Assignment 5

SQL Nested Queries

DBMS LAB

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BATCH –A 1, 2

Schema :

employees(employee_id,firstname,lastname,email,phoneno,jobid,managerid,salary ,commissionpercent,deptid);

Insert data with employee id from 155 to 170.

Create employees table:

```
MariaDB [ashish]> create table employees
    -> (employee_id int PRIMARY KEY,
    -> firstname varchar(20),
    -> lastname varchar(20),
    -> email varchar(20),
    -> phoneno varchar(20),
    -> jobid varchar(20),
    -> managerid int,
    -> salary int,
    -> commisionpercent float(11,2),
    -> deptid int);
Query OK, 0 rows affected (0.27 sec)
```

Insert values in the employees table:

```
MariaDB [ashish]> insert into employees values(155,'Oliver','Tuvault','155@gmail.com','9024686155','SA_REP',145,7000,0.15,80);
Query OK, 1 row affected (0.08 sec)

MariaDB [ashish]> insert into employees values(156,'Janette','King','156@gmail.com','9024686156','SA_REP',146,10000,0.35,80);
Query OK, 1 row affected (0.05 sec)

MariaDB [ashish]> insert into employees values(157,'Patrick','Sully','157@gmail.com','9024686157','SA_REP',146,9500,0.35,80);
Query OK, 1 row affected (0.06 sec)

MariaDB [ashish]> insert into employees values(158,'Allan','McEwen','158@gmail.com','9024686158','SA_REP',146,9000,0.35,80);
Query OK, 1 row affected (0.10 sec)

MariaDB [ashish]> insert into employees values(159,'Lindsey','Smith','159@gmail.com','9024686159','SA_REP',146,8000,0.30,80);
Query OK, 1 row affected (0.07 sec)

MariaDB [ashish]> insert into employees values(160,'Louise','Doran','160@gmail.com','9024686160','SA_REP',146,7500,0.30,80);
Query OK, 1 row affected (0.08 sec)

MariaDB [ashish]> insert into employees values(161,'Sarath','Sewall','161@gmail.com','9024686161','SA_REP',146,7000,0.25,80);
```

```
MariaDB [ashish]> insert into employees values(162,'Clara','Vishney','162@gmail.com','9024686162','SA_REP',147,10500,0.25,80);
Query OK, 1 row affected (0.09 sec)

MariaDB [ashish]> insert into employees values(163,'Danielle','Greene','163@gmail.com','9024686163','SA_REP',147,9500,0.15,80);
Query OK, 1 row affected (0.08 sec)

MariaDB [ashish]> insert into employees values(164,'Mattea','Marvins','164@gmail.com','9024686164','SA_REP',147,7200,0.10,80);
Query OK, 1 row affected (0.07 sec)

MariaDB [ashish]> insert into employees values(165,'David','Lee','165@gmail.com','9024686165','SA_REP',147,6800,0.10,80);
Query OK, 1 row affected (43.50 sec)

MariaDB [ashish]> insert into employees values(166,'Sundar','Ande','166@gmail.com','9024686166','SA_REP',147,6400,0.10,80);
Query OK, 1 row affected (0.07 sec)

MariaDB [ashish]> insert into employees values(167,'Amit','Banda','167@gmail.com','9024686167','SA_REP',147,6200,0.10,80);
Query OK, 1 row affected (0.05 sec)

MariaDB [ashish]> insert into employees values(168,'Lisa','Ozer','168@gmail.com','9024686168','SA_REP',148,11500,0.25,80);
Query OK, 1 row affected (0.08 sec)

MariaDB [ashish]> insert into employees values(169,'Harrison','Bloom','169@gmail.com','9024686169','SA_REP',148,10000,0.20,80);
Query OK, 1 row affected (0.07 sec)

MariaDB [ashish]> insert into employees values(170,'Tayler','Fox','170@gmail.com','9024686170','SA_REP',148,9600,0.20,80);
Query OK, 1 row affected (0.06 sec)
```

