SQL_Assignment-2

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Question 1: From the EMP table show the minimum, maximum and average basic for each department (show dept. Code).

Solution:

SQL> SELECT DEPT_CODE, MIN(BASIC), MAX(BASIC), AVG(BASIC) FROM EMPLOYEE GROUP BY DEPT_CODE;

```
DEPT_CODE       MIN(BASIC) MAX(BASIC) AVG(BASIC)
--------------- ---------- ---------- ----------
PR                 45000      60000      52500
RE                 30000      30000      30000
FI                 25000      50000      37500
PER                55000      55000      55000
PUR                40000      60000      50000
```

- **Question 2: Find the number of female employees in each department (show dept. Code).**

Solution:
SQL> SELECT DEPT_CODE , COUNT(*) FROM EMPLOYEE WHERE SEX = 'F'
GROUP BY DEPT_CODE;

```
DEPT_CODE       COUNT(*)
--------------- ----------
PR                    1
RE                    1
FI                    1
PER                   1
```

- **Question 3: Find the city wise no. of employees for each department (show dept. Code).**

Solution:

SQL> SELECT DEPT_CODE, CITY, COUNT(*) FROM EMPLOYEE GROUP BY DEPT_CODE, CITY;

```
DEPT_CODE       CITY                COUNT(*)
--------------- ------------------- ----------
FI              KOLKATA                1
PR              MUMBAI                 1
PER             BANGALORE              1
```

PUR   PUNE   1
FI   PUNE   1
RE   KOLKATA   1
PR   AHMEDABAD   1
PUR   MUMBAI   1
8 rows selected.

- **Question 4: Show the designation wise no of employees who have joined in the year 2020 in each department. The listing should appear in the ascending order of no. of employees.**

Solution:

SQL> SELECT DESIG_CODE , COUNT(*) FROM EMPLOYEE WHERE SUBSTR(JN_DT,8,2) = '20' GROUP BY DESIG_CODE ORDER BY COUNT(*);

DESIG_CODE   COUNT(*)
---------------- ----------
OFF   1
MN   2

- **Question 5: Find the department code wise total basic of male employees only for the departments for which such total is more than 50,000 and the listing should appear in the descending order of total basic.**

Solution:

SQL> SELECT DEPT_CODE , SUM(BASIC) AS TOTAL_BASIC
2 FROM EMPLOYEE
3 WHERE SEX = 'M'
4 GROUP BY DEPT_CODE HAVING SUM(BASIC) > 50000
5 ORDER BY SUM(BASIC) DESC;

DEPT_CODE   TOTAL_BASIC
---------------- -----------
PUR   100000
PR   60000

- **Question 6: Show the employee _name, Designation description and basic for all employees.**

Solution:

```
SQL> SELECT e.EMP_NAME, d.DESIG_DESC , e.BASIC FROM EMPLOYEE
e, DESIGNATION d
  2  WHERE e.DESIG_CODE = d.DESIG_CODE;
```

```
EMP_NAME             DESIG_DESC           BASIC
-------------------- ------------------- ----------
Injamamul hoque      Executive            45000
Suvojit mondal       Officer             50000
Sarmila saha         Manager              60000
Sohini halder        Helper               30000
Memo karpa           Clerk               25000
Subhradeep ghosh     Executive            40000
Aranya das           Manager              60000
Surojit sasmal          Officer              55000
```

8 rows selected.

Question 7: Show the employee name, Designation description, Department Name & Basic for all employees.

Solution:

```
SQL> SELECT e.EMP_NAME, d.DESIG_DESC, dp.DEPT_NAME, e.BASIC
2  FROM EMPLOYEE e, DESIGNATION d, DEPARTMENT dp
3  WHERE e.DESIG_CODE = d.DESIG_CODE AND
4  e.DEPT_CODE = dp.DEPT_CODE;
```

```
EMP_NAME             DESIG_DESC           DEPT_NAME            BASIC
-------------------- ------------------- ------------------- ----------
Injamamul hoque      Executive            Production           45000
Suvojit mondal       Officer             Finance              50000
Sarmila saha         Manager              Purchase             60000
Sohini halder           Helper              Research             30000
Memo karpa           Clerk               Finance              25000
Subhradeep ghosh     Executive            Purchase             40000
Aranya das           Manager              Production           60000
Surojit sasmal          Officer             Personnel            55000
```

8 rows selected.

