DSW Week 7 and 8

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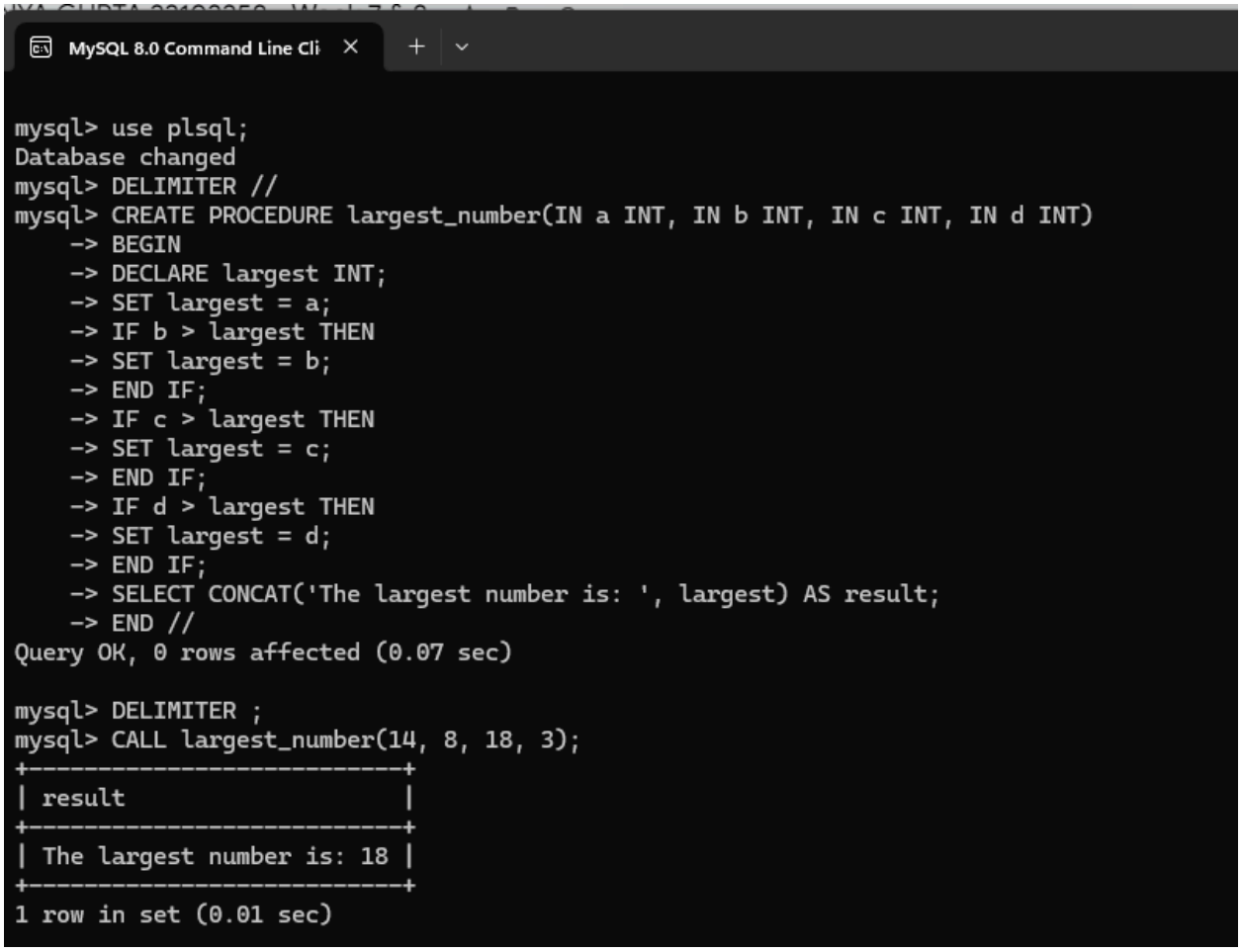
Batch: B9