Displaying content of table employees

```
MariaDB [ashish]> select * from employees;
+-------------+-----------+----------+--------------+------------+--------+-----------+--------+-----------------+--------+
| employee_id | firstname | lastname | email        | phoneno    | jobid  | managerid | salary | commisionpercent | deptid |
+-------------+-----------+----------+--------------+------------+--------+-----------+--------+-----------------+--------+
|         155 | Oliver    | Tuvault  | 155@gmail.com | 9024686155 | SA_REP |       145 |   7000 |            0.15 |     80 |
|         156 | Janette   | King     | 156@gmail.com | 9024686156 | SA_REP |       146 |  10000 |            0.35 |     80 |
|         157 | Patrick   | Sully    | 157@gmail.com | 9024686157 | SA_REP |       146 |   9500 |            0.35 |     80 |
|         158 | Allan     | McEwen   | 158@gmail.com | 9024686158 | SA_REP |       146 |   9000 |            0.35 |     80 |
|         159 | Lindsey   | Smith    | 159@gmail.com | 9024686159 | SA_REP |       146 |   8000 |            0.30 |     80 |
|         160 | Louise    | Doran    | 160@gmail.com | 9024686160 | SA_REP |       146 |   7500 |            0.30 |     80 |
|         161 | Sarath    | Sewall   | 161@gmail.com | 9024686161 | SA_REP |       146 |   7000 |            0.25 |     80 |
|         162 | Clara     | Vishney  | 162@gmail.com | 9024686162 | SA_REP |       147 |  10500 |            0.25 |     80 |
|         163 | Danielle  | Greene   | 163@gmail.com | 9024686163 | SA_REP |       147 |   9500 |            0.15 |     80 |
|         164 | Mattea    | Marvins  | 164@gmail.com | 9024686164 | SA_REP |       147 |   7200 |            0.10 |     80 |
|         165 | David     | Lee      | 165@gmail.com | 9024686165 | SA_REP |       147 |   6800 |            0.10 |     80 |
|         166 | Sundar    | Ande     | 166@gmail.com | 9024686166 | SA_REP |       147 |   6400 |            0.10 |     80 |
|         167 | Amit      | Banda    | 167@gmail.com | 9024686167 | SA_REP |       147 |   6200 |            0.10 |     80 |
|         168 | Lisa      | Ozer     | 168@gmail.com | 9024686168 | SA_REP |       148 |  11500 |            0.25 |     80 |
|         169 | Harrison  | Bloom    | 169@gmail.com | 9024686169 | SA_REP |       148 |  10000 |            0.20 |     80 |
|         170 | Tayler    | Fox      | 170@gmail.com | 9024686170 | SA_REP |       148 |   9600 |            0.20 |     80 |
+-------------+-----------+----------+--------------+------------+--------+-----------+--------+-----------------+--------+
16 rows in set (0.00 sec)
```

Update some values in the table (for better understanding of given queries)

```
MariaDB [ashish]> update employees
    -> set jobid='IND_REP'
    -> where employee_id=158;
Query OK, 1 row affected (0.08 sec)
Rows matched: 1  Changed: 1  Warnings: 0

MariaDB [ashish]> update employees set jobid='IND_REP' where employee_id=163;
Query OK, 1 row affected (0.09 sec)
Rows matched: 1  Changed: 1  Warnings: 0

MariaDB [ashish]> update employees set jobid='PAK_REP' where employee_id=168;
Query OK, 1 row affected (0.07 sec)
Rows matched: 1  Changed: 1  Warnings: 0

MariaDB [ashish]> update employees set deptid=60 where employee_id=159;
Query OK, 1 row affected (0.08 sec)
Rows matched: 1  Changed: 1  Warnings: 0

MariaDB [ashish]> update employees set deptid=70 where employee_id=160;
Query OK, 1 row affected (0.08 sec)
Rows matched: 1  Changed: 1  Warnings: 0

MariaDB [ashish]> update employees set deptid=50 where employee_id=167;
Query OK, 1 row affected (0.07 sec)
Rows matched: 1  Changed: 1  Warnings: 0

MariaDB [ashish]> update employees set deptid=50 where employee_id=168;
Query OK, 1 row affected (0.06 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

Displaying content after some updation:

```
MariaDB [ashish]> select * from employees;
+------------+----------+---------+-------------+-----------+--------+----------+--------+----------------+--------+
| employee_id | firstname | lastname | email       | phoneno   | jobid  | managerid | salary | commisionpercent | deptid |
+------------+----------+---------+-------------+-----------+--------+----------+--------+----------------+--------+
|         155 | Oliver   | Tuvault | 155@gmail.com | 9024686155 | SA_REP |       145 |   7000 |           0.15 |     80 |
|         156 | Janette  | King    | 156@gmail.com | 9024686156 | SA_REP |       146 |  10000 |           0.35 |     80 |
|         157 | Patrick  | Sully   | 157@gmail.com | 9024686157 | SA_REP |       146 |   9500 |           0.35 |     80 |
|         158 | Allan    | McEwen  | 158@gmail.com | 9024686158 | IND_REP |       146 |   9000 |           0.35 |     80 |
|         159 | Lindsey  | Smith   | 159@gmail.com | 9024686159 | SA_REP |       146 |   8000 |           0.30 |     60 |
|         160 | Louise   | Doran   | 160@gmail.com | 9024686160 | SA_REP |       146 |   7500 |           0.30 |     70 |
|         161 | Sarath   | Sewall  | 161@gmail.com | 9024686161 | SA_REP |       146 |   7000 |           0.25 |     80 |
|         162 | Clara    | Vishney | 162@gmail.com | 9024686162 | SA_REP |       147 |  10500 |           0.25 |     80 |
|         163 | Danielle | Greene  | 163@gmail.com | 9024686163 | IND_REP |       147 |   9500 |           0.15 |     80 |
|         164 | Mattea   | Marvins | 164@gmail.com | 9024686164 | SA_REP |       147 |   7200 |           0.10 |     80 |
|         165 | David    | Lee     | 165@gmail.com | 9024686165 | SA_REP |       147 |   6800 |           0.10 |     80 |
|         166 | Sundar   | Ande    | 166@gmail.com | 9024686166 | SA_REP |       147 |   6400 |           0.10 |     80 |
|         167 | Amit     | Banda   | 167@gmail.com | 9024686167 | SA_REP |       147 |   6200 |           0.10 |     50 |
|         168 | Lisa     | Ozer    | 168@gmail.com | 9024686168 | PAK_REP |       148 |  11500 |           0.25 |     50 |
|         169 | Harrison | Bloom   | 169@gmail.com | 9024686169 | SA_REP |       148 |  10000 |           0.20 |     80 |
|         170 | Tayler   | Fox     | 170@gmail.com | 9024686170 | SA_REP |       148 |   9600 |           0.20 |     80 |
+------------+----------+---------+-------------+-----------+--------+----------+--------+----------------+--------+
16 rows in set (0.00 sec)
```

QUERIES:

1) **Write a query to display the name (first name and last name) for those employees who gets more salary than the employee whose ID is 163.**

