**MySQL Exercise 5**

1.

DELIMITER //

CREATE FUNCTION is\_valid\_triangle(a FLOAT, b FLOAT, c FLOAT)

RETURNS BOOLEAN

DETERMINISTIC

BEGIN

DECLARE is\_valid BOOLEAN;

-- Check the triangle inequality theorem

IF a + b > c AND a + c > b AND b + c > a THEN

SET is\_valid = TRUE;

ELSE

SET is\_valid = FALSE;

END IF;

RETURN is\_valid;

END //

DELIMITER ;

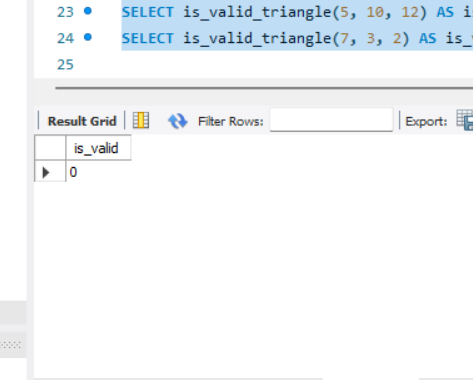
-- Example usage of the function

SELECT is\_valid\_triangle(3, 4, 5) AS is\_valid; -- This should return true

SELECT is\_valid\_triangle(1, 2, 3) AS is\_valid; -- This should return false

SELECT is\_valid\_triangle(5, 10, 12) AS is\_valid; -- This should return true

SELECT is\_valid\_triangle(7, 3, 2) AS is\_valid; -- This should return false



2.

DELIMITER //

CREATE FUNCTION generate\_random\_number()

RETURNS INT

DETERMINISTIC

BEGIN

DECLARE random\_number INT;

-- Generate a random number between 1 and 10

SET random\_number = FLOOR(1 + (RAND() \* 10));

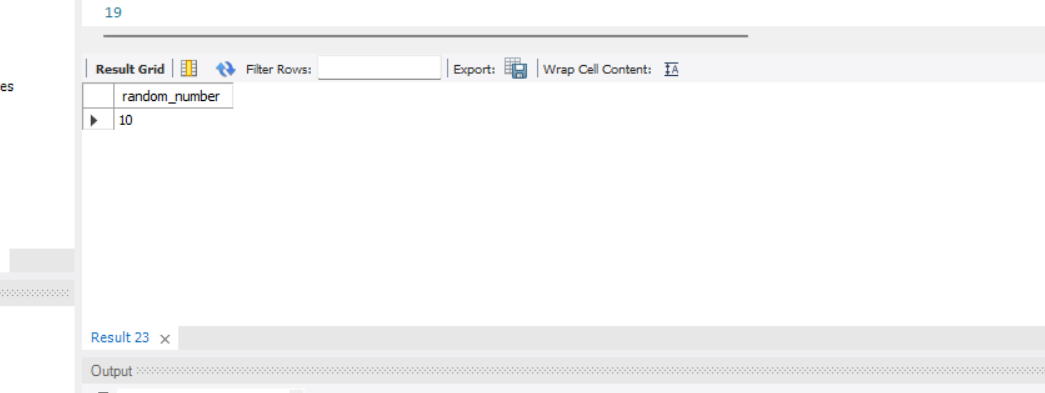
RETURN random\_number;

END //

DELIMITER ;

-- Example usage of the function

SELECT generate\_random\_number() AS random\_number;



3.

CREATE FUNCTION reverse\_string(input\_string VARCHAR(255)) RETURNS VARCHAR(255) BEGIN DECLARE reversed\_string VARCHAR(255); DECLARE i INT DEFAULT 1; DECLARE length INT DEFAULT LENGTH(input\_string);

WHILE i <= length DO

SET reversed\_string = CONCAT(reversed\_string, SUBSTRING(input\_string, length - i + 1, 1));

SET i = i + 1;

END WHILE;

RETURN reversed\_string;

END;