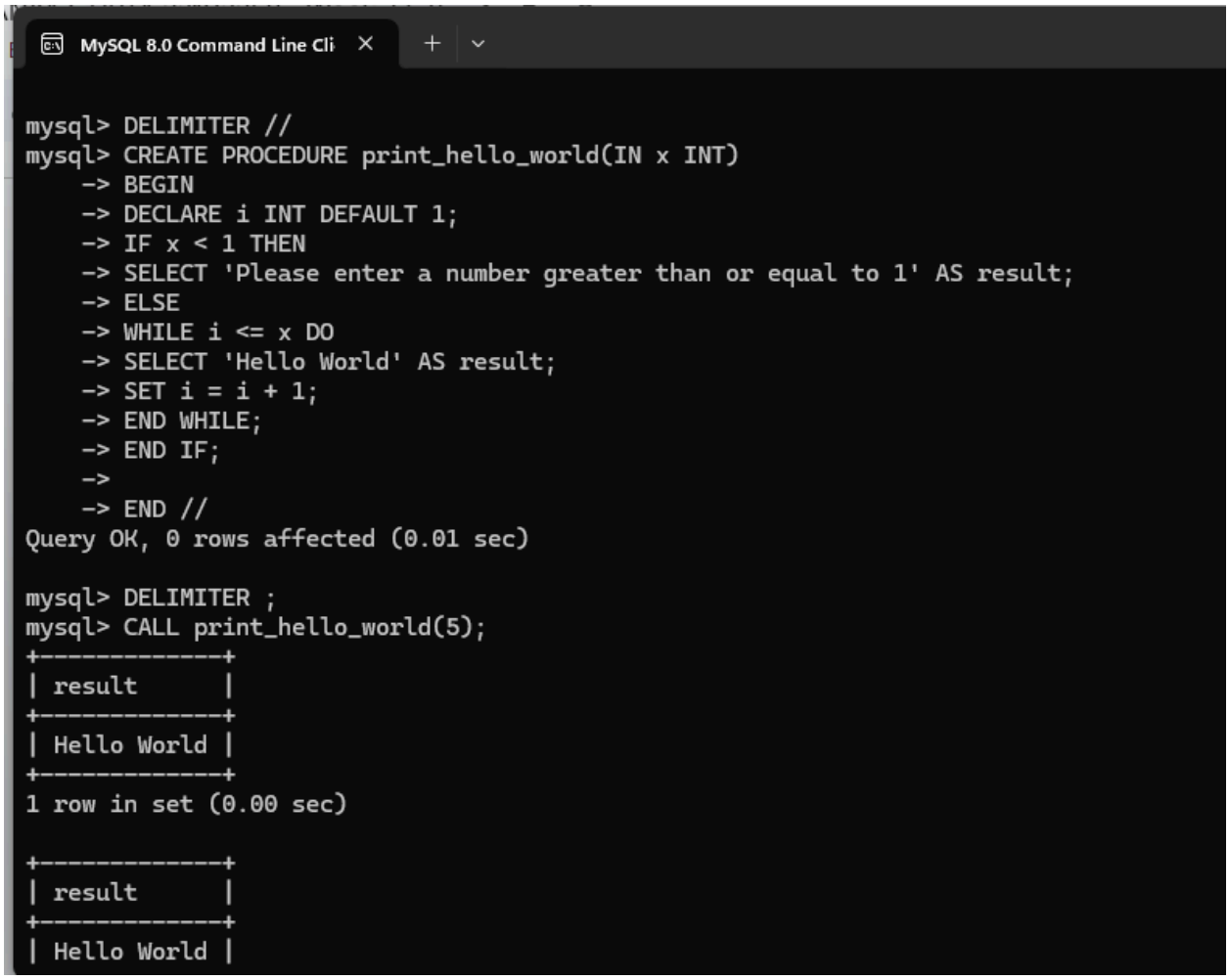
Q1

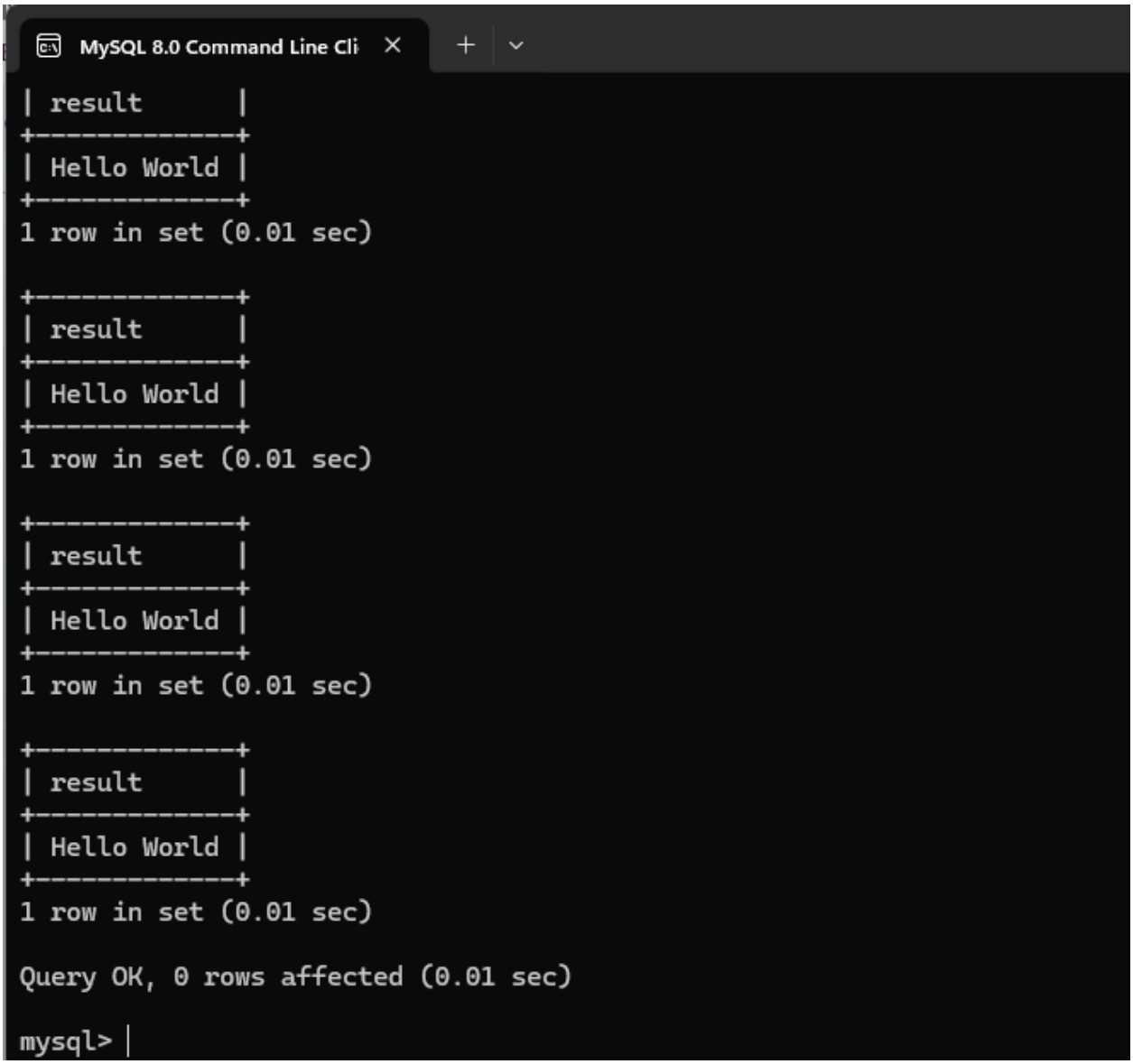
```
DELIMITER //
CREATE PROCEDURE largest_number(IN a INT, IN b INT, IN c INT, IN d INT)
BEGIN
DECLARE largest INT;
SET largest = a;
IF b > largest THEN
SET largest = b;
END IF;
IF c > largest THEN
SET largest = c;
END IF;
IF d > largest THEN
SET largest = d;
END IF;
SELECT CONCAT('The largest number is: ', largest) AS result;
END //
DELIMITER ;
CALL largest_number(14, 8, 18, 3);
```



