

Task-4

Aggregate functions:

○ Count(*)

```
use near ')' from employee' at line 1
mysql> SELECT COUNT(*) FROM employee;
+-----+
| COUNT(*) |
+-----+
|         5 |
+-----+
1 row in set (0.32 sec)
```

○ Count()

```
ERROR 1146 (42502): Table 'company.employee' doesn't exist
mysql> select count(name) from employee;
+-----+
| count(name) |
+-----+
|         5 |
+-----+
1 row in set (0.00 sec)

mysql> _
```

○ Count() with distinct

```
1 row in set (0.00 sec)

mysql> select * from dept;
+-----+-----+
| deptId | deptname |
+-----+-----+
|      2 | developing |
|      3 | testing |
|      4 | sales |
|      5 | management |
|      6 | management |
+-----+-----+
5 rows in set (0.00 sec)

mysql> select count(deptname) from dept;
+-----+
| count(deptname) |
+-----+
|         5 |
+-----+
1 row in set (0.07 sec)

mysql> select count(distinct deptname) from dept;
+-----+
| count(distinct deptname) |
+-----+
|         4 |
+-----+
1 row in set (0.11 sec)

mysql>
```

○ sum():

```
mysql> select sum(salary) from salary;
+-----+
| sum(salary) |
+-----+
|      140000 |
+-----+
1 row in set (0.05 sec)

mysql>
```

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○ avg():

```
mysql> select avg(salary) from salary;
+-----+
| avg(salary) |
+-----+
| 28000.0000 |
+-----+
1 row in set (0.00 sec)

mysql>
```

○ min():

```
mysql> select min(salary) from salary;
+-----+
| min(salary) |
+-----+
|          5000 |
+-----+
1 row in set (0.14 sec)

mysql>
```

○ max():

```
mysql> select max(salary) from salary;
+-----+
| max(salary) |
+-----+
|         60000 |
+-----+
1 row in set (0.00 sec)

mysql>
```

Group by:

```
mysql> select departmentId, sum(salary)
-> from employee
-> group by departmentId;
+-----+-----+
| departmentId | sum(salary) |
+-----+-----+
|          1 |       75000 |
|          4 |      300000 |
|          3 |      350000 |
|          2 |      500000 |
+-----+-----+
4 rows in set (0.03 sec)

mysql> select city, sum(salary)
-> from employee
-> group by city;
+-----+-----+
| city | sum(salary) |
+-----+-----+
| Rajkot |       15000 |
| Ahmedabad |      25000 |
| Bangluru |       5000 |
| Mumbai |      35000 |
| Delhi |     110000 |
+-----+-----+
5 rows in set (0.03 sec)

mysql> select departmentId, avg(salary)
-> from employee
-> group by departmentId;
+-----+-----+
| departmentId | avg(salary) |
+-----+-----+
|          1 | 37500.0000 |
|          4 | 150000.0000 |
|          3 | 350000.0000 |
|          2 | 500000.0000 |
+-----+-----+
4 rows in set (0.20 sec)

mysql>
```

Task-4

○ group by using join

```
mysql> select department.departmentName,sum(salary)
-> from department
-> join salary on department.departmentId=salary.departmentId
-> group by departmentName;
+-----+-----+
| departmentName | sum(salary) |
+-----+-----+
| marketing      | 75000       |
| sales          | 30000       |
| testing        | 35000       |
| developing     | 50000       |
+-----+-----+
4 rows in set (0.02 sec)

mysql>
```

○ Group by using multiple columns:

```
mysql> select department.departmentId,department.departmentName,sum(salary)
-> from department
-> join salary on department.departmentId=salary.departmentId
-> group by department.departmentId,department.departmentName
-> having sum(salary)>30000;
+-----+-----+-----+
| departmentId | departmentName | sum(salary) |
+-----+-----+-----+
| 1            | marketing      | 75000       |
| 3            | testing        | 35000       |
| 2            | developing     | 50000       |
+-----+-----+-----+
3 rows in set (0.14 sec)

mysql>
```

