## JADAVPUR UNIVERSITY

Database Management System Lab Assignment - 2

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**Dept:** Computer Science and Engineering

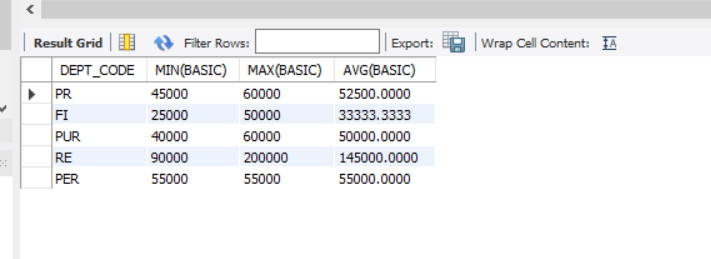
**Class:** MCA 1st Year 2nd Sem **Session:** 2022-2024

***ASSIGNMENT 2***

# Question 1: From the EMP table show the minimum, maximum and

# average basic for each department (show dept. Code). Solution:

SELECT DEPT\_CODE, MIN(BASIC), MAX(BASIC), AVG(BASIC) FROM EMPLOYEE GROUP BY DEPT\_CODE;

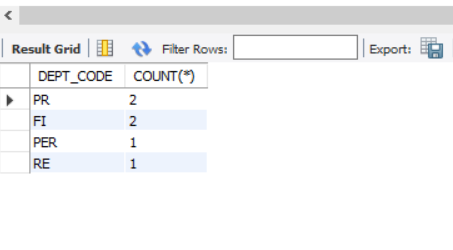


# Question 2: Find the number of female employees in each department (show dept. Code).

**Solution:**

SELECT DEPT\_CODE , COUNT(\*) FROM EMPLOYEE WHERE SEX = 'F'

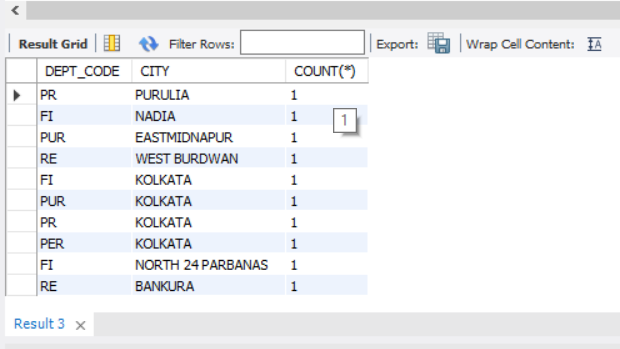
GROUP BY DEPT\_CODE;



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

**Solution:**

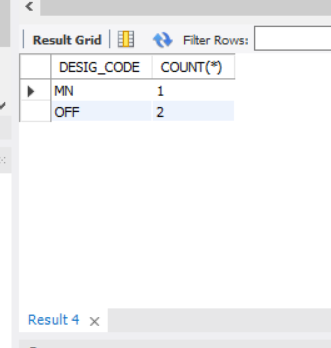
SELECT DEPT\_CODE, CITY, COUNT(\*) FROM EMPLOYEE GROUP BY DEPT\_CODE, CITY;



# 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:**

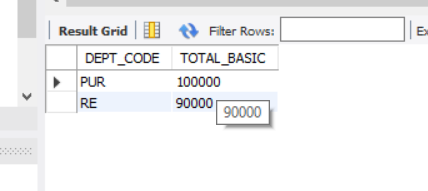
SELECT DESIG\_CODE , COUNT(\*) FROM EMPLOYEE WHERE SUBSTR(JN\_DT,8,2) = '20' GROUP BY DESIG\_CODE ORDER BY COUNT(\*);



