

LAB 04

S20210010027

Anushthan Saxena

Exercise 1

```
Database changed
[mysql]> select * from employee;
+-----+-----+-----+-----+-----+-----+
| emp_id | emp_name | emp_dept | emp_age | place | income |
+-----+-----+-----+-----+-----+-----+
| 2505 | peter | Finance | 32 | Newyork | 100000 |
| 2506 | Mark | HR | 32 | California | 120000 |
| 2507 | Donald | Finance | 28 | Arizona | 100000 |
| 2508 | Obama | Management | 35 | Florida | 500000 |
| 2509 | Linklon | HR | 25 | Georgia | 25000 |
| 2510 | Kane | Sales | 29 | Alaska | 30000 |
| 2511 | Adam | Management | 38 | California | 540000 |
| 2512 | Mac | Finance | 40 | Florida | 280000 |
| 2513 | Manas | Accounts | 29 | India | 600000 |
| 2514 | Vasin | Accounts | 30 | India | 800000 |
| 2515 | peter | Finance | 32 | Newyork | 100000 |
| 2516 | Mark | HR | 32 | California | 120000 |
| 2517 | Donald | Finance | 28 | Arizona | 100000 |
| 2518 | Obama | Management | 35 | Florida | 500000 |
| 2519 | Linklon | HR | 25 | Georgia | 25000 |
| 2520 | Kane | Sales | 29 | Alaska | 30000 |
| 2521 | Adam | Management | 38 | California | 540000 |
| 2522 | Mac | Finance | 40 | Florida | 280000 |
| 2523 | Manas | Accounts | 29 | India | 600000 |
| 2524 | Vasin | Accounts | 30 | India | 800000 |
+-----+-----+-----+-----+-----+
20 rows in set (0.00 sec)
```

1.

```
[mysql]> select count(emp_id) from employee;
+-----+
| count(emp_id) |
+-----+
| 20 |
+-----+
1 row in set (0.00 sec)
```

2.

```
[mysql> select emp_dept, MAX(income)
[    -> from employee
[    -> group by emp_dept;
+-----+-----+
| emp_dept | MAX(income) |
+-----+-----+
| Finance   |      280000 |
| HR         |      120000 |
| Management |      540000 |
| Sales      |      30000  |
| Accounts   |      800000 |
+-----+-----+
5 rows in set (0.01 sec)
```

3.

```
mysql> select emp_id, emp_name,income from employee where income between 100000 and 500000 and income!=120000;
+-----+-----+-----+
| emp_id | emp_name | income |
+-----+-----+-----+
| 2505  | peter    | 100000 |
| 2507  | Donald   | 100000 |
| 2508  | Obama    | 500000 |
| 2512  | Mac      | 280000 |
| 2515  | peter    | 100000 |
| 2517  | Donald   | 100000 |
| 2518  | Obama    | 500000 |
| 2522  | Mac      | 280000 |
+-----+-----+-----+
8 rows in set (0.00 sec)
```

4.

```
[mysql> select count(emp_id) from employee where income>100000;
+-----+
| count(emp_id) |
+-----+
|          12 |
+-----+
1 row in set (0.00 sec)
```

```
[mysql> select * from employee order by income asc;
+-----+-----+-----+-----+-----+
| emp_id | emp_name | emp_dept | emp_age | place      | income |
+-----+-----+-----+-----+-----+
| 2509  | Linklon  | HR       | 25     | Georgia    | 25000   |
| 2519  | Linklon  | HR       | 25     | Georgia    | 25000   |
| 2510  | Kane      | Sales    | 29     | Alaska     | 30000   |
| 2520  | Kane      | Sales    | 29     | Alaska     | 30000   |
| 2505  | peter     | Finance  | 32     | Newyork    | 100000  |
| 2507  | Donald    | Finance  | 28     | Arizona    | 100000  |
| 2515  | peter     | Finance  | 32     | Newyork    | 100000  |
| 2517  | Donald    | Finance  | 28     | Arizona    | 100000  |
| 2506  | Mark      | HR       | 32     | California | 120000  |
| 2516  | Mark      | HR       | 32     | California | 120000  |
| 2512  | Mac       | Finance  | 40     | Florida    | 280000  |
| 2522  | Mac       | Finance  | 40     | Florida    | 280000  |
| 2508  | Obama     | Management | 35     | Florida    | 500000  |
| 2518  | Obama     | Management | 35     | Florida    | 500000  |
| 2511  | Adam      | Management | 38     | California | 540000  |
| 2521  | Adam      | Management | 38     | California | 540000  |
| 2513  | Manas    | Accounts  | 29     | India      | 600000  |
| 2523  | Manas    | Accounts  | 29     | India      | 600000  |
| 2514  | Vasin    | Accounts  | 30     | India      | 800000  |
| 2524  | Vasin    | Accounts  | 30     | India      | 800000  |
+-----+-----+-----+-----+-----+
20 rows in set (0.01 sec)
```

5.