Having:

```
mysql> select city,count(city)
-> from employee
-> group by city
-> having city='Delhi';
+-----+-----+
| city | count(city) |
+-----+-----+
| Delhi | 2           |
+-----+-----+
1 row in set (0.14 sec)

mysql>
```

```
Command Prompt - mysql -u root -p
-> having Mno like '12%';
ERROR 1054 (42S22): Unknown column 'Mno' in 'having clause'
mysql> select departmentId,avg(salary)
-> from employee
-> group by departmentId
-> having departmentId<4;
+-----+-----+
| departmentId | avg(salary) |
+-----+-----+
| 1            | 37500.0000  |
| 3            | 35000.0000  |
| 2            | 50000.0000  |
+-----+-----+
3 rows in set (0.04 sec)
```

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○ Having + order by

```

Command Prompt - mysql -u root -p
-> having Mno like '12%';
ERROR 1054 (42S22): Unknown column 'Mno' in 'having clause'
mysql> select departmentId,avg(salary)
-> from employee
-> group by departmentId
-> having departmentId<>4;
+-----+-----+
| departmentId | avg(salary) |
+-----+-----+
| 1 | 37500.0000 |
| 3 | 35000.0000 |
| 2 | 50000.0000 |
+-----+-----+
3 rows in set (0.04 sec)

mysql> select departmentId,avg(salary)
-> from employee
-> group by departmentId
-> having departmentId<>4
-> order by departmentId;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'by departmentId' at line 5
mysql> select departmentId,avg(salary)
-> from employee
-> group by departmentId
-> having departmentId<>4
-> order by departmentId;
+-----+-----+
| departmentId | avg(salary) |
+-----+-----+
| 1 | 37500.0000 |
| 2 | 50000.0000 |
| 3 | 35000.0000 |
+-----+-----+
3 rows in set (0.12 sec)

mysql>

```

○ Having using join

```

Command Prompt - mysql -u root -p
+-----+-----+
| 1 | marketing |
| 2 | devloping |
| 3 | testing |
| 4 | sales |
| 5 | management |
+-----+-----+
5 rows in set (0.02 sec)

mysql> select * from salary;
+-----+-----+-----+
| eid | departmentId | salary |
+-----+-----+-----+
| e01 | 1 | 15000 |
| e02 | 4 | 25000 |
| e03 | 4 | 5000 |
| e04 | 3 | 35000 |
| e05 | 2 | 50000 |
| e06 | 1 | 60000 |
+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> select department.departmentId,department.departmentName,sum(salary)
-> from department
-> join salary on department.departmentId=salary.departmentId
-> group by department.departmentId,department.departmentName
-> having sum(salary)>30000;
+-----+-----+-----+
| departmentId | departmentName | sum(salary) |
+-----+-----+-----+
| 1 | marketing | 75000 |
| 3 | testing | 35000 |
| 2 | devloping | 50000 |
+-----+-----+-----+
3 rows in set (0.14 sec)

mysql>

```

Task-4

String function:

○ Upper & lower

```
mysql> select upper(name) from employee;
+-----+
| upper(name) |
+-----+
| KHUSHI      |
| RAM         |
| KRISHNA     |
| JANVI       |
| LUKKY       |
| UMI         |
+-----+
6 rows in set (0.13 sec)
```

```
mysql> select lower(name) from employee;
+-----+
| lower(name) |
+-----+
| khushi      |
| ram         |
| krishna     |
| janvi       |
| lukky       |
| umi         |
+-----+
6 rows in set (0.05 sec)

mysql>
```

○ Length():

```
mysql> select name,length(name) from employee;
+-----+-----+
| name | length(name) |
+-----+-----+
| Khushi | 6 |
| Ram    | 3 |
| Krishna | 7 |
| Janvi  | 5 |
| Lukky  | 5 |
| Umi    | 3 |
+-----+-----+
6 rows in set (0.10 sec)

mysql>
```

