

```
MariaDB [(none)]> create database if not exists lab_procedures;
Query OK, 1 row affected (0.000 sec)

MariaDB [(none)]> use lab_procedures;
Database changed
MariaDB [lab_procedures]>
MariaDB [lab_procedures]> CREATE TABLE 'product' (
  -> 'product_id' INT NOT NULL AUTO_INCREMENT,
  -> 'prod_name' varchar(255) NOT NULL,
  -> 'qty_on_hand' INT(255) NOT NULL,
  -> PRIMARY KEY ('product_id')
  -> );
Query OK, 0 rows affected (0.004 sec)

MariaDB [lab_procedures]>
MariaDB [lab_procedures]> CREATE TABLE 'customer' (
  -> 'cust_id' INT NOT NULL AUTO_INCREMENT,
  -> 'cust_name' varchar(255) NOT NULL,
  -> 'phone' VARCHAR(255) NOT NULL,
  -> 'address' VARCHAR(255) NOT NULL,
  -> PRIMARY KEY ('cust_id')
  -> );
Query OK, 0 rows affected (0.004 sec)

MariaDB [lab_procedures]>
MariaDB [lab_procedures]> CREATE TABLE 'order_details' (
  -> 'cust_id' INT NOT NULL,
  -> 'product_id' INT NOT NULL,
  -> 'order_date' DATE NOT NULL,
  -> 'qty_order' INT NOT NULL
  -> );
Query OK, 0 rows affected (0.003 sec)

MariaDB [lab_procedures]>
MariaDB [lab_procedures]> INSERT INTO product (prod_name, qty_on_hand) VALUES
  -> ('Product A', 50),
  -> ('Product B', 100),
  -> ('Product C', 75);
Query OK, 3 rows affected (0.001 sec)
Records: 3 Duplicates: 0 Warnings: 0
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MariaDB [lab_procedures]>
MariaDB [lab_procedures]> INSERT INTO customer (cust_name, phone, address) VALUES
-> ('John Smith', '123-456-7890', '123 Main St'),
-> ('Jane Doe', '555-555-1212', '456 Oak Ave'),
-> ('Bob Johnson', '555-123-4567', '789 Elm St');
Query OK, 3 rows affected (0.001 sec)
Records: 3 Duplicates: 0 Warnings: 0

MariaDB [lab_procedures]>
MariaDB [lab_procedures]> INSERT INTO order_details values
-> (1, 1, '2023-04-25', 10),
-> (1, 2, '2023-04-26', 5),
-> (2, 3, '2023-04-27', 8),
-> (3, 1, '2023-04-26', 15),
-> (3, 3, '2023-04-27', 3);
Query OK, 5 rows affected (0.001 sec)
Records: 5 Duplicates: 0 Warnings: 0

MariaDB [lab_procedures]>
MariaDB [lab_procedures]>
MariaDB [lab_procedures]> ALTER TABLE 'order_details' ADD CONSTRAINT 'order_fk0'
FOREIGN KEY ('cust_id') REFERENCES 'customer'(('cust_id');
Query OK, 5 rows affected (0.011 sec)
Records: 5 Duplicates: 0 Warnings: 0

MariaDB [lab_procedures]>
MariaDB [lab_procedures]> ALTER TABLE 'order_details' ADD CONSTRAINT 'order_fk1'
FOREIGN KEY ('product_id') REFERENCES 'product'(('product_id');
Query OK, 5 rows affected (0.011 sec)
Records: 5 Duplicates: 0 Warnings: 0

MariaDB [lab_procedures]>
MariaDB [lab_procedures]>
MariaDB [lab_procedures]> -- Creating Procedure
MariaDB [lab_procedures]>
MariaDB [lab_procedures]> DELIMITER $$
MariaDB [lab_procedures]> CREATE PROCEDURE Fulfill_Order_proc3 (
-> IN p_cust_id INT,
-> IN p_prod_id INT,
-> IN p_qty_ordered INT,
-> OUT p_qty_on_hand INT
-> )
->
->
-> BEGIN
-> DECLARE v_qty_on_hand INT;
->
-> -- Get the current quantity on hand for the product
-> SELECT qty_on_hand INTO v_qty_on_hand
-> FROM product
-> WHERE product_id = p_prod_id;
->
-> -- Check if the order can be fulfilled
-> IF v_qty_on_hand >= p_qty_ordered THEN
-> -- Insert the new order
-> INSERT INTO order_details (cust_id, product_id, order_date,
qty_order)
-> VALUES (p_cust_id, p_prod_id, CURDATE(), qty_order);

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->
->      -- Update the quantity on hand for the product
->      UPDATE product
->      SET qty_on_hand = qty_on_hand - p_qty_ordered
->      WHERE product_id = p_prod_id;
->
->      -- Set the output parameter to the updated quantity on hand
->      SELECT qty_on_hand INTO p_qty_on_hand
->      FROM product
->      WHERE product_id = p_prod_id;
->
->      -- Display a success message
->      SELECT CONCAT('Order fulfilled. New quantity on hand for product ',
p_prod_id, ' is ', p_qty_on_hand) AS message;
