

SESSION 6:

```
mysql> DELIMITER //
mysql> create trigger new_trigger
-> after insert
-> on studentsdetails
-> for each row
-> begin
-> insert into studentsdetails(marks,action)
-> values(new.marks,'insert');
-> end;
-> //
Query OK, 0 rows affected (0.03 sec)

mysql> select * from studentsdetails;
-> //
+-----+-----+-----+-----+-----+-----+
| studentid | studentname | gender | departmentid | age | marks |
+-----+-----+-----+-----+-----+-----+
| 111 | riya | F | 102 | 14 | 90 |
| 123 | reshu | F | 102 | 15 | 90 |
| 153 | jin | M | 102 | 15 | 0 |
| 1235 | reshu | F | 102 | 18 | 90 |
| 1236 | riya | F | 101 | 18 | 90 |
| 1237 | ram | M | 102 | 19 | 75 |
+-----+-----+-----+-----+-----+
6 rows in set (0.01 sec)

Database changed
mysql> DELIMITER //
mysql> create trigger studtrigger
-> before insert
-> on studentsdetails
-> for each row
-> begin
-> if new.marks<35 then
-> set new.marks=0;
-> end if;
-> end;
-> //
Query OK, 0 rows affected (0.12 sec)
mysql> insert into studentsdetails values(153,"jin",'M',102,15,32);
-> //
Query OK, 1 row affected (0.01 sec)

mysql> ALTER TABLE student
-> ADD created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP;

ERROR 1146 (42S02): Table 'reshushetty.student' doesn't exist

mysql> alter table studentsdetails
-> add created_at timestamp default current_timestamp;

Query OK, 0 rows affected (0.14 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> alter table studentsdetails
```

```
-> add update_at timestamp default current_timestamp  
-> on update current_timestamp;
```

Query OK, 0 rows affected (0.03 sec)

Records: 0 Duplicates: 0 Warnings: 0

```
mysql> select * from studentsdetails;
```

studentid	studentname	gender	departmentid	age	marks	created_at	update_at
111	riya	F	102	14	96	2026-02-03 09:23:35	2026-02-03 09:25:14
123	reshu	F	102	15	90	2026-02-03 09:23:35	2026-02-03 09:25:14
153	jin	M	102	15	0	2026-02-03 09:23:35	2026-02-03 09:25:14
1235	reshu	F	102	18	90	2026-02-03 09:23:35	2026-02-03 09:25:14
1236	riya	F	101	18	90	2026-02-03 09:23:35	2026-02-03 09:25:14
1237	ram	M	102	19	75	2026-02-03 09:23:35	2026-02-03 09:25:14

6 rows in set (0.00 sec)

```
mysql> CREATE TRIGGER teacher_salary_check_insert  
-> BEFORE INSERT ON teacher  
-> FOR EACH ROW  
-> BEGIN  
-> IF NEW.salary < 0 THEN  
-> SIGNAL SQLSTATE '45000'  
-> SET MESSAGE_TEXT = 'Salary cannot be negative';  
-> END IF;  
-> END$$
```

Query OK, 0 rows affected (0.02 sec)

```
mysql> insert into teacher values(1235,"java",111,-2453);
```

ERROR 1644 (45000): Salary cannot be negative

```
mysql> seelct * from teacher;
```

```
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 'seelct * from teacher' at line 1
```

```
mysql> select * from teacher;
```

teacherid	subjectname	departmentid	salary
454	c	102	NULL
456	c++	101	NULL
457	python	103	NULL
474	C	102	23468
4234	python	103	-23456
4567	C++	101	3456

```
6 rows in set (0.00 sec)
```

```
mysql> create table teacher1_audit(audit_id int auto_increment primary key,teacherid  
int,subjectname varchar(50),departmentid int,
```

```
-> salary decimal(10,2),  
-> action_type varchar(20),  
-> changed_on timestamp default current_timestamp);
```

```
Query OK, 0 rows affected (0.04 sec)
```

```
mysql> DELIMITER $$
```

```
mysql>
```

```
mysql> CREATE TRIGGER teacher_update_audit
```

```
-> BEFORE UPDATE ON teacher  
-> FOR EACH ROW  
-> BEGIN  
->   INSERT INTO teacher_audit  
->     (teacherid, subjectname, departmentid, salary, action_type)  
->   VALUES  
->     (OLD.teacherid, OLD.subjectname, OLD.departmentid, OLD.salary, 'UPDATE');
```

```
-> END$$
```

```
Query OK, 0 rows affected (0.01 sec);
```

```
ERROR 1146 (42S02): Table 'reshushetty.project' doesn't exist
```