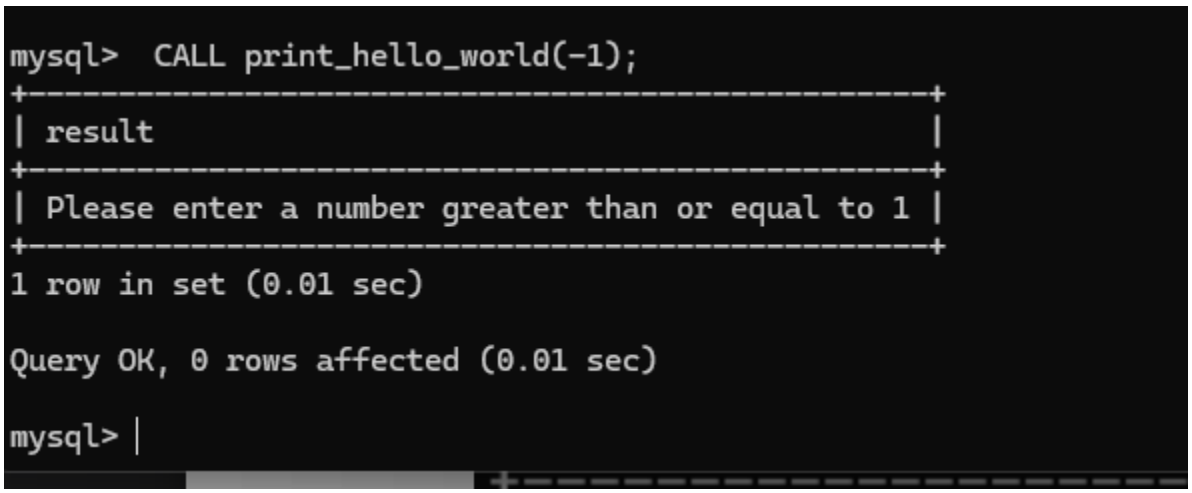
Q2

```
DELIMITER //
CREATE PROCEDURE print_hello_world(IN x INT)
BEGIN
DECLARE i INT DEFAULT 1;
IF x < 1 THEN
SELECT 'Please enter a number greater than or equal to 1' AS result;
ELSE
WHILE i <= x DO
SELECT 'Hello World' AS result;
SET i = i + 1;
END WHILE;
END IF;

END //
DELIMITER ;
CALL print_hello_world(5);
```


MySQL 8.0 Command Line Cli
mysql> DELIMITER //
mysql> CREATE PROCEDURE print_hello_world(IN x INT)
-> BEGIN
-> DECLARE i INT DEFAULT 1;
-> IF x < 1 THEN
-> SELECT 'Please enter a number greater than or equal to 1' AS result;
-> ELSE
-> WHILE i <= x DO
-> SELECT 'Hello World' AS result;
-> SET i = i + 1;
-> END WHILE;
-> END IF;
->
-> END //
Query OK, 0 rows affected (0.01 sec)
mysql> DELIMITER ;
mysql> CALL print_hello_world(5);
+-------------+
| result |
+-------------+
| Hello World |
+-------------+
1 row in set (0.00 sec)
+-------------+
| result |
+-------------+
| Hello World |


MySQL 8.0 Command Line Cli
| result |
| Hello World |
1 row in set (0.01 sec)
| result |
| Hello World |
1 row in set (0.01 sec)
| result |
| Hello World |
1 row in set (0.01 sec)
| result |
| Hello World |
1 row in set (0.01 sec)
Query OK, 0 rows affected (0.01 sec)
mysql>

