

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  |
| reshul    | reshul123|
| jin       | jin123   |
| reshul    | reshul123|
| 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         |
| resh123         |
| jin123          |
| resh123         |
| 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 | resh1 | 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   |
| riyal236    |
| ram1237     |
+-----+
3 rows in set (0.00 sec)
```

```
mysql> select LENGTH (marks) from studentsdetails;
```

```
+-----+
| LENGTH (marks) |
+-----+
|                |
|                |
|                |
|                |
|                |
|                |
+-----+
```

```
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 | reshushetty | 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 | reshushetty | 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)