Session7:

```
mysql> CREATE TABLE project (
```

```
    -> project_id INT PRIMARY KEY,  
    -> project_name VARCHAR(50),  
    -> start_date DATE,  
    -> end_date DATE,  
    -> created_at DATE  
    -> );
```

```
Query OK, 0 rows affected (0.03 sec)
```

```
mysql> INSERT INTO project VALUES
```

```
    -> (1, 'Library System', '2024-01-01', '2024-01-20', '2024-01-06'),  
    -> (2, 'Student Portal', '2024-02-05', '2024-03-01', '2024-02-10'),  
    -> (3, 'Payroll App', '2024-03-10', '2024-04-10', '2024-03-16'),  
    -> (4, 'ERP System', '2024-04-01', '2024-04-15', '2024-04-14');
```

```
Query OK, 4 rows affected (0.01 sec)
```

```
Records: 4  Duplicates: 0  Warnings: 0
```

```
mysql> select * from project;
```

project_id	project_name	start_date	end_date	created_at
1	Library System	2024-01-01	2024-01-20	2024-01-06
2	Student Portal	2024-02-05	2024-03-01	2024-02-10
3	Payroll App	2024-03-10	2024-04-10	2024-03-16
4	ERP System	2024-04-01	2024-04-15	2024-04-14

```
4 rows in set (0.00 sec)
```

```
mysql> SELECT project_name,
-> DATEDIFF(end_date, start_date) AS total_days
-> FROM project;
+-----+-----+
| project_name | total_days |
+-----+-----+
| Library System | 19 |
| Student Portal | 25 |
| Payroll App | 31 |
| ERP System | 14 |
+-----+
4 rows in set (0.00 sec)
```

```
mysql> SELECT project_name,
-> DATE_ADD(start_date, INTERVAL 30 DAY) AS expiry_date
-> FROM project;
+-----+-----+
| project_name | expiry_date |
+-----+-----+
| Library System | 2024-01-31 |
| Student Portal | 2024-03-06 |
| Payroll App | 2024-04-09 |
| ERP System | 2024-05-01 |
+-----+
4 rows in set (0.00 sec)
```

```
mysql> SELECT DATE_SUB(CURDATE(), INTERVAL 7 DAY) AS before_7_days;
+-----+
| before_7_days |
+-----+
```

```
| 2026-01-27 |
```

```
+-----+
```

```
1 row in set (0.00 sec)
```

```
mysql> SELECT *
```

```
-> FROM project
```

```
-> WHERE DAYOFWEEK(created_at) IN (1,7);
```

```
+-----+-----+-----+-----+
```

```
| project_id | project_name | start_date | end_date | created_at |
```

```
+-----+-----+-----+-----+
```

```
| 1 | Library System | 2024-01-01 | 2024-01-20 | 2024-01-06 |
```

```
| 2 | Student Portal | 2024-02-05 | 2024-03-01 | 2024-02-10 |
```

```
| 3 | Payroll App | 2024-03-10 | 2024-04-10 | 2024-03-16 |
```

```
| 4 | ERP System | 2024-04-01 | 2024-04-15 | 2024-04-14 |
```

```
+-----+-----+-----+-----+
```

```
4 rows in set (0.00 sec)
```

```
mysql> SELECT MONTHNAME(
```

```
-> STR_TO_DATE('25-12-2024', '%d-%m-%Y')
```

```
-> ) AS month_name;
```

```
+-----+
```

```
| month_name |
```

```
+-----+
```

```
| December |
```

```
+-----+
```

```
1 row in set (0.01 sec)
```

Session 8:

```
mysql> CREATE INDEX idx_students_email  
-> ON studentsdetails(email);
```

Query OK, 0 rows affected (0.23 sec)

Records: 0 Duplicates: 0 Warnings: 0

```
mysql> CREATE INDEX idx_project_status_created
```

```
-> on project(start_date,created_at);
```

Query OK, 0 rows affected (0.07 sec)

Records: 0 Duplicates: 0 Warnings: 0

```
create unique index teacher_index
```

```
-> on teacher(teacherid);
```