Q3

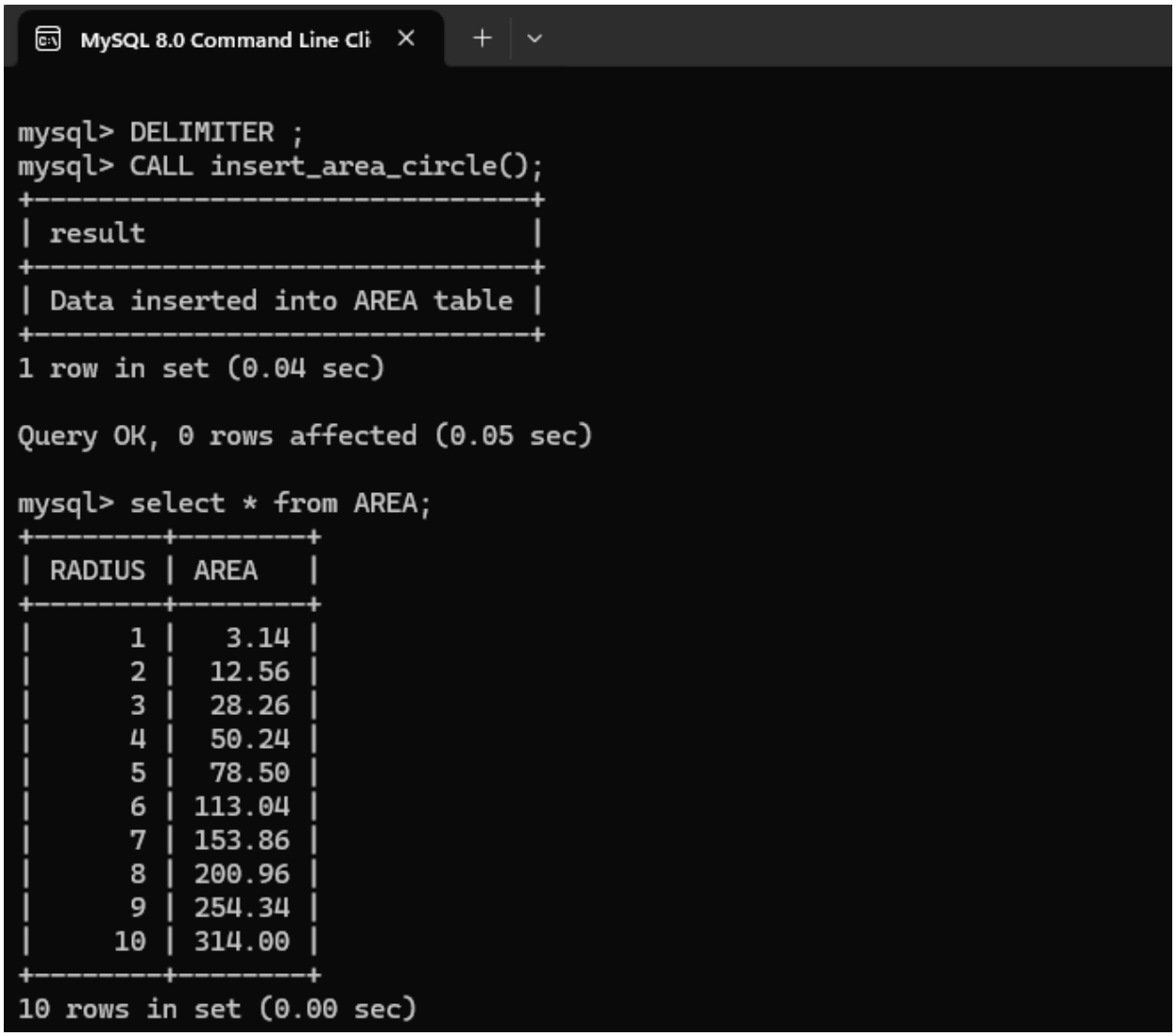

mysql> CALL print_hello_world(-1);
| result |
| Please enter a number greater than or equal to 1 |
1 row in set (0.01 sec)
Query OK, 0 rows affected (0.01 sec)
mysql>

Q4

```
CREATE TABLE AREA (
RADIUS INT,
AREA DECIMAL(14,2)
);
DELIMITER //
CREATE PROCEDURE insert_area_circle()
BEGIN
DECLARE radius INT;
DECLARE area_circle DECIMAL(14,2);
SET radius = 1;
WHILE radius <= 10 DO
SET area_circle = 3.14 * radius * radius;
INSERT INTO AREA (RADIUS, AREA) VALUES (radius, area_circle);
SET radius = radius + 1;
END WHILE;
SELECT 'Data inserted into AREA table' AS result;
END //
DELIMITER ;
CALL insert_area_circle();
```

MySQL 8.0 Command Line Cli

```
mysql> CREATE TABLE AREA (
    -> RADIUS INT,
    -> AREA DECIMAL(14,2)
    -> );
Query OK, 0 rows affected (0.10 sec)

mysql> DELIMITER //
mysql> CREATE PROCEDURE insert_area_circle()
    -> BEGIN
    -> DECLARE radius INT;
    -> DECLARE area_circle DECIMAL(14,2);
    -> SET radius = 1;
    -> WHILE radius <= 10 DO
    -> SET area_circle = 3.14 * radius * radius;
    -> INSERT INTO AREA (RADIUS, AREA) VALUES (radius, area_circle);
    -> SET radius = radius + 1;
    -> END WHILE;
    -> SELECT 'Data inserted into AREA table' AS result;
    -> END //
Query OK, 0 rows affected (0.01 sec)

mysql> DELIMITER ;
mysql> CALL insert_area_circle();
+------------------------------+
| result                       |
+------------------------------+
| Data inserted into AREA table |
+------------------------------+
1 row in set (0.04 sec)
```