->      ELSE
->      -- Display an error message
->      SELECT CONCAT('Order cannot be fulfilled. Only ', v_qty_on_hand, '
units of product ', p_prod_id, ' are available.') AS message;
->      END IF;
-> END$$
Query OK, 0 rows affected (0.001 sec)

MariaDB [lab_procedures]> DELIMITER ;
MariaDB [lab_procedures]>
MariaDB [lab_procedures]>
MariaDB [lab_procedures]> -- Calling Procedure
MariaDB [lab_procedures]>
MariaDB [lab_procedures]> -- Get the current quantity on hand for product 1
MariaDB [lab_procedures]> SELECT qty_on_hand FROM product WHERE product_id = 1;
+-----+
| qty_on_hand |
+-----+
|          50 |
+-----+
1 row in set (0.000 sec)

MariaDB [lab_procedures]>
MariaDB [lab_procedures]> -- Attempt to place an order for 20 units of product 1
for customer 1
MariaDB [lab_procedures]> CALL Fulfill_Order_proc3(1, 1, 20, @qty_on_hand);
+-----+
| message |
+-----+
| Order fulfilled. New quantity on hand for product 1 is 30 |
+-----+
1 row in set (0.002 sec)

Query OK, 4 rows affected (0.002 sec)

MariaDB [lab_procedures]>
MariaDB [lab_procedures]> -- Get the error message returned by the stored
procedure
MariaDB [lab_procedures]> SELECT message FROM (SELECT @p_qty_on_hand AS message)
AS result;
+-----+
| message |
+-----+
| NULL |
+-----+

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1 row in set (0.000 sec)

MariaDB [lab_procedures]>
MariaDB [lab_procedures]> -- BATCH 2 EXERCISE 2 - FUNCTIONS
MariaDB [lab_procedures]>
MariaDB [lab_procedures]> -- Write a function to find total quantity ordered by
    taking
MariaDB [lab_procedures]> -- cust_id and prod_id as input parameter
MariaDB [lab_procedures]> -- Also write a code to call the function
MariaDB [lab_procedures]>
MariaDB [lab_procedures]> -- Creating Function
MariaDB [lab_procedures]>
MariaDB [lab_procedures]> DELIMITER $$
MariaDB [lab_procedures]> CREATE FUNCTION Total_Qty_Ordered2(cust_id INT, prod_id
    INT)
    -> RETURNS INT deterministic
    -> BEGIN
    ->     DECLARE total_qty INT;
    ->     SELECT SUM(qty_order) INTO total_qty
    ->     FROM order_details
    ->     WHERE cust_id = cust_id AND prod_id = product_id;
    ->     RETURN total_qty;
    -> END $$
Query OK, 0 rows affected (0.003 sec)

MariaDB [lab_procedures]>
MariaDB [lab_procedures]> DELIMITER ;
MariaDB [lab_procedures]>
MariaDB [lab_procedures]> -- Calling Function
MariaDB [lab_procedures]>
MariaDB [lab_procedures]> SELECT Total_Qty_Ordered2(1, 1) AS total_qty;
+-----+
| total_qty |
+-----+
|         25 |
+-----+
1 row in set (0.001 sec)

MariaDB [lab_procedures]> select * from product;
+-----+-----+-----+
| product_id | prod_name | qty_on_hand |
+-----+-----+-----+
|          1 | Product A |          30 |
|          2 | Product B |         100 |
|          3 | Product C |          75 |
+-----+-----+-----+
3 rows in set (0.001 sec)

MariaDB [lab_procedures]> select * from customer;
+-----+-----+-----+-----+
| cust_id | cust_name | phone       | address      |
+-----+-----+-----+-----+
|        1 | John Smith | 123-456-7890 | 123 Main St |
|        2 | Jane Doe   | 555-555-1212 | 456 Oak Ave |
|        3 | Bob Johnson | 555-123-4567 | 789 Elm St  |
+-----+-----+-----+-----+
3 rows in set (0.000 sec)

MariaDB [lab_procedures]> select * from order_details;

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| +-----+-----+-----+-----+
| | cust_id | product_id | order_date | qty_order |
| +-----+-----+-----+-----+
| |      1 |      1 | 2023-04-25 |      10 |
| |      1 |      2 | 2023-04-26 |       5 |
| |      2 |      3 | 2023-04-27 |       8 |
| |      3 |      1 | 2023-04-26 |      15 |
| |      3 |      3 | 2023-04-27 |       3 |
| |      1 |      1 | 2023-04-27 |       0 |
| +-----+-----+-----+-----+
| 6 rows in set (0.001 sec)
|
| MariaDB [lab_procedures]>
```