# 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:

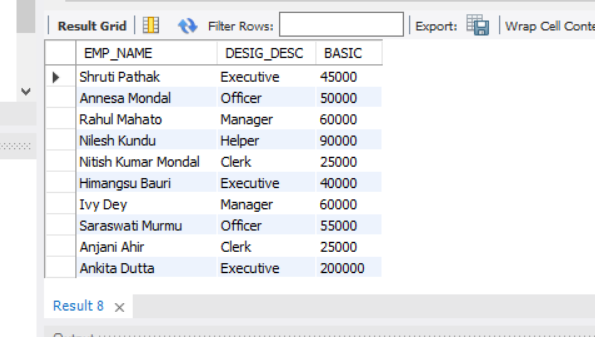
SELECT DEPT\_CODE , SUM(BASIC) AS TOTAL\_BASIC FROM EMPLOYEE WHERE SEX = 'M' GROUP BY DEPT\_CODE HAVING SUM(BASIC) > 50000 ORDER BY SUM(BASIC) DESC;



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

**Solution:**

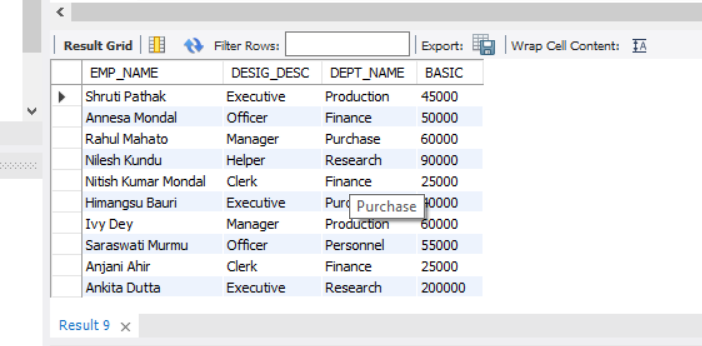
SELECT e.EMP\_NAME, d.DESIG\_DESC , e.BASIC FROM EMPLOYEE e, DESIGNATION d WHERE e.DESIG\_CODE = d.DESIG\_CODE;



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

**Solution:**

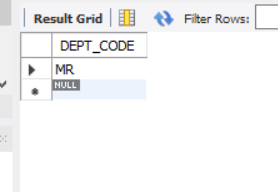
SELECT e.EMP\_NAME, d.DESIG\_DESC, dp.DEPT\_NAME, e.BASIC FROM EMPLOYEE e, DESIGNATION d, DEPARTMENT dp WHERE e.DESIG\_CODE = d.DESIG\_CODE AND e.DEPT\_CODE = dp.DEPT\_CODE;



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

**Solution:**

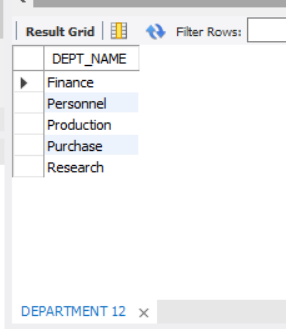
SELECT DEPT\_CODE FROM DEPARTMENT WHERE DEPT\_CODE NOT IN (SELECT DEPT\_CODE FROM EMPLOYEE);



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

**Solution:**

SELECT DEPT\_NAME FROM DEPARTMENT WHERE DEPT\_CODE IN (SELECT DEPT\_CODE FROM EMPLOYEE);



# 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.]

INSERT INTO EMPLOYEE(EMP\_CODE, EMP\_NAME, DEPT\_CODE, DESIG\_CODE, SEX, ADDRESS, CITY, STATE, PIN, BASIC, JN\_DT) VALUES ('E115', 'Meghashri Saha', 'PR', 'OFF', 'F', 'New P.O. Road', 'Pune', 'Maharashtra', '421345',70000,DATE '2020-04-03');

1 row(s) affected

INSERT INTO EMPLOYEE(EMP\_CODE, EMP\_NAME, DEPT\_CODE,DESIG\_CODE, SEX, ADDRESS, CITY, STATE, PIN, BASIC, JN\_DT)VALUES('E116', 'Priyanka Roy', 'MN','F', 'Pali Hill', 'Mumbai','Maharashtra',

'400025', 65000, DATE '2019-09-02');