Q5

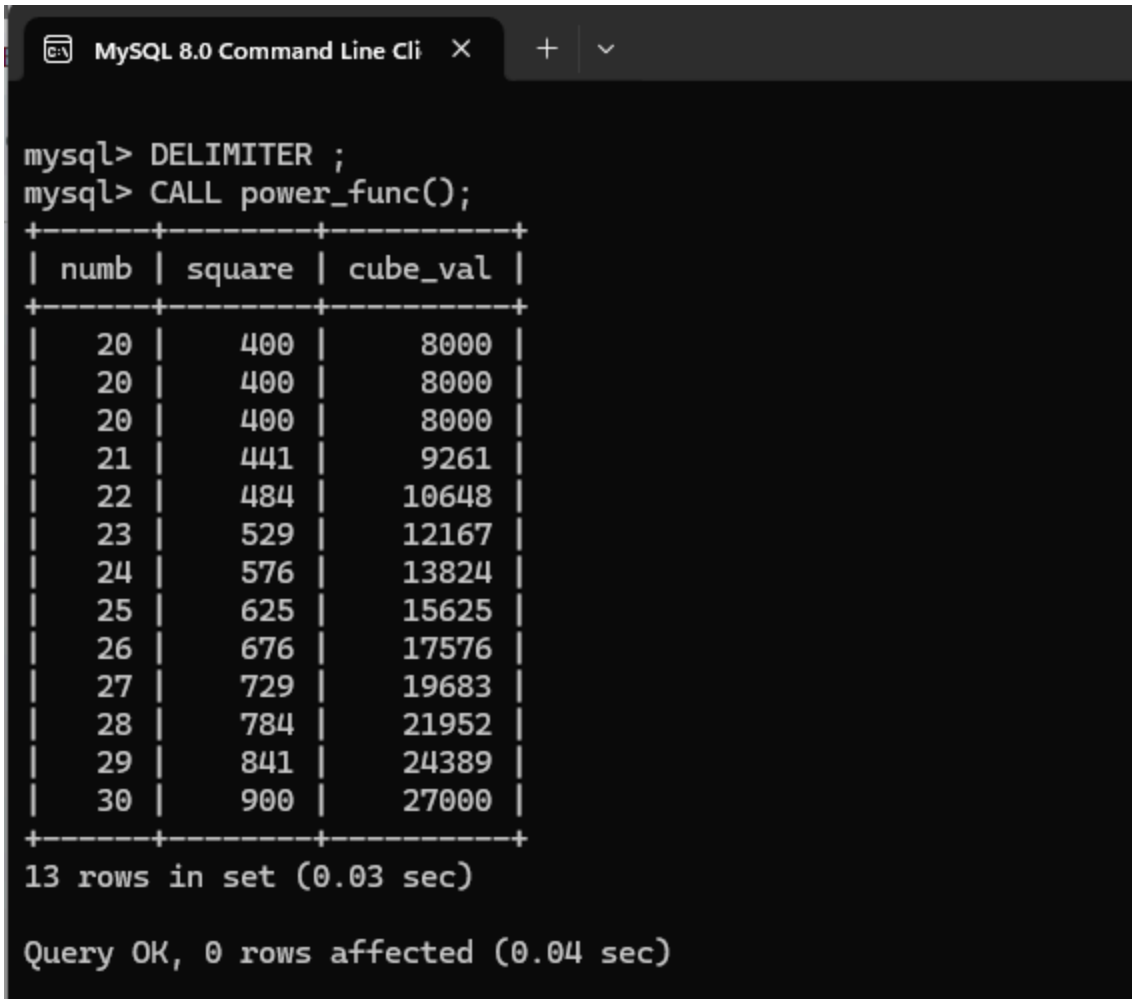
```
CREATE TABLE POWER (
numb INT,
square int,
cube_val int
);
DELIMITER //
CREATE PROCEDURE power_func()
BEGIN
DECLARE numb INT;
DECLARE square INT;
DECLARE cube_val INT;
SET numb = 20;
WHILE numb <= 30 DO
SET square = numb * numb;
SET cube_val = numb * numb * numb;
INSERT INTO POWER VALUES (numb,square,cube_val);
SET numb = numb + 1;
END WHILE;
SELECT * from POWER;
END //
```

DELIMITER ;
CALL power_func();

```
mysql> CREATE TABLE POWER (
    -> numb INT,
    -> square int,
    -> cube_val int
    -> );
```

MySQL 8.0 Command Line Cli

```
mysql> CREATE PROCEDURE power_func()
    -> BEGIN
    -> DECLARE numb INT;
    -> DECLARE square INT;
    -> DECLARE cube_val INT;
    -> SET numb = 20;
    -> WHILE numb <= 30 DO
    -> SET square = numb * numb;
    -> SET cube_val = numb * numb * numb;
    -> INSERT INTO POWER VALUES (numb,square,cube_val);
    -> SET numb = numb + 1;
    -> END WHILE;
    -> SELECT * from POWER;
    -> END //
Query OK, 0 rows affected (0.00 sec)

mysql> DELIMITER ;
mysql> CALL power_func();
```



