SQL> create table order3(emp_no number(2), order_id number(3), price qty_order number(6),qty_hand number
  2  create table order3(emp_no number(2), order_id number(3), price qty_order number(6),qty_hand number(3));
create table order3(emp_no number(2), order_id number(3), price qty_order number(6),qty_hand number
                                                                          *
ERROR at line 1:
ORA-00907: missing right parenthesis


SQL> create table order3(empno number(2), orderid number(3), price qtyorder number(6),qtyhand number(3));
create table order3(empno number(2), orderid number(3), price qtyorder number(6),qtyhand number(3))
                                                                 *
ERROR at line 1:
ORA-00907: missing right parenthesis


SQL> create table order3(empno number(2),orderid number(3),price qtyorder number(6));
create table order3(empno number(2),orderid number(3),price qtyorder number(6))
                                                            *
ERROR at line 1:
ORA-00907: missing right parenthesis


SQL> create table order3 (empno number(2),orderid number(3),priceorder number(6));
```

```
Table created.

SQL> desc order3
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 EMPNO                                              NUMBER(2)
 ORDERID                                            NUMBER(3)
 PRICEORDER                                         NUMBER(6)

SQL> insert into order3 values(1,2,3);

1 row created.

SQL> insert into order3 values(2,3,4);

1 row created.

SQL> insert into order3 values(3,4,5);

1 row created.

SQL> insert into order3 values(4,5,6);

1 row created.

SQL> insert into order3 values(5,6,7);

1 row created.

SQL> select*from order3;

     EMPNO    ORDERID PRICEORDER
---------- ---------- ----------
         1          2          3
         2          3          4
         3          4          5
         4          5          6
         5          6          7

SQL> create table itemfile3(itemid number(1),itemname varchar(5),qtyorder number(6),itemrate number(3));
```

```
Table created.

SQL> desc itemfile3
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 ITEMID                                             NUMBER(1)
 ITEMNAME                                           VARCHAR2(5)
 QTYORDER                                           NUMBER(6)
 ITEMRATE                                           NUMBER(3)

SQL> insert into itemfile3 values(1,'i',2,200);

1 row created.

SQL> insert into itemfile3 values(2,'j',3,400);

1 row created.

SQL> insert into itemfile3 values(3,'k',4,600);

1 row created.

SQL> insert into itemfile3 values(4,'l',5,800);

1 row created.

SQL> insert into itemfile3 values(5,'m',6,1000);
insert into itemfile3 values(5,'m',6,1000)
                                     *
ERROR at line 1:
ORA-01438: value larger than specified precision allowed for this column


SQL> insert into itemfile3 values(5,'m',6,900);

1 row created.
```

```
SQL> select empno from employe3 union select all empno from order3;

     EMPNO
----------
         1
         2
         3
         4
         5

SQL> select empno from employe3 union select all empno from order3;

     EMPNO
----------
         1
         2
         3
         4
         5

SQL> select empno from employe3 intersect select empno from order3;

     EMPNO
----------
         1
         2
         3
         4
         5

SQL> select empno from employe3 minus select empno from order3;

no rows selected

SQL> select deptno,count(*)from employe3 group by deptno;
```



```
  22          1
  11          1
  44          1
  55          1
  33          1

QL> select empno,empname,salary from employe3 order by salary;

     EMPNO EMPNAME        SALARY
---------- ---------- ----------
         1 x               10000
         2 y               15000
         3 z               20000
         4 a               25000
         5 b               30000

QL> select empno,empname,salary from employe3 order by salary desc;

     EMPNO EMPNAME        SALARY
---------- ---------- ----------
         5 b               30000
         4 a               25000
         3 z               20000
         2 y               15000
         1 x               10000

QL> select salary+empno from employe3;

ALARY+EMPNO
-----------
      10001
      15002
      20003
      25004
      30005

QL> select 12*(salary+empno)annual_net_sal from employe3;
```

```
ANNUAL_NET_SAL
--------------
        120012
        180024
        240036
        300048
        360060

SQL> select*from employe3
  2  select*from employe3;
select*from employe3
*
ERROR at line 2:
ORA-00933: SQL command not properly ended


SQL> select*from employe3;

     EMPNO EMPNAME   DEPART     DEPTNO     SALARY        AGE
---------- --------- ------ ---------- ---------- ----------
         1 x         xx             11      10000         24
         2 y         yy             22      15000         25
         3 z         zz             33      20000         26
         4 a         aa             44      25000         27
         5 b         bb             55      30000         23