1 row(s) affected

INSERT INTO EMPLOYEE(EMP\_CODE, EMP\_NAME, DEPT\_CODE, DESIG\_CODE, SEX, ADDRESS, CITY, STATE, PIN, BASIC, JN\_DT) VALUES ('E117', 'Sudip Ghosh', 'PR', 'OFF', 'M', 'Ashutosh Mukherjee Road', 'Kolkata', 'West Bengal', '700020',65000, DATE '2019-02-09')

1 row(s) affected

INSERT INTO EMPLOYEE(EMP\_CODE, EMP\_NAME, DEPT\_CODE, DESIG\_CODE, SEX, ADDRESS, CITY, STATE, PIN, BASIC, JN\_DT) VALUES ('E118', 'Arijit Maity', 'PR', 'EXE', 'M', '20B Narkeldanga', 'Kolkata','West Bengal', '711097', 45000, DATE '2020-07-03');

1 row(s) affected

INSERT INTO EMPLOYEE(EMP\_CODE, EMP\_NAME, DEPT\_CODE, DESIG\_CODE, SEX, ADDRESS, CITY, STATE, PIN, BASIC, JN\_DT) VALUES ('E119', 'Sneha Das', 'PR', 'CL', 'F', '5 Canning Street', 'Jalpaiguri', 'West Bengal', '723098', 35000, DATE '2021-08-03');

1 row(s) affected

INSERT INTO EMPLOYEE(EMP\_CODE, EMP\_NAME, DEPT\_CODE, DESIG\_CODE, SEX, ADDRESS, CITY, STATE, PIN, BASIC, JN\_DT) VALUES ('E120', 'Imanur Rahaman', 'PR', 'OFF', 'M', '128 Danesh Shekh Lane', 'Howrah', 'West Bengal', '711204', 70000, DATE '2019-10-09');

1 row(s) affected

INSERT INTO EMPLOYEE(EMP\_CODE, EMP\_NAME, DEPT\_CODE, DESIG\_CODE, SEX, ADDRESS, CITY, STATE, PIN, BASIC, JN\_DT) VALUES ('E121', 'Riya Parvin', 'PR', 'MN', 'F', 'Pune Lavasa Campus', 'Pune', 'Maharashtra', '400087', 65000, DATE '2020-09-03');

1 row(s) affected

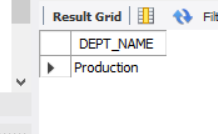
INSERT INTO EMPLOYEE(EMP\_CODE, EMP\_NAME, DEPT\_CODE, DESIG\_CODE, SEX, ADDRESS, CITY, STATE, PIN, BASIC, JN\_DT) VALUES ('E122', 'Reshmi Kundu', 'PR', 'Cl', 'F', 'Lajpat Nagar', 'Delhi', 'Delhi','100087', 25000, DATE '2021-07-03');

1 row(s) affected

INSERT INTO EMPLOYEE(EMP\_CODE, EMP\_NAME, DEPT\_CODE, DESIG\_CODE, SEX, ADDRESS, CITY, STATE, PIN, BASIC, JN\_DT) VALUES ('E123', 'Manshi Shaw', 'PR', 'EXE', 'F', 'IT Building,Yojana Bhawan', 'Jaipur', 'Rajasthan', '302005',50000, DATE '2019-08-06');

1 row(s) affected

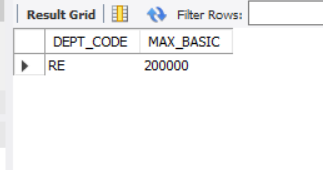
SELECT d.DEPT\_NAME FROM DEPARTMENT d WHERE (SELECT COUNT(\*) FROM EMPLOYEE e WHERE e.DEPT\_CODE = d.DEPT\_CODE) > 9;



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

**Solution:**

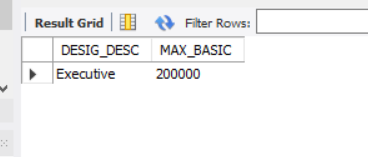
SELECT DEPT\_CODE, BASIC AS MAX\_BASIC FROM EMPLOYEE WHERE BASIC = (SELECT MAX(BASIC) FROM EMPLOYEE);