Query OK, 0 rows affected (0.04 sec)

```
DROP INDEX idx_students_email
```

```
-> ON studentsdetails;
```

Query OK, 0 rows affected (0.02 sec)

Records: 0 Duplicates: 0 Warnings: 0

```
select * from project
```

```
-> where project_name="ERP System"
```

```
-> order by start_date desc;
```

project_id	project_name	start_date	end_date	created_at
4	ERP System	2024-04-01	2024-04-15	2024-04-14

1 row in set (0.01 sec)

Session 9:

1. mysql> select * from studentsdetails;

```
+-----+-----+-----+-----+-----+-----+
| studentid | studentname | gender | departmentid | age | marks | created_at      | update_at
|           |
+-----+-----+-----+-----+-----+-----+
|    111 | riya     | F     |      102 | 14 |   96 | 2026-02-03 09:23:35 | 2026-02-03 09:25:14 |
|    123 | reshu    | F     |      102 | 15 |   90 | 2026-02-03 09:23:35 | 2026-02-03 09:25:14 |
|    153 | jin      | M     |      102 | 15 |    0 | 2026-02-03 09:23:35 | 2026-02-03 09:25:14 |
|   1235 | reshu    | F     |      102 | 18 |   90 | 2026-02-03 09:23:35 | 2026-02-03 09:25:14 |
|   1236 | riya     | F     |      101 | 18 |   90 | 2026-02-03 09:23:35 | 2026-02-03 09:25:14 |
|   1237 | ram      | M     |      102 | 19 |   75 | 2026-02-03 09:23:35 | 2026-02-03 09:25:14 |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.01 sec)
```

mysql> select studentid,

```
->   studentname,
->   CONCAT(studentname, '123') AS default_password
-> from studentsdetails;
```

```
+-----+
| studentid | studentname | default_password |
+-----+
|    111 | riya     | riya123       |
|    123 | reshu    | reshu123      |
|    153 | jin      | jin123        |
|   1235 | reshu    | reshu123      |
|   1236 | riya     | riya123       |
|   1237 | ram      | ram123        |
+-----+
```

```
6 rows in set (0.00 sec)
```

```
mysql> DELIMITER $$  
mysql>  
mysql> CREATE FUNCTION create_password(name VARCHAR(50))  
-> RETURNS VARCHAR(60)  
-> DETERMINISTIC  
-> BEGIN  
->   RETURN CONCAT(name, '123');  
-> END $$
```

```
Query OK, 0 rows affected (0.08 sec)
```

```
mysql>  
mysql> DELIMITER ;  
mysql> SELECT studentname, create_password(studentname) AS password from studentsdetails;  
+-----+-----+  
| studentname | password |  
+-----+-----+  
| riya      | riya123  |  
| reshu     | reshu123 |  
| jin       | jin123   |  
| reshu     | reshu123 |  
| riya      | riya123  |  
| ram       | ram123   |  
+-----+-----+  
6 rows in set (0.01 sec)
```

2.mysql> SELECT

```
->   CONCAT(SUBSTRING_INDEX(username, '@', 1), '123') AS default_password  
-> from studentsdetails;  
ERROR 1054 (42S22): Unknown column 'username' in 'field list'
```

```

mysql> select concat(substring_index(studentname,'@',1),'123')as default_password from studentsdetails;
+-----+
| default_password |
+-----+
| riya123      |
| reshu123     |
| jin123       |
| reshu123     |
| riya123      |
| ram123       |
+-----+
6 rows in set (0.00 sec)

mysql> alter table studentsdetails
-> add contact varchar(15);

Query OK, 0 rows affected (0.05 sec)

Records: 0  Duplicates: 0  Warnings: 0

mysql> UPDATE studentdetails
-> SET contact = REGEXP_REPLACE(contact, '[^0-9]', "");

ERROR 1146 (42S02): Table 'reshushetty.studentdetails' doesn't exist

mysql> select * from studentsdetails;
+-----+-----+-----+-----+-----+-----+-----+-----+
| studentid | studentname | gender | departmentid | age | marks | created_at | update_at |
| contact   |
+-----+-----+-----+-----+-----+-----+-----+-----+
|    111 | riya      | F     |      102 | 14 |  96 | 2026-02-03 09:23:35 | 2026-02-03 09:25:14 |
| NULL    |
|    123 | reshu     | F     |      102 | 15 |  90 | 2026-02-03 09:23:35 | 2026-02-03 09:25:14 |
| NULL    |
|    153 | jin       | M     |      102 | 15 |  0  | 2026-02-03 09:23:35 | 2026-02-03 09:25:14 |
| NULL    |