○ Concat():

```
mysql> select concat(name,eid) as username from employee;
+-----+
| username |
+-----+
| Khushie01 |
| Rame02   |
| Krishnae03 |
| Janvie04 |
| lukkye05 |
| Umie06   |
+-----+
6 rows in set (0.00 sec)
```

○ Substr():

```
mysql> select substr(krishna,5,2);
ERROR 1054 (42S22): Unknown column 'krishna' in 'field list'
mysql> select substr(name,2,3) from employee;
+-----+
| substr(name,2,3) |
+-----+
| hus              |
| am               |
| ris              |
| anv              |
| ukk              |
| mi               |
+-----+
6 rows in set (0.00 sec)
```

Task-4

Mathematical Functions:

○ round()

```
4 rows in set (0.00 sec)

mysql> select round(1234.4533,2);
+-----+
| round(1234.4533,2) |
+-----+
|          1234.45   |
+-----+
1 row in set (0.12 sec)

mysql> select round(1234.4533,3);
+-----+
| round(1234.4533,3) |
+-----+
|          1234.453   |
+-----+
1 row in set (0.00 sec)

mysql>
```

○ round() of to int

```
mysql> select round(1234.4533,0);
+-----+
| round(1234.4533,0) |
+-----+
|          1234       |
+-----+
1 row in set (0.00 sec)

mysql>
```

○ round() of to nearest 10

```
mysql> select round(1234.4533,-1);
+-----+
| round(1234.4533,-1) |
+-----+
|          1230       |
+-----+
1 row in set (0.06 sec)

mysql>
```

○ round() of to nearest 100

```
1 row in set (0.00 sec)

mysql> select round(1234.4533,-2);
+-----+
| round(1234.4533,-2) |
+-----+
|          1200       |
+-----+
1 row in set (0.00 sec)

mysql>
```

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○ Ceil() & floor():

```
ERROR 1054 (42S22): Unknown column 'name' in 'field list'
mysql> select ceil(45.8) from dual;
+-----+
| ceil(45.8) |
+-----+
|          46 |
+-----+
1 row in set (0.17 sec)

mysql> select floor(45.8) from dual;
+-----+
| floor(45.8) |
+-----+
|          45 |
+-----+
1 row in set (0.03 sec)

mysql>
```

○ Abs():

```
mysql> select abs(-45.45) from dual;
+-----+
| abs(-45.45) |
+-----+
|          45.45 |
+-----+
1 row in set (0.08 sec)

mysql> _
```

Task-4

Time and Date function:

○ sysdate(): & now():

```
use near 'now()' at line 1
mysql> select now() from dual;
+-----+
| now() |
+-----+
| 2025-08-10 15:50:06 |
+-----+
1 row in set (0.11 sec)

mysql> select sysdate() from dual;
+-----+
| sysdate() |
+-----+
| 2025-08-10 15:50:20 |
+-----+
1 row in set (0.00 sec)
```

○ year() & month() & day()

```
mysql> select year(date) from date_of_join;
+-----+
| year(date) |
+-----+
| 2025 |
| 2020 |
| 2008 |
| 2022 |
+-----+
4 rows in set (0.00 sec)

mysql> select month(date) from date_of_join;
+-----+
| month(date) |
+-----+
| 2 |
| 3 |
| 9 |
| 9 |
+-----+
4 rows in set (0.03 sec)

mysql> select day(date) from date_of_join;
+-----+
| day(date) |
+-----+
| 1 |
| 28 |
| 22 |
| 1 |
+-----+
4 rows in set (0.00 sec)

mysql>
```

○ Datediff()

```
mysql> select datediff('2025-9-1','2020-5-25') from dual;
+-----+
| datediff('2025-9-1','2020-5-25') |
+-----+
| 1925 |
+-----+
1 row in set (0.03 sec)

mysql>
```


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