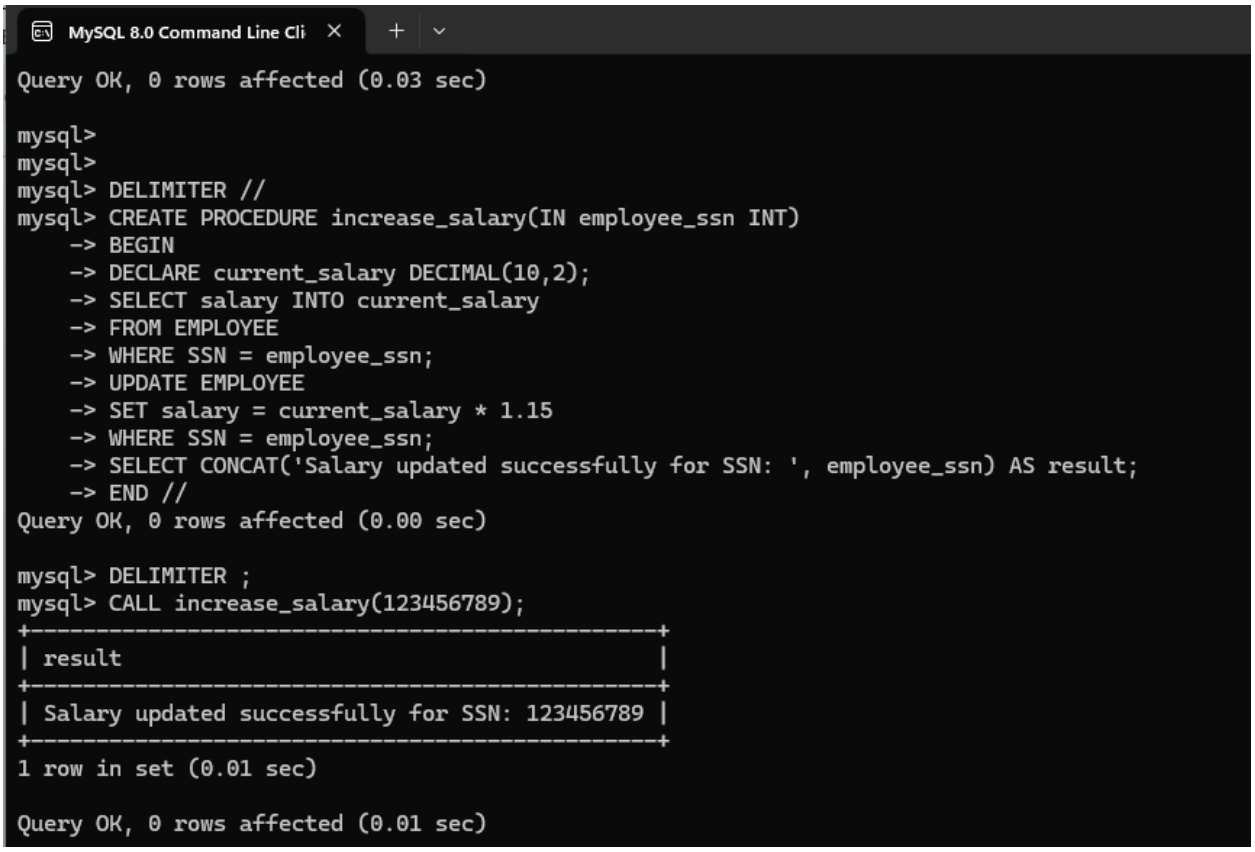
Q6

```
DELIMITER //
CREATE PROCEDURE reverse_string(IN input_string VARCHAR(100))
BEGIN
DECLARE reversed_string VARCHAR(100) DEFAULT '';
DECLARE i INT DEFAULT LENGTH(input_string);
WHILE i > 0 DO
SET reversed_string = CONCAT(reversed_string, SUBSTRING(input_string, i, 1));
SET i = i - 1;
END WHILE;
SELECT reversed_string AS reversed;
END //
DELIMITER ;
CALL reverse_string('palindrome');
```

```
mysql> CREATE PROCEDURE reverse_string(IN input_string VARCHAR(100))
    -> BEGIN
    -> DECLARE reversed_string VARCHAR(100) DEFAULT '';
