REPORT
DATABASE PROGRAMMING FINAL PROJECT
skincarestore.sql

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STUDY PROGRAM S1 INFORMATICS, FACULTY OF COMPUTER SCIENCE

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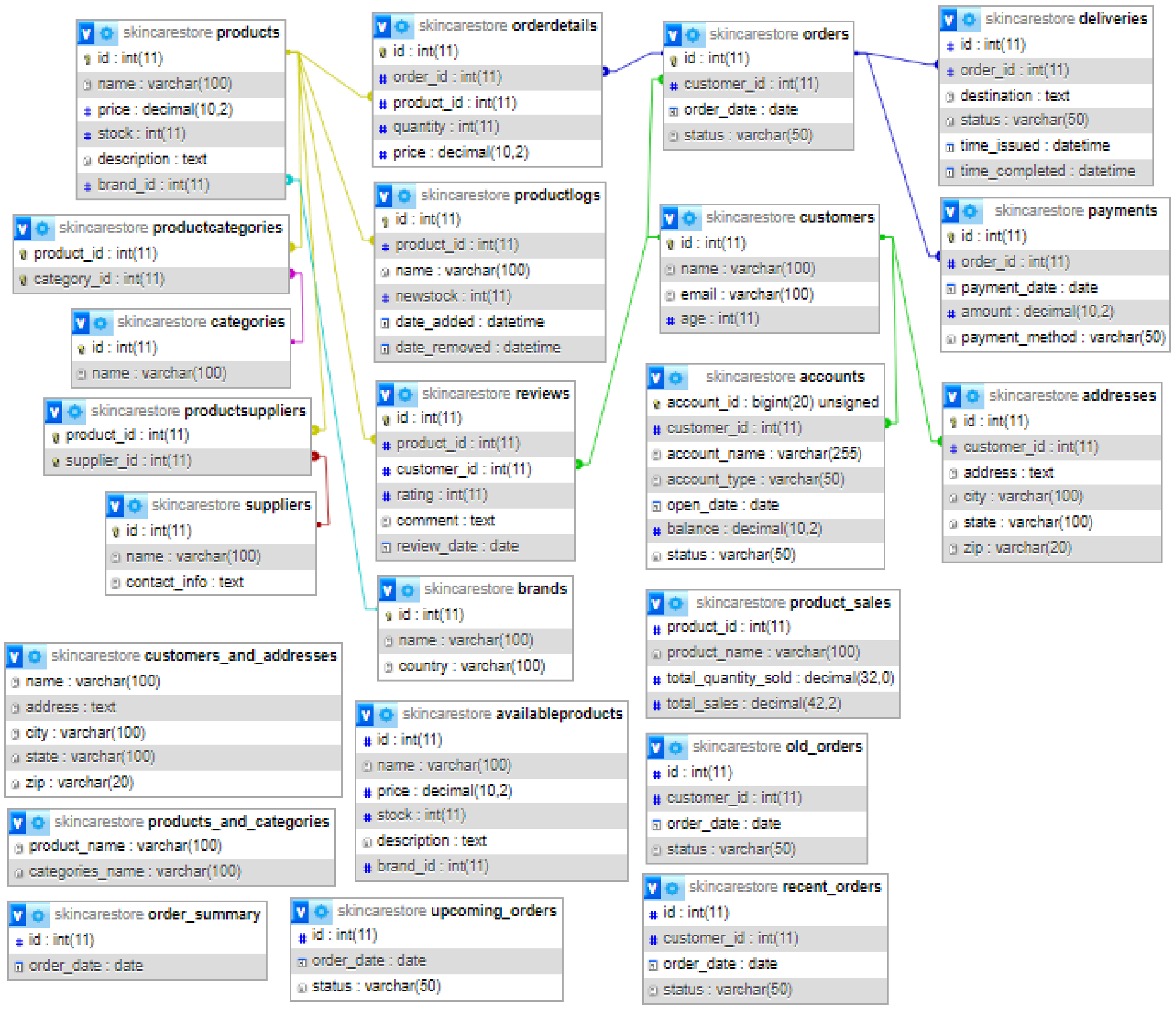
ERD



The database that our group created is the database for the skincare store system. The following is an explanation of the main structure of the database;

