WEEK 2

USER DEFINED FUNCTIONS

TASK 1

```
mysql> CREATE DATABASE udf_demo_db;
Query OK, 1 row affected (0.03 sec)

mysql> USE udf_demo_db;
Database changed
mysql> DELIMITER $$
mysql>
mysql> CREATE FUNCTION calculate_net_salary(gross_salary DECIMAL(10,2))
    -> RETURNS DECIMAL(10,2)
    -> DETERMINISTIC
    -> BEGIN
    ->     RETURN gross_salary - (gross_salary * 0.10);
    -> END$$
Query OK, 0 rows affected (0.06 sec)

mysql>
mysql> DELIMITER ;
mysql> SELECT calculate_net_salary(50000) AS net_salary;
+------------+
| net_salary |
+------------+
|   45000.00 |
+------------+
1 row in set (0.01 sec)
```

TASK 2

```
mysql> DELIMITER $$
mysql>
mysql> CREATE FUNCTION check_user_activity(last_login DATE)
    -> RETURNS VARCHAR(10)
    -> DETERMINISTIC
    -> BEGIN
    ->     IF DATEDIFF(CURDATE(), last_login) <= 30 THEN
    ->         RETURN 'Active';
    ->     ELSE
    ->         RETURN 'Inactive';
    ->     END IF;
    -> END$$
Query OK, 0 rows affected (0.01 sec)

mysql>
mysql> DELIMITER ;
mysql> SELECT check_user_activity('2026-01-15') AS status;
+--------+
| status |
+--------+
| Active |
+--------+
1 row in set (0.00 sec)
```

TASK 3

```
mysql> DELIMITER $$
mysql>
mysql> CREATE FUNCTION calculate_tax_percent(salary DECIMAL(10,2))
    -> RETURNS INT
    -> DETERMINISTIC
    -> BEGIN
    ->     DECLARE tax INT;
    ->
    ->     IF salary <= 300000 THEN
    ->         SET tax = 0;
    ->     ELSEIF salary <= 600000 THEN
    ->         SET tax = 10;
    ->     ELSEIF salary <= 1000000 THEN
    ->         SET tax = 20;
    ->     ELSE
    ->         SET tax = 30;
    ->     END IF;
    ->
    ->     RETURN tax;
    -> END$$
Query OK, 0 rows affected (0.01 sec)

mysql>
mysql> DELIMITER ;
mysql> SELECT calculate_tax_percent(750000) AS tax_percentage;
+----------------+
| tax_percentage |
+----------------+
|             20 |
+----------------+
1 row in set (0.00 sec)
```

TASK 4

```
mysql> DELIMITER $$
mysql>
mysql> CREATE FUNCTION experience_category(years INT)
    -> RETURNS VARCHAR(20)
    -> DETERMINISTIC
    -> BEGIN
    ->     IF years < 2 THEN
    ->         RETURN 'Fresher';
    ->     ELSEIF years BETWEEN 2 AND 5 THEN
    ->         RETURN 'Junior';
    ->     ELSEIF years BETWEEN 6 AND 10 THEN
    ->         RETURN 'Mid';
    ->     ELSE
    ->         RETURN 'Senior';
    ->     END IF;
    -> END$$
Query OK, 0 rows affected (0.03 sec)

mysql>
mysql> DELIMITER ;
mysql> SELECT experience_category(7) AS emp_level;
+-----------+
| emp_level |
+-----------+
| Mid       |
+-----------+
1 row in set (0.02 sec)
```

TASK 5

```
mysql> DELIMITER $$
mysql>
mysql> CREATE FUNCTION calculate_late_fee(late_days INT)
    -> RETURNS INT
    -> DETERMINISTIC
    -> BEGIN
    ->     DECLARE fee INT;
    ->
    ->     SET fee = late_days * 50;
    ->
    ->     IF fee > 1000 THEN
    ->         SET fee = 1000;
    ->     END IF;
    ->
    ->     RETURN fee;
    -> END$$
Query OK, 0 rows affected (0.04 sec)

mysql>
mysql> DELIMITER ;
mysql> SELECT calculate_late_fee(30) AS late_fee;
+----------+
| late_fee |
+----------+
|     1000 |
+----------+
1 row in set (0.00 sec)
```