Question 8: Find the department Codes in which no employee works.

Solution:
[The Employee table doesn't contain any entry to give output for this query. So, I have inserted a data entry.]

SQL> INSERT INTO DEPARTMENT VALUES('MR','MARKETTING'); 1
row created.

SQL> SELECT DEPT_CODE FROM DEPARTMENT WHERE DEPT_CODE
NOT IN
  2 (SELECT DEPT_CODE FROM EMPLOYEE);

DEPT_CODE

MR

 Question 9: Find the department names where at least one employee works.

Solution:

SQL> SELECT DEPT_NAME FROM DEPARTMENT
2 WHERE DEPT_CODE IN
3 (SELECT DEPT_CODE FROM EMPLOYEE);

DEPT_NAME

Finance
Personnel
Production
Purchase
Research

 Question 10: Find the department names where at least 10 employee's works.

Solution:

[I have not enough entries with respect to one department to run this query. So, I have added few more entries to run this query.]

SQL> INSERT INTO EMPLOYEE(EMP_CODE, EMP_NAME, DEPT_CODE,
2 DESIG_CODE, SEX, ADDRESS, CITY, STATE, PIN, BASIC, JN_DT)
VALUES
3 ('E120', 'Sritama halder', 'PR', 'OFF', 'F', 'New P.O. Road', 'Pune',
'Maharashtra', '421345',70000,DATE '2020-04-03');

1 row created.

SQL> INSERT INTO EMPLOYEE(EMP_CODE, EMP_NAME, DEPT_CODE,

2 DESIG_CODE, SEX, ADDRESS, CITY, STATE, PIN, BASIC, JN_DT)
VALUES
3 ('E121', 'Priyanka Roy', 'MN','F', 'Pali Hill', 'Mumbai',
'Maharashtra', '400025', 65000, DATE '2019-09-02');

1 row created.

SQL> INSERT INTO EMPLOYEE(EMP_CODE, EMP_NAME, DEPT_CODE,
2 DESIG_CODE, SEX, ADDRESS, CITY, STATE, PIN, BASIC, JN_DT)
VALUES
3 ('E122', 'Sumit Das', 'PR', 'OFF', 'M', 'Ashutosh Mukherjee ROad',
  'Kolkata', 'West Bengal', '700020',65000, DATE '2019-02-09');

1 row created.

SQL> INSERT INTO EMPLOYEE(EMP_CODE, EMP_NAME, DEPT_CODE,
2 DESIG_CODE, SEX, ADDRESS, CITY, STATE, PIN, BASIC, JN_DT)
  VALUES
3 ('E123', 'Arabinda Das', 'PR', 'EXE', 'M', '20B Narkeldanga', 'Kolkata',
'West Bengal', '711097', 45000, DATE '2020-07-03');

1 row created.

SQL> INSERT INTO EMPLOYEE(EMP_CODE, EMP_NAME, DEPT_CODE,
2 DESIG_CODE, SEX, ADDRESS, CITY, STATE, PIN, BASIC, JN_DT)
  VALUES
3 ('E124', 'Sneha Malakar', 'PR', 'CL', 'F', '5 Canning Street', 'Jalpaiguri',
  'West

Bengal', '723098', 35000, DATE '2021-08-03');

1 row created.

SQL> INSERT INTO EMPLOYEE(EMP_CODE, EMP_NAME, DEPT_CODE,
2 DESIG_CODE, SEX, ADDRESS, CITY, STATE, PIN, BASIC, JN_DT)
  VALUES
3 ('E125', 'Imanur Rahaman', 'PR', 'OFF', 'M', '128 Danesh Shekh Lane',
'Howrah', 'West Bengal', '711204', 70000, DATE '2019-10-09');

1 row created.

SQL> INSERT INTO EMPLOYEE(EMP_CODE, EMP_NAME, DEPT_CODE,
2 DESIG_CODE, SEX, ADDRESS, CITY, STATE, PIN, BASIC, JN_DT)
  VALUES
3 ('E126', 'Riya Parvin', 'PR', 'MN', 'M', 'Pune Lavasa Campus', 'Pune',
'Maharashtra', '400087', 65000, DATE '2020-09-03');

1 row created.