GITHUB

https://github.com/arutaruumu/SKINCARE-STORE-DB

Main table

1. **Customers** : Store customer data
   - Columns : ‘id’, ‘name’, ‘email’, ‘age’
2. **Brands** : Store skincare brand data

    - Columns : ‘id’, ‘name’, ‘country’
3. **Products** : Store data on skincare products sold
    - Columns : ‘id’, ‘name’, ‘price’, ‘stock’, ‘description’, ‘brand_id’
4. **Orders** : Stores order data placed by customers
    - Columns : ‘id’, ‘customer_id’, ‘order_date’, ‘status’
5. **OrderDetails** : Stores details of each order
    - Columns : ‘id’, ‘order_id’, ‘product_id’, ‘quantity’, ‘price’
6. **Categories** : Stores skincare product category data
    - Columns : ‘id’, ‘name’
7. **ProductCategories** : Bridge table for many-to-many relationship between products and categories
    - Columns : ‘product_id’, ‘category_id’
8. **Reviews** : Stores customer reviews on skincare products
    - Columns : ‘id’, ‘product_id’, ‘customer_id’, ‘rating’, ‘comment’, ‘review_date’
9. **Addresses** : Stores customer address data
    - Columns : ‘id’, ‘customer_id’, ‘address’, ‘city’, ‘state’, ‘zip’
10. **Payments** : Stores payment data for each order
    - Columns : ‘id’, ‘order_id’, ‘payment_date’, ‘amount’, ‘payment_method’
11. **Suppliers** : Stores data of skincare product suppliers
    - Columns : ‘id’, ‘name’, ‘contact_info’
12. **ProductSuppliers** : Bridge table for many-to-many relationship between products and suppliers
    - Columns : ‘product_id’, ‘supplier_id’

Relationship between tables

1. **Customers to orders: one-to-many (one customer can place multiple orders)**
2. **Orders to OrderDetails: one-to-many (one order can have many order details)**
3. **Products to OrderDetails: one-to-many (one product can appear in many order details)**
4. **Products to Categories through ProductCategories: many-to-many (many products can belong to many categories)**
5. **Brands to Products: one-to-many (one brand has many products)**
6. **Products to reviews: one-to-many (one product can have many reviews)**
7. **Customers to reviews: one-to-many (one customer can give many reviews)**
8. **Customers to Addresses: one-to-many (one customer can have many addresses)**
9. **Orders to payments: one-to-many (one order can have many payments)**
10. **Suppliers to Products through ProductSuppliers: many-to-many (many suppliers can supply many products)**

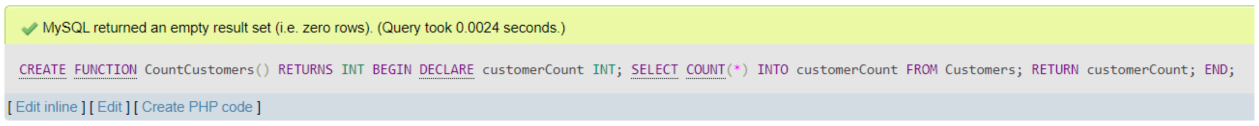
Function

Final Project skincarestore.sql | Create Function with multiple models, and Execute function

1. Create 1 function, 1 function with empty parameters

Jawab:

```
DELIMITER //

CREATE FUNCTION CountCustomers() RETURNS INT
BEGIN
    DECLARE customerCount INT;
    SELECT COUNT(*) INTO customerCount FROM Customers;
    RETURN customerCount;
END //

DELIMITER ;
```



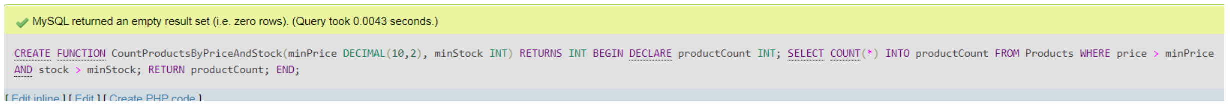
```
✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0024 seconds.)

CREATE FUNCTION CountCustomers() RETURNS INT BEGIN DECLARE customerCount INT; SELECT COUNT(*) INTO customerCount FROM Customers; RETURN customerCount; END;
```

Explanation: Create one function to calculate the total number of customers in the customers table.