```

```

| 1235 | reshu | F | 102 | 18 | 90 | 2026-02-03 09:23:35 | 2026-02-03 09:25:14 |
NULL |

| 1236 | riya | F | 101 | 18 | 90 | 2026-02-03 09:23:35 | 2026-02-03 09:25:14 |
NULL |

| 1237 | ram | M | 102 | 19 | 75 | 2026-02-03 09:23:35 | 2026-02-03 09:25:14 |
NULL |

+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

```

mysql> update studentsdetails

```
-> set contact = REGEXP_REPLACE(contact, '[^0-9]', "");
```

Query OK, 0 rows affected (0.01 sec)

Rows matched: 6 Changed: 0 Warnings: 0

3. mysql> select upper (studentid) from studentsdetails;

```
+-----+
| upper (studentid) |
+-----+
| 1236
| 1235
| 1237
+-----+
3 rows in set (0.01 sec)
```

```
mysql> select UPPER(studentid) from studentsdetails;
+-----+
| UPPER(studentid) |
+-----+
| 1236
| 1235
| 1237
+-----+
3 rows in set (0.00 sec)
```

```
mysql> select UPPER(studentname)as studentname from studentsdetails;
```

```
+-----+
| studentname |
+-----+
| RESHU
| RIYA
| RAM
+-----+
3 rows in set (0.00 sec)
```

```
mysql> select lower(studentname) as studentname from studentsdetails;
```

```
+-----+
| studentname |
+-----+
| reshu
| riya
| ram
+-----+
```

```

+-----+
3 rows in set (0.00 sec)

mysql> select concat (reshu,shetty) as reshu from studentsdetails;
ERROR 1054 (42S22): Unknown column 'reshu' in 'field list'
mysql> select concat (student,name) as studentname from studentsdetails;
ERROR 1054 (42S22): Unknown column 'student' in 'field list'
mysql> select concat (studentname,studentid) as studentname from studentsdetails;

+-----+
| studentname |
+-----+
| reshu1235   |
| riya1236    |
| ram1237     |
+-----+
3 rows in set (0.00 sec)

mysql> select LENGTH (marks) from studentsdetails;
+-----+
| LENGTH (marks) |
+-----+
|          2    |
|          2    |
|          1    |
|          2    |
|          2    |
|          2    |
+-----+
6 rows in set (0.01 sec)

mysql> select trim (studentname) as name from studentsdetails;
ERROR 1630 (42000): FUNCTION reshushetty.trim does not exist. Check the 'Function
Name Parsing and Resolution' section in the Reference Manual
mysql> select trim(studentname) from studentsdetails;
+-----+
| trim(studentname) |
+-----+
| riya             |
| reshu            |
| jin              |
| reshu            |
| riya             |
| ram              |
+-----+
6 rows in set (0.00 sec)

mysql> select substring(studentname,marks)from studentsdetails;
+-----+
| substring(studentname,marks) |
+-----+
|                               |
|                               |
|                               |
|                               |
|                               |
|                               |
+-----+
6 rows in set (0.00 sec)

mysql> select substring(studentname,1,3) from studentsdetails;
+-----+
| substring(studentname,1,3) |

```

```
+-----+
| riy |
| res |
| jin |
| res |
| riy |
| ram |
+-----+
```

6 rows in set (0.00 sec)

4. mysql> select * from studentsdetails;

studentid	studentname	gender	departmentid	age	marks	created_at	update_at
contact							
111	riya	F	102	14	96	2026-02-03 09:23:35	2026-02-03 09:25:14
NULL							
123	reshu	F	102	15	90	2026-02-03 09:23:35	2026-02-03 09:25:14
NULL							
153	jin	M	102	15	0	2026-02-03 09:23:35	2026-02-03 09:25:14
NULL							
1235	reshu	F	102	18	90	2026-02-03 09:23:35	2026-02-03 09:25:14
NULL							
1236	riya	F	101	18	90	2026-02-03 09:23:35	2026-02-03 09:25:14
NULL							
1237	ram	M	102	19	75	2026-02-03 09:23:35	2026-02-03 09:25:14
NULL							