SQL> INSERT INTO EMPLOYEE(EMP_CODE, EMP_NAME, DEPT_CODE,
2 DESIG_CODE, SEX, ADDRESS, CITY, STATE, PIN, BASIC, JN_DT)
VALUES
3 ('E127', 'Reshmi Parvin', 'PR', 'Cl', 'F', 'Lajpat Nagar', 'Delhi', 'Delhi',
'100087', 25000, DATE '2021-07-03');

1 row created.

SQL> INSERT INTO EMPLOYEE(EMP_CODE, EMP_NAME, DEPT_CODE,
2 DESIG_CODE, SEX, ADDRESS, CITY, STATE, PIN, BASIC, JN_DT)
VALUES
3 ('E128', 'Jiya Khatun', 'PR', 'EXE', 'F', 'IT Building,Yojana Bhawan',
'Jaipur', 'Rajasthan', '302005',50000, DATE '2019-08-06');

1 row created.

SQL> SELECT d.DEPT_NAME FROM DEPARTMENT d
2 WHERE (SELECT COUNT(*) FROM EMPLOYEE e WHERE e.DEPT_CODE
= d.DEPT_CODE) > 9;

DEPT_NAME
------------------- Production

☐ **Question 11: Find the department code in which employee with highest Basic works.**

Solution:

SELECT DEPT_CODE, BASIC AS MAX_BASIC FROM EMPLOYEE
 2 WHERE BASIC = (SELECT MAX(BASIC) FROM EMPLOYEE);

DEPT_CODE   MAX_BASIC
---------------- ---------- PR
70000
PR   70000

☐ **Question 12: Find the Designation description of the employee with highest basic.**

Solution:

SQL> SELECT d.DESIG_DESC , e.BASIC AS MAX_BASIC
2 FROM EMPLOYEE e, DESIGNATION d
3 WHERE e.DESIG_CODE = d.DESIG_CODE
4 AND e.BASIC = (SELECT MAX(BASIC) FROM EMPLOYEE);

```
DESIG_DESC          MAX_BASIC
-------------------- ---------- Officer
70000
Officer              70000
```

 Question 13: Find the no. of managers in each department.

Solution: SQL> SELECT d.DEPT_NAME, COUNT(*) AS NO_OF_MANAGER
2 FROM EMPLOYEE e, DEPARTMENT d WHERE
3 e.DEPT_CODE = d.DEPT_CODE
4 AND e.DESIG_CODE = (SELECT DESIG_CODE FROM DESIGNATION
WHERE DESIG_DESC = 'Manager')
5 GROUP BY d.DEPT_NAME;

```
DEPT_NAME           NO_OF_MANAGER
------------------- -------------
Purchase                  2
Production                2
```

 Question 14: Find the maximum basic from EMP table without using MAX().

Solution:

SQL> SELECT DISTINCT BASIC AS MAX_BASIC FROM EMPLOYEE e
 2 WHERE e.BASIC >= ALL(SELECT BASIC FROM EMPLOYEE);

```
 MAX_BASIC
----------
70000
```

 Question 15: Find the minimum basic from EMP table without using MIN().

Solution:

SQL> SELECT DISTINCT BASIC AS MIN_BASIC FROM EMPLOYEE e
 2 WHERE e.BASIC <= ALL(SELECT BASIC FROM EMPLOYEE);

```
 MIN_BASIC
```

```
----------
25000
```

 Question 16: Find the name of the department with highest total basic. Do the same for highest average basic and maximum no. of employee.

Solution:

Highest Total Basic:

```
SQL> SELECT d.DEPT_NAME, e.BASIC FROM EMPLOYEE e, DEPARTMENT d
2  WHERE e.DEPT_CODE = d.DEPT_CODE
3  AND e.BASIC >= ALL(SELECT BASIC FROM EMPLOYEE);

DEPT_NAME            BASIC
-------------------- ---------- Production
70000
```