2. Create 1 function, with 2 parameters.

Jawab:

```
DELIMITER //
CREATE FUNCTION CountProductsByPriceAndStock(minPrice
DECIMAL(10,2), minStock INT)
RETURNS INT
BEGIN
DECLARE productCount INT;
SELECT COUNT(*) INTO productCount
FROM Products
WHERE price > minPrice AND stock > minStock; RETURN productCount;
END //
DELIMITER ;
```



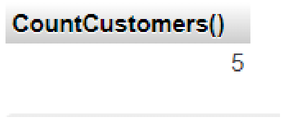
```
✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0043 seconds.)

CREATE FUNCTION CountProductsByPriceAndStock(minPrice DECIMAL(10,2), minStock INT) RETURNS INT BEGIN DECLARE productCount INT; SELECT COUNT(*) INTO productCount FROM Products WHERE price > minPrice
AND stock > minStock; RETURN productCount; END;
```

Explanation: Counts the number of products that have more than a certain price and more than a certain amount of stock.

3. Execution of each function

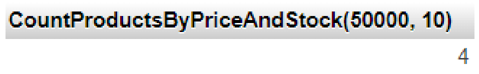
Jawab:

```
SELECT CountCustomers();
```



```
CountCustomers()
               5
```

```
SELECT CountProductsByPriceAndStock(50000, 10);
```



```
CountProductsByPriceAndStock(50000, 10)
                                      4
```

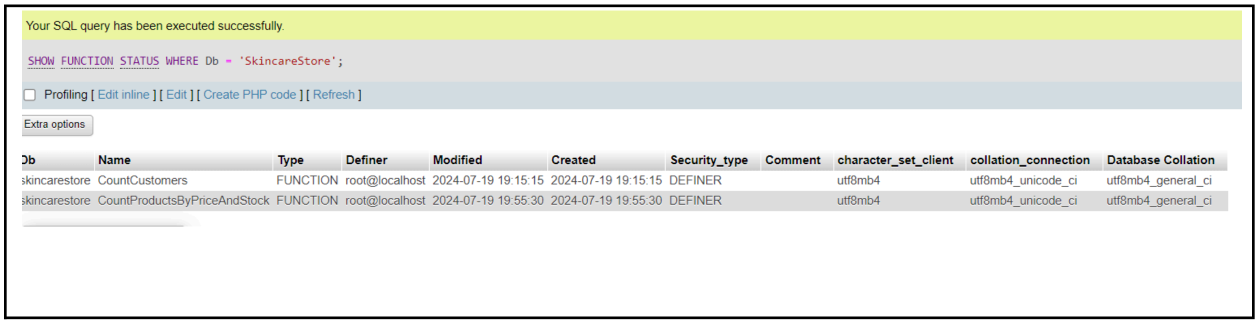
Explanation:

- The first function aims to calculate the total customers in the customer product, where there are only 5 customers in the customers table.
- The second function aims to count the number of products that have a price of more than a certain price and more than a certain amount of stock, which is a product with a price of 50,000 with a stock of 10, there are 4 products.

4. Display the list of functions

Jawab:

```
SHOW FUNCTION STATUS WHERE Db = 'SkincareStore';
```



Your SQL query has been executed successfully.

```
SHOW FUNCTION STATUS WHERE Db = 'SkincareStore';
```

Profiling [Edit inline] [Edit] [Create PHP code] [Refresh]

Extra options

Db	Name	Type	Definer	Modified	Created	Security_type	Comment	character_set_client	collation_connection	Database Collation
skincarestore	CountCustomers	FUNCTION	root@localhost	2024-07-19 19:15:15	2024-07-19 19:15:15	DEFINER		utf8mb4	utf8mb4_unicode_ci	utf8mb4_general_ci
skincarestore	CountProductsByPriceAndStock	FUNCTION	root@localhost	2024-07-19 19:55:30	2024-07-19 19:55:30	DEFINER		utf8mb4	utf8mb4_unicode_ci	utf8mb4_general_ci

Explanation: Displays all functions in the database

Procedure

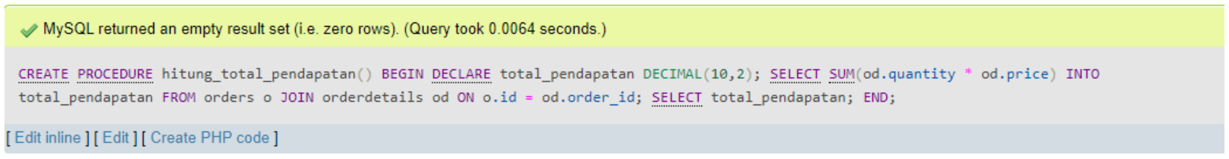
Final Project skincarestore.sql | Create Procedure and Execute function