6.

```
[mysql> select emp_dept, count(emp_id), max(income)
[   -> from employee
[   -> group by emp_dept;
+-----+-----+-----+
| emp_dept | count(emp_id) | max(income) |
+-----+-----+-----+
| Finance  |       6 | 280000 |
| HR       |       4 | 120000 |
| Management | 4 | 540000 |
| Sales    |       2 | 30000  |
| Accounts |       4 | 800000 |
+-----+-----+-----+
5 rows in set (0.00 sec)
```

7.

```
[mysql]> select place, count(emp_id) from employee group by place;
+-----+-----+
| place      | count(emp_id) |
+-----+-----+
| Newyork    |          2 |
| California |          4 |
| Arizona    |          2 |
| Florida    |          4 |
| Georgia    |          2 |
| Alaska     |          2 |
| India      |          4 |
+-----+
7 rows in set (0.00 sec)
```

8.

```
[mysql]> select place, count(emp_id) from employee group by place order by place desc;
+-----+-----+
| place      | count(emp_id) |
+-----+-----+
| Newyork    |          2 |
| India      |          4 |
| Georgia    |          2 |
| Florida    |          4 |
| California |          4 |
| Arizona    |          2 |
| Alaska     |          2 |
+-----+
7 rows in set (0.00 sec)
```

9.

```
[mysql]> select place, count(emp_id) from employee group by place having count(emp_id)>1;
+-----+-----+
| place      | count(emp_id) |
+-----+-----+
| Newyork    |          2 |
| California |          4 |
| Arizona    |          2 |
| Florida    |          4 |
| Georgia    |          2 |
| Alaska     |          2 |
| India      |          4 |
+-----+
7 rows in set (0.00 sec)
```

10.

```
mysql> select place, count(emp_id)
[   -> from employee
[   -> where place!="California"
[   -> group by place
[   -> having count(emp_id)>2
[   -> order by place desc;
+-----+-----+
| place | count(emp_id) |
+-----+-----+
| India |        4 |
| Florida |        4 |
+-----+
2 rows in set (0.01 sec)
```

Exercise 2

2.

```
mysql> select customer_name, borrower.loan_number, amount from borrower, loan where borrower.loan_number = loan.loan_number;
+-----+-----+-----+
| customer_name | loan_number | amount |
+-----+-----+-----+
| Smith | L-11 | 900 |
| Hayes | L-15 | 1500 |
| Adams | L-16 | 1300 |
| Jones | L-17 | 1000 |
| Williams | L-17 | 1000 |
| Smith | L-23 | 2000 |
| Curry | L-93 | 500 |
+-----+-----+-----+
7 rows in set (0.00 sec)
```

3.

```
mysql> select customer_name,b.loan_number,amount from borrower b, loan l where b.loan_number = l.loan_number and l.branch_name= "Perryridge";
+-----+-----+-----+
| customer_name | loan_number | amount |
+-----+-----+-----+
| Hayes | L-15 | 1500 |
| Adams | L-16 | 1300 |
+-----+
2 rows in set (0.01 sec)
```

4.

```
[mysql]> select branch_name from branch where assets > some(select assets from branch where branch_city = "Brooklyn");
+-----+
| branch_name |
+-----+
| Downtown   |
| Round Hill |
+-----+
2 rows in set (0.01 sec)
```

5.

```
[mysql]> select customer_name FROM loan l, borrower b where l.loan_number = b.loan_number && l.branch_name = "Perryridge" ORDER BY customer_name ASC;
+-----+
| customer_name |
+-----+
| Adams        |
| Hayes         |
+-----+
2 rows in set, 1 warning (0.01 sec)
```

6.

```
[mysql]> select * from loan
[    -> order by amount desc, loan_number asc;
+-----+-----+-----+
| loan_number | branch_name | amount |
+-----+-----+-----+
| L-23        | Redwood     | 2000  |
| L-14        | Downtown    | 1500  |
| L-15        | Perryridge  | 1500  |
| L-16        | Perryridge  | 1300  |
| L-17        | Downtown    | 1000  |
| L-11        | Round Hill  | 900   |
| L-93        | Mianus      | 500   |
+-----+-----+-----+
7 rows in set (0.04 sec)
```

7.

```
[mysql]> select avg(balance) from account;
+-----+
| avg(balance) |
+-----+
|   614.285714 |
+-----+
1 row in set (0.00 sec)
```