6 rows in set (0.00 sec)

mysql> UPDATE studentdetails

-> SET contact = COALESCE(mobile, phone, email)

-> WHERE contact IS NULL;

ERROR 1146 (42S02): Table 'reshushetty.studentdetails' doesn't exist

mysql> update studentsdetails

-> set contact=coalesce(mobile,phone,email)

-> where contact is null;

ERROR 1054 (42S22): Unknown column 'mobile' in 'field list'

```
mysql> alter studentsdetails  
-> ADD mobile VARCHAR(15),  
-> ADD phone VARCHAR(15),  
-> ADD email VARCHAR(100);
```

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 'studentsdetails'

```
ADD mobile VARCHAR(15),  
ADD phone VARCHAR(15),  
ADD email VARCH' at line 1
```

```
mysql> alter table studentsdetails
```

```
-> ADD mobile VARCHAR(15),  
-> ADD phone VARCHAR(15),  
-> ADD email VARCHAR(100);
```

Query OK, 0 rows affected (0.04 sec)

Records: 0 Duplicates: 0 Warnings: 0

```
mysql> UPDATE studentdetails
```

```
-> SET mobile = '9876543210'  
-> WHERE studentid = 111;
```

ERROR 1146 (42S02): Table 'reshushetty.studentdetails' doesn't exist

```
mysql>
```

```
mysql> UPDATE studentdetails  
-> SET phone = '0442345678'  
-> WHERE studentid = 123;
```

ERROR 1146 (42S02): Table 'reshushetty.studentdetails' doesn't exist

```
mysql>
```

```
mysql> UPDATE studentdetails  
-> SET email = 'ram@gmail.com'  
-> WHERE studentid = 1237;
```

ERROR 1146 (42S02): Table 'reshushetty.studentdetails' doesn't exist

```
mysql> update studentsdetails
```

```
-> SET mobile = '9876543210'  
-> WHERE studentid = 111;  
  
Query OK, 1 row affected (0.01 sec)  
  
Rows matched: 1 Changed: 1 Warnings: 0
```

```
mysql> update studentsdetails  
-> SET phone = '0442345678'  
-> WHERE studentid = 123;  
  
Query OK, 1 row affected (0.00 sec)  
  
Rows matched: 1 Changed: 1 Warnings: 0
```

```
mysql> update studentsdetails  
-> SET email = 'ram@gmail.com'  
-> WHERE studentid = 1237;  
  
Query OK, 1 row affected (0.00 sec)  
  
Rows matched: 1 Changed: 1 Warnings: 0
```

```
mysql> update studentsdetails  
-> SET contact = COALESCE(mobile, phone, email)  
-> WHERE contact IS NULL;  
  
Query OK, 3 rows affected (0.00 sec)  
  
Rows matched: 6 Changed: 3 Warnings: 0
```

```
mysql> SELECT studentid, studentname, contact  
-> from studentsdetails;  
+-----+-----+-----+  
| studentid | studentname | contact |  
+-----+-----+-----+  
| 111 | riya | 9876543210 |  
| 123 | reshu | 0442345678 |  
| 153 | jin | NULL |
```

```

| 1235 | reshu | NULL |
| 1236 | riya | NULL |
| 1237 | ram | ram@gmail.com |
+-----+-----+

```

6 rows in set (0.00 sec)

mysql> select * from studentsdetails;

```

+-----+-----+-----+-----+-----+-----+-----+
-----+-----+
| studentid | studentname | gender | departmentid | age | marks | created_at | update_at
| contact | mobile | phone | email |           |
-----+-----+-----+-----+-----+-----+
-----+-----+
| 111 | riya | F | 102 | 14 | 96 | 2026-02-03 09:23:35 | 2026-02-03 21:39:57 |
9876543210 | 9876543210 | NULL | NULL |           |
| 123 | reshu | F | 102 | 15 | 90 | 2026-02-03 09:23:35 | 2026-02-03 21:39:57 |
0442345678 | NULL | 0442345678 | NULL |           |
| 153 | jin | M | 102 | 15 | 0 | 2026-02-03 09:23:35 | 2026-02-03 09:25:14 |
NULL | NULL | NULL | NULL |           |
| 1235 | reshu | F | 102 | 18 | 90 | 2026-02-03 09:23:35 | 2026-02-03 09:25:14 |
NULL | NULL | NULL | NULL |           |
| 1236 | riya | F | 101 | 18 | 90 | 2026-02-03 09:23:35 | 2026-02-03 09:25:14 |
NULL | NULL | NULL | NULL |           |
| 1237 | ram | M | 102 | 19 | 75 | 2026-02-03 09:23:35 | 2026-02-03 21:39:57 |
ram@gmail.com | NULL | NULL | ram@gmail.com |           |
+-----+-----+-----+-----+-----+-----+-----+
-----+-----+