SQL> insert into employe3 select*from employe3 where empno in(select from employe3);
insert into employe3 select*from employe3 where empno in(select from employe3)
                                                                *
ERROR at line 1:
ORA-00936: missing expression


SQL> insert into employe3 select*from employe3 where empno in(select empno from employe3);

5 rows created.
```

```
SQL> select*from employe3;

     EMPNO EMPNAME    DEPART     DEPTNO     SALARY        AGE
---------- ---------- ------ ---------- ---------- ----------
         1 x          xx             11      10000         24
         2 y          yy             22      15000         25
         3 z          zz             33      20000         26
         4 a          aa             44      25000         27
         5 b          bb             55      30000         23
         1 x          xx             11      10000         24
         2 y          yy             22      15000         25
         3 z          zz             33      20000         26
         4 a          aa             44      25000         27
         5 b          bb             55      30000         23

10 rows selected.

SQL> update employe3 set salary=salary*5 where deptno in(select deptno from employe3 where deptno=11);

2 rows updated.

SQL> select*from employe3;

     EMPNO EMPNAME    DEPART     DEPTNO     SALARY        AGE
---------- ---------- ------ ---------- ---------- ----------
         1 x          xx             11      50000         24
         2 y          yy             22      15000         25
         3 z          zz             33      20000         26
         4 a          aa             44      25000         27
         5 b          bb             55      30000         23
         1 x          xx             11      50000         24
         2 y          yy             22      15000         25
         3 z          zz             33      20000         26
         4 a          aa             44      25000         27
         5 b          bb             55      30000         23

10 rows selected.
```

```
SQL>  delete employe3 where deptno in(select deptno from employe3 where deptno=44);

2 rows deleted.

SQL> select*from employe3;

     EMPNO EMPNAME   DEPART     DEPTNO     SALARY        AGE
---------- --------- ------ ---------- ---------- ----------
         1 x         xx             11      50000         24
         2 y         yy             22      15000         25
         3 z         zz             33      20000         26
         5 b         bb             55      30000         23
         1 x         xx             11      50000         24
         2 y         yy             22      15000         25
         3 z         zz             33      20000         26
         5 b         bb             55      30000         23

8 rows selected.

SQL> select*from employe3 where deptno in(11,33);

     EMPNO EMPNAME   DEPART     DEPTNO     SALARY        AGE
---------- --------- ------ ---------- ---------- ----------
         1 x         xx             11      50000         24
         3 z         zz             33      20000         26
         1 x         xx             11      50000         24
         3 z         zz             33      20000         26

SQL> select*from employe3 where deptno not in(22,55);

     EMPNO EMPNAME   DEPART     DEPTNO     SALARY        AGE
---------- --------- ------ ---------- ---------- ----------
         1 x         xx             11      50000         24
         3 z         zz             33      20000         26
         1 x         xx             11      50000         24
         3 z         zz             33      20000         26

SQL> slect*from employee where exist(select)
SQL> select* from employe3 where exists(select* from order3 where order3.empno=(1));

     EMPNO EMPNAME   DEPART      DEPTNO     SALARY        AGE
---------- --------- ------ ---------- ---------- ----------
         1 x         xx             11      50000         24
         2 y         yy             22      15000         25
         3 z         zz             33      20000         26
         5 b         bb             55      30000         23
         1 x         xx             11      50000         24
         2 y         yy             22      15000         25
         3 z         zz             33      20000         26
         5 b         bb             55      30000         23

8 rows selected.

SQL> select* from employe3 where not exists(select* from order3 where order3.empno=(1));

no rows selected

SQL> select* from employe3 where salary>all(select salary from employe3 where deptno=11);

no rows selected

SQL> select* from employe3 where salary>all(select salary from employe3 where deptno=22);

     EMPNO EMPNAME   DEPART      DEPTNO     SALARY        AGE
---------- --------- ------ ---------- ---------- ----------
         3 z         zz             33      20000         26
         3 z         zz             33      20000         26
         5 b         bb             55      30000         23
         5 b         bb             55      30000         23
         1 x         xx             11      50000         24
         1 x         xx             11      50000         24

6 rows selected.
```

EX NO	8
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	4
VIVA VOCE (5)	4
RECORD (5)	4
TOTAL (20)	[illegible]

Result: Thus, Developing Queries with single-Row function operators has done successfully.