8.

```
[mysql]> select count(*) from customer;
+-----+
| count(*) |
+-----+
|      13 |
+-----+
1 row in set (0.01 sec)
```

9.

```
[mysql]> select sum(amount) from loan;
+-----+
| sum(amount) |
+-----+
|      8700 |
+-----+
1 row in set (0.00 sec)
```

10.

```
[mysql]> select avg(balance) from account where branch_name="Perryridge";
+-----+
| avg(balance) |
+-----+
|  400.000000 |
+-----+
1 row in set (0.00 sec)
```

11.

```
[mysql]> select branch_name, avg(balance) from account group by branch_name;
+-----+-----+
| branch_name | avg(balance) |
+-----+-----+
| Brighton    | 825.000000 |
| Downtown   | 500.000000 |
| Mianus      | 700.000000 |
| Perryridge  | 400.000000 |
| Redwood     | 700.000000 |
| Round Hill  | 350.000000 |
+-----+
6 rows in set (0.01 sec)
```

12.

```
[mysql]> select branch_name, avg(balance) from account group by branch_name having avg(balance) > 1200;
Empty set (0.00 sec)
```

13.

```
[mysql]> select count(account_number), branch_name
[    -> from account
[    -> group by branch_name;
+-----+-----+
| count(account_number) | branch_name |
+-----+-----+
|              2 | Brighton    |
|              1 | Downtown   |
|              1 | Mianus      |
|              1 | Perryridge  |
|              1 | Redwood     |
|              1 | Round Hill  |
+-----+
6 rows in set (0.01 sec)
```

14.

```
mysql> select depositor.customer_name, avg(balance)
-> from depositor, account, customer
-> where depositor.account_number=account.account_number and depositor.customer_name=customer.customer_name and customer_city='Harrison'
-> group by depositor.customer_name
-> having count(distinct depositor.account_number)>=3;
Empty set (0.00 sec)
```

Exercise 3

1.

```
[mysql]> select concat(upper(substring("anushthan", 1, 1)),substring("anushthan", 2));
+-----+
| concat(upper(substring("anushthan", 1, 1)),substring("anushthan", 2)) |
+-----+
| Anushthan |
+-----+
1 row in set (0.01 sec)
```

2.

```
[mysql]> select substring("Anushthan Saxena", 2, 6);
+-----+
| substring("Anushthan Saxena", 2, 6) |
+-----+
| nushth |
+-----+
1 row in set (0.00 sec)
```

3.

```
[mysql]> select length("Indian Institute of Information Technology, Sri City");
+-----+
| length("Indian Institute of Information Technology, Sri City") |
+-----+
| 52 |
+-----+
1 row in set (0.00 sec)
```

4.

```
mysql> select concat(upper(substring(emp_name, 1, 1)),substring(emp_name, 2))
[    -> as emp_name from employee;
+-----+
| emp_name |
+-----+
| Peter    |
| Mark     |
| Donald   |
| Obama    |
| Linklon  |
| Kane     |
| Adam     |
| Mac      |
| Manas   |
| Vasin   |
| Peter    |
| Mark     |
| Donald   |
| Obama    |
| Linklon  |
| Kane     |
| Adam     |
| Mac      |
| Manas   |
| Vasin   |
+-----+
20 rows in set (0.00 sec)
```

5.

```
[mysql> select substring(emp_dept, 1,3) from employee;
+-----+
| substring(emp_dept, 1,3) |
+-----+
| Fin    |
| HR    |
| Fin    |
| Man    |
| HR    |
| Sal    |
| Man    |
| Fin    |
| Acc    |
| Acc    |
| Fin    |
| HR    |
| Fin    |
| Man    |
| HR    |
| Sal    |
| Man    |
| Fin    |
| Acc    |
| Acc    |
+-----+
20 rows in set (0.01 sec)
```

6.

```
[mysql]> select emp_name, month(doj) from employee;
+-----+-----+
| emp_name | month(doj) |
+-----+-----+
| peter     |      8 |
| Mark      |      3 |
| Donald    |     12 |
| Obama     |     10 |
| Linklon   |      8 |
| Kane      |      1 |
| Adam      |     10 |
| Mac       |      6 |
| Manas     |     12 |
| Vasin     |     10 |
| peter     |     10 |
| Mark      |     12 |
| Donald    |      6 |
| Obama     |     10 |
| Linklon   |      1 |
| Kane      |      8 |
| Adam      |     10 |
| Mac       |     12 |
| Manas     |      3 |
| Vasin     |      8 |
+-----+-----+
20 rows in set (0.01 sec)
```