```
MariaDB [ashish]> select firstname,lastname from employees
    -> where salary>
    -> (select salary from employees where employee_id=163);
+-----------+----------+
| firstname | lastname |
+-----------+----------+
| Janette   | King     |
| Clara     | Vishney  |
| Lisa      | Ozer     |
| Harrison  | Bloom    |
| Tayler    | Fox      |
+-----------+----------+
5 rows in set (0.00 sec)
```

2) Write a query to display the name (first name and last name), salary, department id, job id for those employees who works in the same designation as the employee works whose id is 169.

```
MariaDB [ashish]> select firstname,lastname,salary,deptid,jobid
    -> from employees where jobid=
    -> (select jobid from employees where employee_id=169);
+-----------+----------+--------+--------+--------+
| firstname | lastname | salary | deptid | jobid  |
+-----------+----------+--------+--------+--------+
| Oliver    | Tuvault  |   7000 |     80 | SA_REP |
| Janette   | King     |  10000 |     80 | SA_REP |
| Patrick   | Sully    |   9500 |     80 | SA_REP |
| Lindsey   | Smith    |   8000 |     60 | SA_REP |
| Louise    | Doran    |   7500 |     70 | SA_REP |
| Sarath    | Sewall   |   7000 |     80 | SA_REP |
| Clara     | Vishney  |  10500 |     80 | SA_REP |
| Mattea    | Marvins  |   7200 |     80 | SA_REP |
| David     | Lee      |   6800 |     80 | SA_REP |
| Sundar    | Ande     |   6400 |     80 | SA_REP |
| Amit      | Banda    |   6200 |     50 | SA_REP |
| Harrison  | Bloom    |  10000 |     80 | SA_REP |
| Tayler    | Fox      |   9600 |     80 | SA_REP |
+-----------+----------+--------+--------+--------+
13 rows in set (0.00 sec)
```

3) Write a query to display the name (first name and last name), salary, department id for those employees who earn such amount of salary which is the smallest salary of any of the departments.

```
MariaDB [ashish]> select firstname,lastname,salary,deptid from employees
    -> where salary IN
    -> (select MIN(salary) from employees
    -> group by deptid);
+-----------+----------+--------+--------+
| firstname | lastname | salary | deptid |
+-----------+----------+--------+--------+
| Lindsey   | Smith    |   8000 |     60 |
| Louise    | Doran    |   7500 |     70 |
| Sundar    | Ande     |   6400 |     80 |
| Amit      | Banda    |   6200 |     50 |
+-----------+----------+--------+--------+
4 rows in set (0.00 sec)
```

4) Write a query to display the employee id, employee name (first name and last name) for all employees who earn more than the average salary.

```
MariaDB [ashish]> select employee_id,CONCAT(firstname," ",lastname)as employee_name
    -> from employees
    -> where salary>
    -> (select avg(salary) from employees);
+-------------+-----------------+
| employee_id | employee_name   |
+-------------+-----------------+
|         156 | Janette King    |
|         157 | Patrick Sully   |
|         158 | Allan McEwen    |
|         162 | Clara Vishney   |
|         163 | Danielle Greene |
|         168 | Lisa Ozer       |
|         169 | Harrison Bloom  |
|         170 | Tayler Fox      |
+-------------+-----------------+
8 rows in set (0.00 sec)
```

5) Write a query to display all the information of an employee whose reporting person id is 161 and 162 respectively.

```
MariaDB [ashish]> select * from employees
    -> where managerid IN (161,162);
Empty set (0.00 sec)
```

6) Write a query to display all the information of the employees whose salary is within the range of smallest salary and 2500.

```
MariaDB [ashish]> select * from employees
    -> where salary BETWEEN
    -> (select MIN(Salary) from employees) AND 2500;
Empty set (0.05 sec)
```