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

**Solution:**

SELECT d.DESIG\_DESC , e.BASIC AS MAX\_BASIC FROM EMPLOYEE e, DESIGNATION d WHERE e.DESIG\_CODE = d.DESIG\_CODE AND e.BASIC = (SELECT MAX(BASIC) FROM EMPLOYEE);

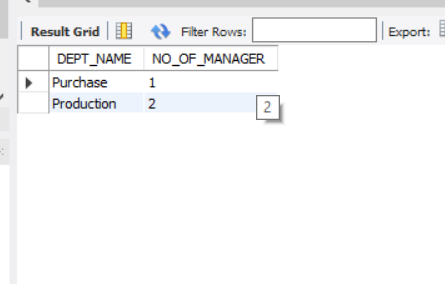


# Question 13: Find the no. of managers in each department.

**Solution:**

SELECT d.DEPT\_NAME, COUNT(\*) AS NO\_OF\_MANAGER FROM EMPLOYEE e, DEPARTMENT d WHERE e.DEPT\_CODE = d.DEPT\_CODE AND e.DESIG\_CODE = (SELECT DESIG\_CODE FROM DESIGNATION WHERE

DESIG\_DESC = 'Manager') GROUP BY d.DEPT\_NAME;

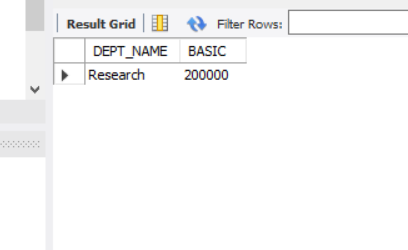


# Question 14: Find the maximum basic from EMP table without using MAX().

**Solution:**

SELECT DISTINCT BASIC AS MAX\_BASIC FROM EMPLOYEE e WHERE

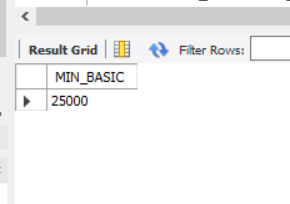
e.BASIC >= ALL(SELECT BASIC FROM EMPLOYEE);



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

**Solution:**

SELECT DISTINCT BASIC AS MIN\_BASIC FROM EMPLOYEE e WHERE e.BASIC <= ALL(SELECT BASIC FROM EMPLOYEE);

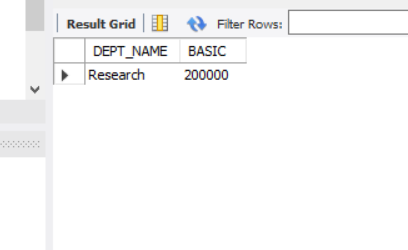


# Question 16: Find the name of the department with highest total basic. Do the same for highest average basic and maximum no. of employee.

**Solution:**

# Highest Total Basic:

SELECT d.DEPT\_NAME, e.BASIC FROM EMPLOYEE e, DEPARTMENT d WHERE e.DEPT\_CODE = d.DEPT\_CODE AND e.BASIC >= ALL(SELECT BASIC FROM EMPLOYEE);



# Highest Average Basic:

SELECT DEPT\_NAME, BASIC AS AVERAGE\_BASIC FROM

(SELECT DEPT\_NAME , AVG(BASIC) AS BASIC FROM EMPLOYEE e, DEPARTMENT d WHERE e.DEPT\_CODE = d.DEPT\_CODE GROUP BY DEPT\_NAME)WHERE BASIC = (SELECT MAX(BASIC) FROM (SELECT DEPT\_NAME, AVG(BASIC) AS BASIC FROM EMPLOYEE e, DEPARTMENT d WHERE e.DEPT\_CODE = d.DEPT\_CODE GROUP BY DEPT\_NAME));

DEPT\_NAME AVERAGE\_BASIC

Personnel

55000

Purchase 55000

# Maximum Number of Employee:

SELECT DEPT\_NAME, EMP\_NO AS MAXIMUM\_NO\_OF\_EMPLOYEE FROM

(SELECT DEPT\_NAME, COUNT(EMP\_CODE) AS EMP\_NO FROM EMPLOYEE e DEPARTMENT d WHERE e.DEPT\_CODE = d.DEPT\_CODE GROUP BY DEPT\_NAME) WHERE EMP\_NO = (SELECT MAX(EMP\_NO) FROM EMPLOYEE e, DEPARTMENT dWHERE 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:**