    -> DECLARE i INT DEFAULT LENGTH(input_string);
    -> WHILE i > 0 DO
    -> SET reversed_string = CONCAT(reversed_string, SUBSTRING(input_string, i, 1));
    -> SET i = i - 1;
    -> END WHILE;
    -> SELECT reversed_string AS reversed;
    -> END //
Query OK, 0 rows affected (0.02 sec)

mysql> DELIMITER ;
mysql> CALL reverse_string('palindrome');
+------------+
| reversed   |
+------------+
| emordnilap |
+------------+
1 row in set (0.00 sec)

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

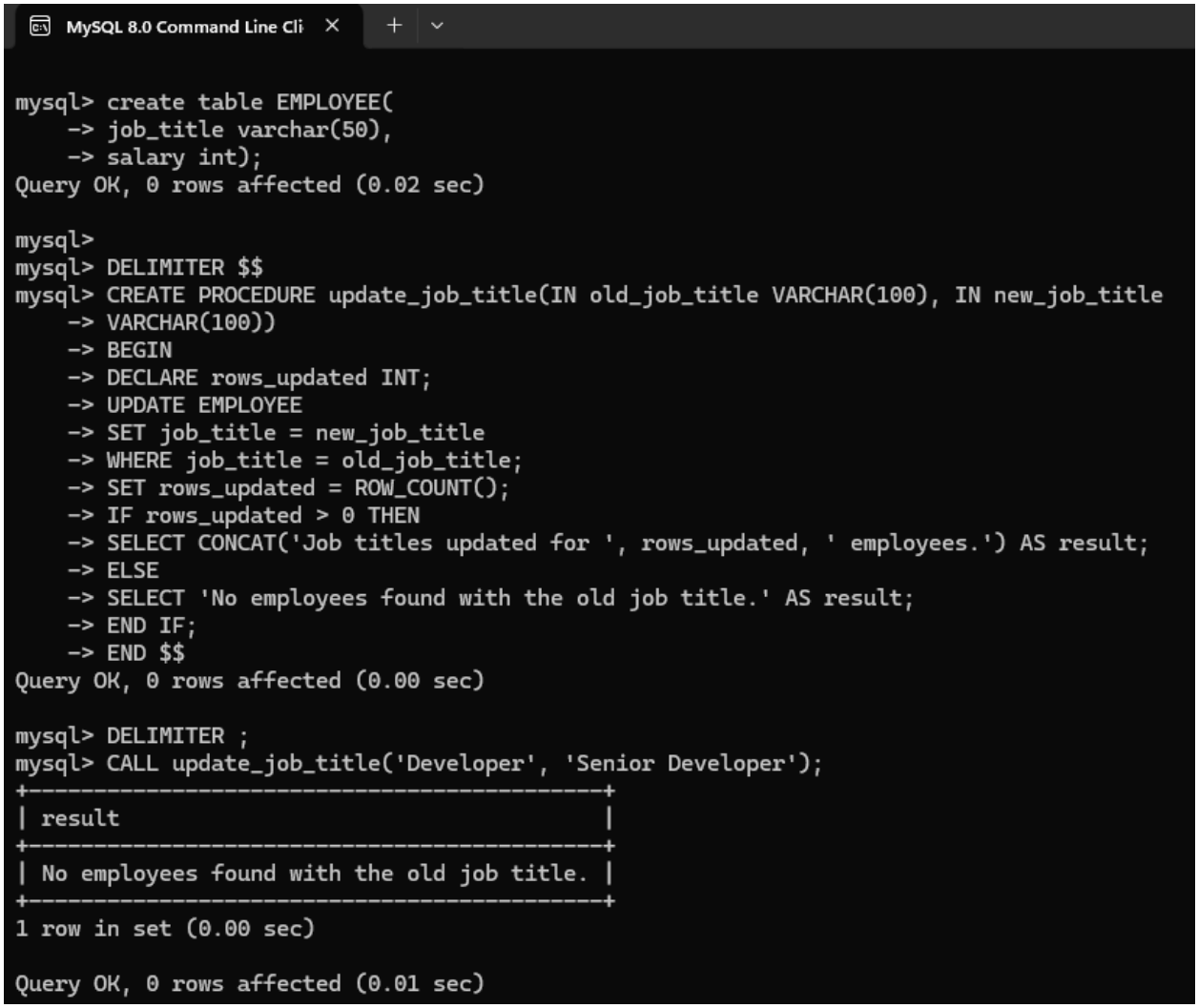
Q7