Highest Average Basic:

```
SQL> SELECT DEPT_NAME, BASIC AS AVERAGE_BASIC FROM
2  (SELECT DEPT_NAME , AVG(BASIC) AS BASIC FROM EMPLOYEE e, DEPARTMENT d
3  WHERE e.DEPT_CODE = d.DEPT_CODE GROUP BY DEPT_NAME)
4  WHERE BASIC = (SELECT MAX(BASIC) FROM
5  (SELECT DEPT_NAME, AVG(BASIC) AS BASIC FROM EMPLOYEE e, DEPARTMENT d WHERE
6  e.DEPT_CODE = d.DEPT_CODE GROUP BY DEPT_NAME));

DEPT_NAME            AVERAGE_BASIC
-------------------- ------------- Personnel
55000
Purchase             55000
```

Maximum Number of Employee:

```
SQL> SELECT DEPT_NAME, EMP_NO AS MAXIMUM_NO_OF_EMPLOYEE FROM
2  (SELECT DEPT_NAME, COUNT(EMP_CODE) AS EMP_NO FROM EMPLOYEE e,
3  DEPARTMENT d WHERE e.DEPT_CODE = d.DEPT_CODE GROUP BY DEPT_NAME)
4  WHERE EMP_NO = (SELECT MAX(EMP_NO) FROM
```

5 (SELECT DEPT_NAME, COUNT(EMP_CODE) AS EMP_NO FROM EMPLOYEE e, DEPARTMENT d
6 WHERE e.DEPT_CODE = d.DEPT_CODE GROUP BY DEPT_NAME));

```
DEPT_NAME           MAXIMUM_NO_OF_EMPLOYEE
------------------- ----------------------
Production                      10
```

Question 17: Insert same rows into EMP table with designation code not existing in DESIGNATION table.

Solution:

SQL> INSERT INTO EMPLOYEE(EMP_CODE,EMP_NAME, DEPT_CODE, DESIG_CODE,
2 SEX,ADDRESS, CITY, STATE, PIN, BASIC, JN_DT)
3 VALUES('E130','Sarthak dubey', 'PUR', 'SALES', 'M', '45B Gariahat Road', 'Kolkata', 'West Bengal','700034',45000,DATE '2019-02-01');

1 row created.

SQL> INSERT INTO EMPLOYEE(EMP_CODE,EMP_NAME, DEPT_CODE, DESIG_CODE,SEX, ADDRESS, CITY, STATE, PIN, BASIC, JN_DT) VALUES
2 ('E131','Saheli Das', 'PER', 'SALES', 'F', 'Budhdha Marg', 'Patna', 'Bihar', '600078',30000, DATE '2020-08-13');

1 row created.

SQL> INSERT INTO EMPLOYEE(EMP_CODE,EMP_NAME, DEPT_CODE, DESIG_CODE,SEX, ADDRESS, CITY, STATE, PIN, BASIC, JN_DT) VALUES
2 ('E132', 'Kastury Ganguli', 'OFF', 'REPRESENTATIVE', 'F', 'Panjiyan Bhawan','Kota', 'Rajasthan', '305001', 45000,DATE '2019-08-10');

1 row created.

Question 18: Delete the rows from EMP table with invalid DESIG_CODE.

Solution:

SQL> DELETE EMPLOYEE WHERE DESIG_CODE NOT IN
 2 (SELECT DESIG_CODE FROM DESIGNATION);

4 rows deleted.

 Question 19. Find the name of the female employees with basic greater than the average basic of their respective department

Solution:

SQL> SELECT e.EMP_NAME, e.BASIC FROM EMPLOYEE e, DEPARTMENT d WHERE
2 e.DEPT_CODE = d.DEPT_CODE AND BASIC > (SELECT AVG(BASIC) FROM EMPLOYEE e, DEPARTMENT d
3 WHERE e.DEPT_CODE = d.DEPT_CODE AND e.SEX = 'F') AND e.SEX = 'F';

EMP_NAME   BASIC
------------------- ---------- Ritu
Das   55000
Ritwika Basak   70000
Priyanka Dey   65000

 Question 20: Find the number of female managers

Solution:

SQL> SELECT COUNT(*) AS NO_OF_FEMALE_MANAGER FROM EMPLOYEE e, DESIGNATION d
2 WHERE e.DESIG_CODE = d.DESIG_CODE AND e.SEX = 'F'
3 AND d.DESIG_CODE = 'MN';

NO_OF_FEMALE_MANAGER

          2