INSERT INTO EMPLOYEE(EMP\_CODE,EMP\_NAME, DEPT\_CODE, DESIG\_CODE, SEX,ADDRESS, CITY, STATE, PIN, BASIC, JN\_DT) VALUES('E24','Sarthak dubey', 'PUR', 'SALES', 'M', '45B Gariahat Road', 'Kolkata', 'West Bengal','700034',45000,DATE '2019-02-01');

1 row(s) affected

INSERT INTO EMPLOYEE(EMP\_CODE,EMP\_NAME, DEPT\_CODE, DESIG\_CODE,SEX, ADDRESS, CITY, STATE, PIN, BASIC, JN\_DT)VALUES ('E125','Saheli Das', 'PER', 'SALES', 'F', 'Budhdha Marg', 'Patna', 'Bihar', '600078',30000, DATE '2020-08-13');

1 row(s) affected

INSERT INTO EMPLOYEE(EMP\_CODE,EMP\_NAME, DEPT\_CODE, DESIG\_CODE,SEX, ADDRESS, CITY, STATE, PIN, BASIC, JN\_DT)VALUES ('E126', 'Kastury Ganguli', 'OFF', 'REPRESENTATIVE', 'F', 'Panjiyan Bhawan','Kota', 'Rajasthan', '305001', 45000,DATE '2019-08-10');

1 row(s) affected

# Question 18: Delete the rows from EMP table with invalid DESIG\_CODE.

**Solution:**

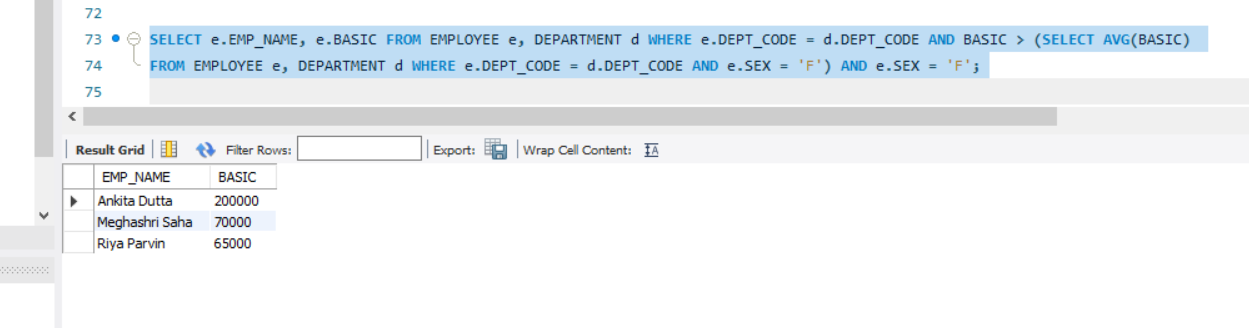
DELETE EMPLOYEE WHERE DESIG\_CODE NOT IN (SELECT DESIG\_CODE FROM DESIGNATION);

3 row(s) affected

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

**Solution:**

SELECT e.EMP\_NAME, e.BASIC FROM EMPLOYEE e, DEPARTMENT d WHERE e.DEPT\_CODE = d.DEPT\_CODE AND BASIC > (SELECT AVG(BASIC) FROM EMPLOYEE e, DEPARTMENT d WHERE e.DEPT\_CODE = d.DEPT\_CODE AND e.SEX = 'F') AND e.SEX = 'F';



# Question 20: Find the number of female managers

# Solution:

# SELECT COUNT(\*) AS NO\_OF\_FEMALE\_MANAGER FROM EMPLOYEE e, DESIGNATION d WHERE e.DESIG\_CODE = d.DESIG\_CODE AND e.SEX = 'F' AND d.DESIG\_CODE = 'MN';

