

Assignment II

- **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
Kavya Kulkarni	Executive	45000
Kasturi Sanyal	Officer	50000
Akash Ahuja	Manager	60000
Preeti Kumari	Helper	30000
Mayank Agarwal	Clerk	25000
Piyush Prajapati	Executive	40000
Dhruv Byas	Manager	60000
Ritu Das	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
Kavya Kulkarni	Executive	Production	45000
Kasturi Sanyal	Officer	Finance	50000
Akash Ahuja	Manager	Purchase	60000
Preeti Kumari	Helper	Research	30000
Mayank Agarwal	Clerk	Finance	25000
Piyush Prajapati	Executive	Purchase	40000
Dhruv Byas	Manager	Production	60000
Ritu Das	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', 'Ritwika Basak', '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 Dey', 'PUR', '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', 'Tanmay 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', 'Prantik Sanyal', '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', 'Saheli Dhar', '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', 'Sourav Dalapati', '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', 'Mainak Chandra', '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', 'Sangeeta Dutta', 'PR', 'CI', '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', 'Jigyasa Singh', '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
-----
70000          PR
```

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
-----
70000              Production
```

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
-----
55000              Personnel
```


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','Sougata Dey', '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','Mitali Roy', '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', 'Rohini 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