```

6 rows in set (0.00 sec)

mysql> SELECT

```

-> studentid,
-> COALESCE(mobile, phone, email) AS preferred_contact
-> from studentsdetails;
+-----+

```

```

| studentid | preferred_contact |
+-----+-----+
| 111 | 9876543210 |
| 123 | 0442345678 |
| 153 | NULL |
| 1235 | NULL |
| 1236 | NULL |
| 1237 | ram@gmail.com |
+-----+

```

6 rows in set (0.00 sec)

5.

```

mysql> select avg(departmentid)from department;
+-----+
| avg(departmentid) |
+-----+
| 102.0000 |
+-----+
1 row in set (0.00 sec)

mysql> select datediff(curdate(),'29-11-2025');
+-----+
| datediff(curdate(),'29-11-2025') |
+-----+
| NULL |
+-----+
1 row in set, 1 warning (0.00 sec)

mysql> select year(now());
+-----+
| year(now()) |
+-----+
| 2026 |
+-----+
1 row in set (0.00 sec)

mysql> select month(curdate());
+-----+
| month(curdate()) |
+-----+
| 1 |
+-----+
1 row in set (0.00 sec)

select max(age) as maximum,studentid
-> from studentsdata
-> group by studentid;
+-----+
| maximum | studentid |
+-----+
| 19 | 1006 |
| 18 | 1336 |
+-----+

```

	19	1436
	19	1526
	20	1527

Session 10:

```
CREATE TABLE salary (
    -> salaryid INT AUTO_INCREMENT PRIMARY KEY,
    -> studentid INT NOT NULL,
    -> base_salary DECIMAL(12,2) NOT NULL,
    -> last_payment_date DATE,
    -> days_late INT DEFAULT 0
    -> net_salary DECIMAL(12,2),
    -> tax_amount DECIMAL(12,2),
    ->FOREIGN KEY (studentid) REFERENCES studentsdetails(studentid)
);
```

```
mysql> INSERT INTO salary (studentid, base_salary, last_payment_date, due_date, days_late)
```

```
-> VALUES  
-> (111, 250000, '2026-02-01', '2026-02-05', 0),  
-> (123, 450000, '2026-02-01', '2026-02-05', 2),  
-> (153, 800000, '2026-02-01', '2026-02-05', 5),  
-> (1235, 1200000, '2026-02-01', '2026-02-05', 15),  
-> (1236, 500000, '2026-02-01', '2026-02-05', 0),  
-> (1237, 700000, '2026-02-01', '2026-02-05', 10);
```

Query OK, 6 rows affected (0.01 sec)

Records: 6 Duplicates: 0 Warnings: 0

```
mysql> select * from salary;
```

```
+-----+-----+-----+-----+-----+-----+-----+-----+
| salaryid | studentid | base_salary | last_payment_date | due_date | days_late |
| net_salary | tax_amount |
```

	5		111		250000.00		2026-02-01		2026-02-05		0		NULL		NULL	
	6		123		450000.00		2026-02-01		2026-02-05		2		NULL		NULL	
	7		153		800000.00		2026-02-01		2026-02-05		5		NULL		NULL	
	8		1235		1200000.00		2026-02-01		2026-02-05		15		NULL			
	NULL															
	9		1236		500000.00		2026-02-01		2026-02-05		0		NULL		NULL	
	10		1237		700000.00		2026-02-01		2026-02-05		10		NULL			
	NULL															

6 rows in set (0.00 sec)

mysql> DELIMITER \$\$

mysql>

mysql> CREATE FUNCTION net_salary_after_tax(salary DECIMAL(12,2))

-> RETURNS DECIMAL(12,2)

-> DETERMINISTIC

-> BEGIN

-> RETURN salary - (salary * 0.10);