1. Create 2 procedures, 1 procedure with empty parameters

Calculate total income

Jawab:

```
DELIMITER $$
CREATE PROCEDURE hitung_total_pendapatan()
BEGIN
    DECLARE total_pendapatan DECIMAL(10,2);
    SELECT SUM(od.quantity * od.price) INTO total_pendapatan
    FROM orders o
    JOIN orderdetails od ON o.id = od.order_id;
    SELECT total_pendapatan;
END $$
DELIMITER ;
```

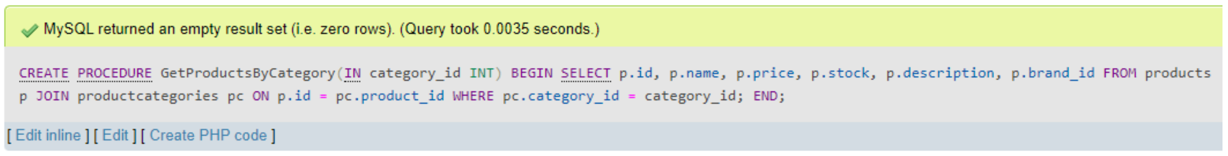


```
✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0064 seconds.)

CREATE PROCEDURE hitung_total_pendapatan() BEGIN DECLARE total_pendapatan DECIMAL(10,2); SELECT SUM(od.quantity * od.price) INTO
total_pendapatan FROM orders o JOIN orderdetails od ON o.id = od.order_id; SELECT total_pendapatan; END;
```

View products according to category

Jawab:

```
DELIMITER //
CREATE PROCEDURE GetProductsByCategory(IN category_id INT)
BEGIN
    SELECT p.id, p.name, p.price, p.stock, p.description, p.brand_id
    FROM products p
    JOIN productcategories pc ON p.id = pc.product_id
    WHERE pc.category_id = category_id;
END //
DELIMITER ;
```



MySQL returned an empty result set (i.e. zero rows). (Query took 0.0035 seconds.)

```
CREATE PROCEDURE GetProductsByCategory(IN category_id INT) BEGIN SELECT p.id, p.name, p.price, p.stock, p.description, p.brand_id FROM products
p JOIN productcategories pc ON p.id = pc.product_id WHERE pc.category_id = category_id; END;
```

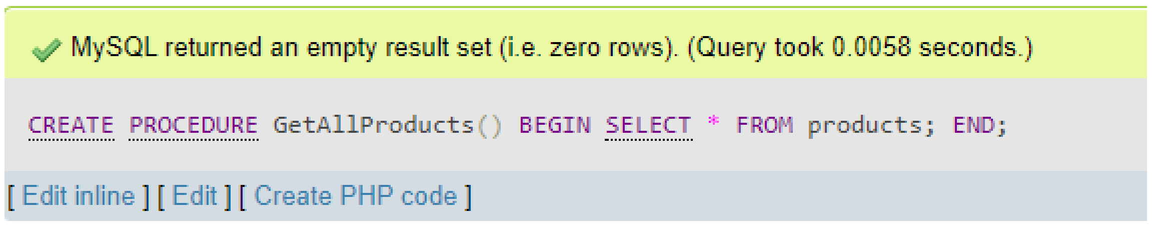
[Edit inline] [Edit] [Create PHP code]

2. Create 2 procedures, 1 procedure with 2 parameters

Display all products

Jawab:

```
DELIMITER //
CREATE PROCEDURE GetAllProducts()
BEGIN
    SELECT * FROM products;
END //
DELIMITER ;
```



MySQL returned an empty result set (i.e. zero rows). (Query took 0.0058 seconds.)