```
create table employee(
ssn int primary key,
salary DECIMAL(10,2));


DELIMITER //
CREATE PROCEDURE increase_salary(IN employee_ssn INT)
BEGIN
DECLARE current_salary DECIMAL(10,2);
SELECT salary INTO current_salary
FROM EMPLOYEE
WHERE SSN = employee_ssn;
UPDATE EMPLOYEE
SET salary = current_salary * 1.15
WHERE SSN = employee_ssn;
SELECT CONCAT('Salary updated successfully for SSN: ', employee_ssn) AS result;
END //
DELIMITER ;
CALL increase_salary(123456789);
```



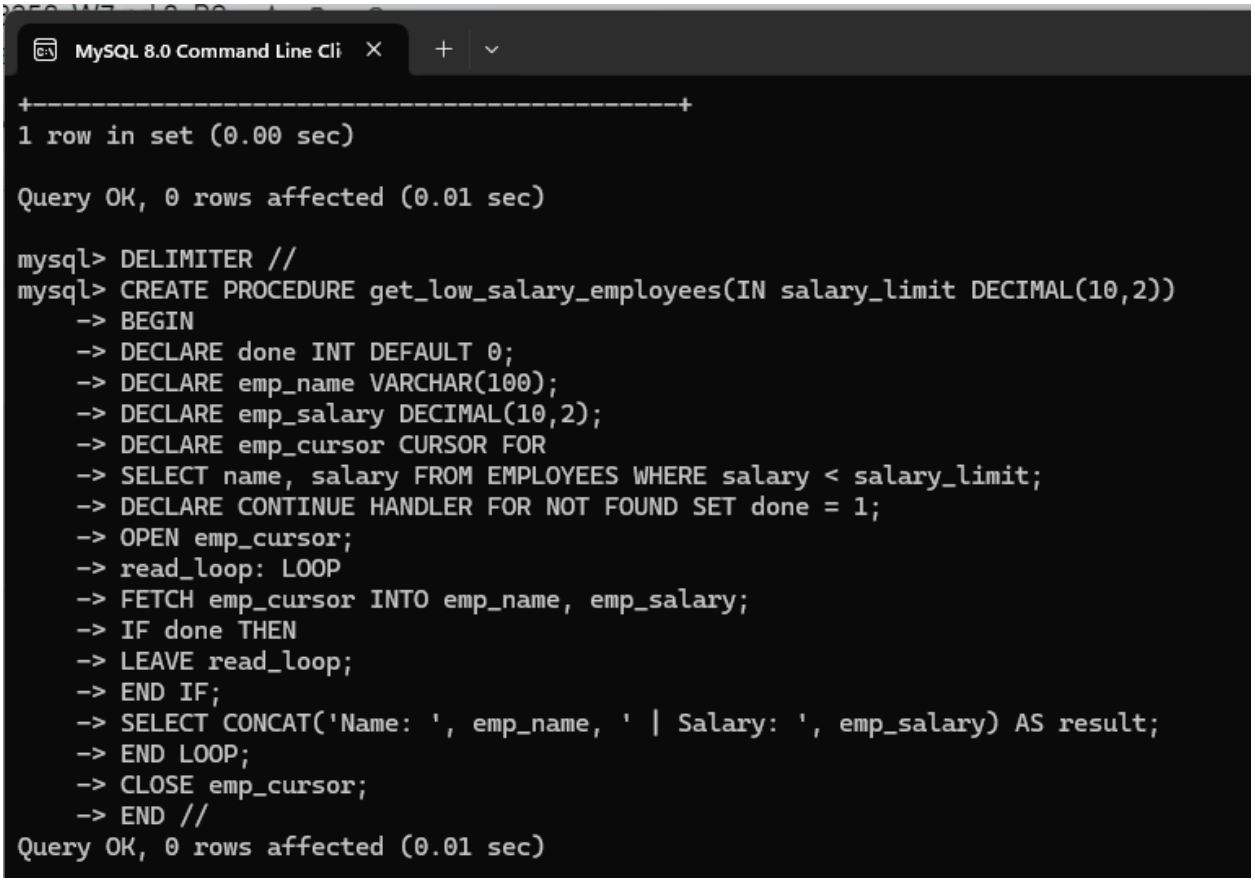
Q8

```
create table EMPLOYEE(
job_title varchar(50),
salary int);

DELIMITER $$
CREATE PROCEDURE update_job_title(IN old_job_title VARCHAR(100), IN new_job_title
VARCHAR(100))
BEGIN
DECLARE rows_updated INT;
UPDATE EMPLOYEE
SET job_title = new_job_title
WHERE job_title = old_job_title;
SET rows_updated = ROW_COUNT();
IF rows_updated > 0 THEN
SELECT CONCAT('Job titles updated for ', rows_updated, ' employees.') AS result;
ELSE
SELECT 'No employees found with the old job title.' AS result;
END IF;
END $$
DELIMITER ;
CALL update_job_title('Developer', 'Senior Developer');
```



Q9

```
DELIMITER //
CREATE PROCEDURE get_low_salary_employees(IN salary_limit DECIMAL(10,2))
BEGIN
DECLARE done INT DEFAULT 0;
DECLARE emp_name VARCHAR(100);
DECLARE emp_salary DECIMAL(10,2);
DECLARE emp_cursor CURSOR FOR
SELECT name, salary FROM EMPLOYEES WHERE salary < salary_limit;
DECLARE CONTINUE HANDLER FOR NOT FOUND SET done = 1;
OPEN emp_cursor;
read_loop: LOOP
FETCH emp_cursor INTO emp_name, emp_salary;
IF done THEN
LEAVE read_loop;
END IF;
SELECT CONCAT('Name: ', emp_name, ' | Salary: ', emp_salary) AS result;
END LOOP;
CLOSE emp_cursor;
END //
DELIMITER ;
CALL get_low_salary_employees(50000);
```



Q10

```
CREATE TABLE MEMBERS (
MID VARCHAR(10),
NAME VARCHAR(100),
EMAIL VARCHAR(100),
DOB DATE
);
CREATE TABLE REMINDERS (
ID INT AUTO_INCREMENT PRIMARY KEY,
MID VARCHAR(10),
MESSAGE VARCHAR(255)
);
DELIMITER $$
CREATE TRIGGER insert_reminder_if_dob_null
AFTER INSERT ON MEMBERS
FOR EACH ROW
BEGIN
IF NEW.DOB IS NULL THEN
INSERT INTO REMINDERS (MID, MESSAGE)
VALUES (NEW.MID, 'Your DOB is NULL. Please update.');
END IF;
END $$
DELIMITER ;
INSERT INTO MEMBERS (MID, NAME, EMAIL, DOB)
VALUES
('MID2', 'John Doe', 'john.doe@example.com', NULL),
```

('MID3', 'Kim Kole', 'kim.kole@example.com', '2000-01-01');
SELECT * FROM REMINDERS;