7.

```
[mysql]> select emp_name, date_format(doj, '%d/%m/%Y') from employee;
+-----+-----+
| emp_name | date_format(doj, '%d/%m/%Y') |
+-----+-----+
| peter     | 25/08/2002 |
| Mark      | 25/03/1980 |
| Donald    | 26/12/1995 |
| Obama     | 30/10/1990 |
| Linklon   | 08/08/2008 |
| Kane      | 01/01/2000 |
| Adam      | 25/10/2020 |
| Mac       | 09/06/1970 |
| Manas     | 11/12/1990 |
| Vasin     | 10/10/1989 |
| peter     | 10/10/1989 |
| Mark      | 11/12/1990 |
| Donald    | 09/06/1970 |
| Obama     | 25/10/2020 |
| Linklon   | 01/01/2000 |
| Kane      | 08/08/2008 |
| Adam      | 30/10/1990 |
| Mac       | 26/12/1995 |
| Manas     | 25/03/1980 |
| Vasin     | 25/08/2002 |
+-----+-----+
20 rows in set (0.01 sec)
```

8.

```
[mysql]> select emp_name, TIMESTAMPDIFF(month, doj, CURRENT_DATE) from employee;
+-----+
| emp_name | TIMESTAMPDIFF(month, doj, CURRENT_DATE) |
+-----+
| peter      |          240 |
| Mark       |          509 |
| Donald     |          320 |
| Obama      |          382 |
| Linklon    |          168 |
| Kane       |          272 |
| Adam       |           22 |
| Mac        |          626 |
| Manas      |          380 |
| Vasin      |          394 |
| peter      |          394 |
| Mark       |          380 |
| Donald     |          626 |
| Obama      |           22 |
| Linklon    |          272 |
| Kane       |          168 |
| Adam       |          382 |
| Mac        |          320 |
| Manas      |          509 |
| Vasin      |          240 |
+-----+
20 rows in set (0.01 sec)
```

9.

```
[mysql]> select emp_name, TIMESTAMPDIFF(year, doj, CURRENT_DATE) as year, TIMESTAMPDIFF(month, doj, CURRENT_DATE)as month from employee;
+-----+
| emp_name | year | month |
+-----+
| peter    |  20 |  240 |
| Mark     |  42 |  509 |
| Donald   |  26 |  320 |
| Obama    |  31 |  382 |
| Linklon  |  14 |  168 |
| Kane     |  22 |  272 |
| Adam     |   1 |   22 |
| Mac      |  52 |  626 |
| Manas   |  31 |  380 |
| Vasin   |  32 |  394 |
| peter   |  32 |  394 |
| Mark    |  31 |  380 |
| Donald  |  52 |  626 |
| Obama   |   1 |   22 |
| Linklon |  22 |  272 |
| Kane    |  14 |  168 |
| Adam    |  31 |  382 |
| Mac     |  26 |  320 |
| Manas  |  42 |  509 |
| Vasin  |  20 |  240 |
+-----+
20 rows in set (0.00 sec)
```

10.

```
[mysql]> select DATE_ADD(CURRENT_DATE, INTERVAL 2 DAY) as nextFriday;
+-----+
| nextFriday |
+-----+
| 2022-09-09 |
+-----+
1 row in set (0.00 sec)
```

11.

```
[mysql]> select emp_name, day(doj) from employee;
+-----+-----+
| emp_name | day(doj) |
+-----+-----+
| peter     |    25 |
| Mark      |    25 |
| Donald    |    26 |
| Obama     |    30 |
| Linklon   |     8 |
| Kane      |     1 |
| Adam      |    25 |
| Mac       |     9 |
| Manas     |    11 |
| Vasin     |    10 |
| peter     |    10 |
| Mark      |    11 |
| Donald    |     9 |
| Obama     |    25 |
| Linklon   |     1 |
| Kane      |     8 |
| Adam      |    30 |
| Mac       |    26 |
| Manas     |    25 |
| Vasin     |    25 |
+-----+-----+
20 rows in set (0.01 sec)
```

12.

```
[mysql]> select date_add(CURRENT_DATE, INTERVAL 15 day);
+-----+
| date_add(CURRENT_DATE, INTERVAL 15 day) |
+-----+
| 2022-09-22                                |
+-----+
1 row in set (0.00 sec)
```

13.

```
[mysql]> select truncate(94204.27348, 2);
+-----+
| truncate(94204.27348, 2) |
+-----+
|          94204.27 |
+-----+
1 row in set (0.00 sec)
```

14.

```
[mysql]> select 10+20 as sum
[    -> ;
+-----+
| sum |
+-----+
| 30  |
+-----+
1 row in set (0.00 sec)
```

15.

```
[mysql]> select sqrt(36);
+-----+
| sqrt(36) |
+-----+
|       6   |
+-----+
1 row in set (0.00 sec)
```