-> END \$\$

Query OK, 0 rows affected (0.02 sec)

mysql>

mysql> DELIMITER ;

mysql> SELECT net_salary_after_tax(50000); -- Returns 45000

+-----+

| net_salary_after_tax(50000) |

+-----+

```
| 45000.00 |  
+-----+
```

1 row in set (0.01 sec)

mysql> DELIMITER \$\$

mysql>

mysql> CREATE FUNCTION check_user_activity(last_login DATE)

-> RETURNS VARCHAR(10)

-> DETERMINISTIC

-> BEGIN

-> IF last_login >= CURDATE() - INTERVAL 30 DAY THEN

-> RETURN 'Active';

-> ELSE

-> RETURN 'Inactive';

-> END IF;

-> END \$\$

Query OK, 0 rows affected (0.01 sec)

mysql>

mysql> DELIMITER ;

mysql> SELECT check_user_activity('2026-01-10');

```
+-----+
```

```
| check_user_activity('2026-01-10') |
```

```
+-----+
```

```
| Active |
```

```
+-----+
```

1 row in set (0.00 sec)

mysql> DELIMITER \$\$

```
mysql>
mysql> CREATE FUNCTION calculate_tax(salary DECIMAL(12,2))
-> RETURNS DECIMAL(12,2)
-> DETERMINISTIC
-> BEGIN
->     DECLARE tax DECIMAL(12,2);
->
->     IF salary <= 300000 THEN
->         SET tax = 0;
->     ELSEIF salary <= 600000 THEN
->         SET tax = salary * 0.10;
->     ELSEIF salary <= 1000000 THEN
->         SET tax = salary * 0.20;
->     ELSE
->         SET tax = salary * 0.30;
->     END IF;
->
->     RETURN tax;
-> END $$
```

Query OK, 0 rows affected (0.01 sec)

```
mysql>
mysql> DELIMITER ;
mysql> SELECT calculate_tax(1200000); -- Returns 360000
+-----+
| calculate_tax(1200000) |
+-----+
|      360000.00 |
+-----+
```

1 row in set (0.00 sec)

mysql> DELIMITER \$\$

mysql>

mysql> CREATE FUNCTION categorize_employee(years_of_exp INT)

-> RETURNS VARCHAR(10)

-> DETERMINISTIC

-> BEGIN

-> DECLARE category VARCHAR(10);

->

-> IF years_of_exp < 2 THEN

-> SET category = 'Fresher';

-> ELSEIF years_of_exp BETWEEN 2 AND 5 THEN

-> SET category = 'Junior';

-> ELSEIF years_of_exp BETWEEN 6 AND 10 THEN

-> SET category = 'Mid';

-> ELSE

-> SET category = 'Senior';

-> END IF;

->

-> RETURN category;

-> END \$\$

Query OK, 0 rows affected (0.01 sec)

mysql>

mysql> DELIMITER ;

mysql> SELECT categorize_employee(7); -- Returns 'Mid'

+-----+

| categorize_employee(7) |

```
+-----+
```

```
| Mid |
```

```
+-----+
```

```
1 row in set (0.00 sec)
```

```
mysql> DELIMITER $$
```

```
mysql>
```

```
mysql> CREATE FUNCTION calculate_late_fee(days_late INT)
```

```
-> RETURNS DECIMAL(10,2)
```

```
-> DETERMINISTIC
```

```
-> BEGIN
```

```
->     DECLARE fee DECIMAL(10,2);
```

```
->
```

```
->     SET fee = days_late * 50;
```

```
->
```

```
->     IF fee > 1000 THEN
```

```
->         SET fee = 1000;
```

```
->     END IF;
```

```
->
```

```
->     RETURN fee;
```

```
-> END $$
```

```
Query OK, 0 rows affected (0.01 sec)
```

```
mysql>
```

```
mysql> DELIMITER ;
```

```
mysql> SELECT calculate_late_fee(5); -- Returns 250
```

```
+-----+
```

```
| calculate_late_fee(5) |
```

```
+-----+
```

```
|      250.00 |
+-----+
1 row in set (0.00 sec)

mysql> SELECT calculate_late_fee(30); -- Returns 1000 (capped)
+-----+
| calculate_late_fee(30) |
+-----+
|      1000.00 |
+-----+
1 row in set (0.00 sec)
```