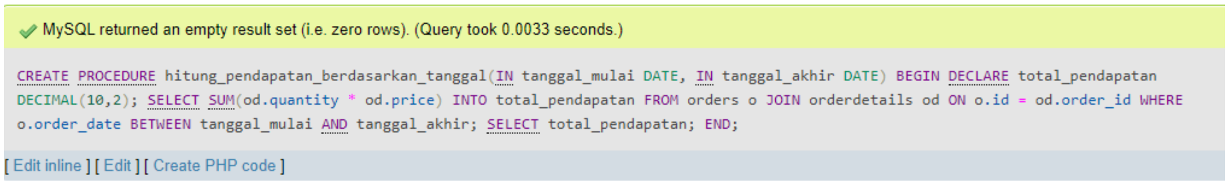
```
CREATE PROCEDURE GetAllProducts() BEGIN SELECT * FROM products; END;
```

[Edit inline] [Edit] [Create PHP code]

Generate total revenue over a period of time

Jawab:

```
DELIMITER $$

CREATE PROCEDURE hitung_pendapatan_berdasarkan_tanggal(IN tanggal_mulai DATE,
IN tanggal_akhir DATE)

BEGIN

    DECLARE total_pendapatan DECIMAL(10,2);

    SELECT SUM(od.quantity * od.price) INTO total_pendapatan

    FROM orders o

    JOIN orderdetails od ON o.id = od.order_id

    WHERE o.order_date BETWEEN tanggal_mulai AND tanggal_akhir;

    SELECT total_pendapatan;

END $$

DELIMITER ;
```



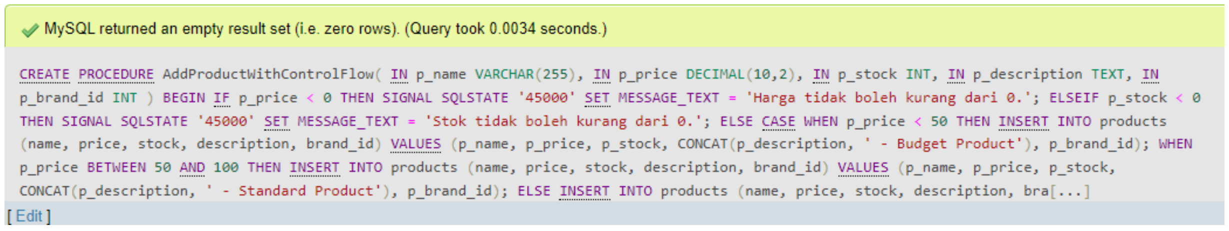
```
✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0033 seconds.)

CREATE PROCEDURE hitung_pendapatan_berdasarkan_tanggal(IN tanggal_mulai DATE, IN tanggal_akhir DATE) BEGIN DECLARE total_pendapatan DECIMAL(10,2); SELECT SUM(od.quantity * od.price) INTO total_pendapatan FROM orders o JOIN orderdetails od ON o.id = od.order_id WHERE o.order_date BETWEEN tanggal_mulai AND tanggal_akhir; SELECT total_pendapatan; END;
```

3. Prosedur penyimpanan mengandung aliran kontrol (pernyataan IF, CASE, atau LOOP)

Answer:

```
DELIMITER $$

CREATE PROCEDURE AddProductWithControlFlow(

    IN p_name VARCHAR(255),

    IN p_price DECIMAL(10,2),

    IN p_stock INT,

    IN p_description TEXT,

    IN p_brand_id INT

)

BEGIN
```

```
   IF p_price < 0 THEN
      SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'Harga tidak boleh kurang dari 0.';
   ELSEIF p_stock < 0 THEN
      SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'Stok tidak boleh kurang dari 0.';
   ELSE
      CASE
         WHEN p_price < 50 THEN
            INSERT INTO products (name, price, stock, description, brand_id)
            VALUES (p_name, p_price, p_stock, CONCAT(p_description, ' - Budget Product'),
p_brand_id);
         WHEN p_price BETWEEN 50 AND 100 THEN
            INSERT INTO products (name, price, stock, description, brand_id)
            VALUES (p_name, p_price, p_stock, CONCAT(p_description, ' - Standard Product'),
p_brand_id);
         ELSE
            INSERT INTO products (name, price, stock, description, brand_id)
            VALUES (p_name, p_price, p_stock, CONCAT(p_description, ' - Premium Product'),
p_brand_id);
      END CASE;
   END IF;
END$$
DELIMITER ;
```

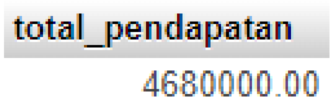


```
✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0034 seconds.)

CREATE PROCEDURE AddProductWithControlFlow( IN p_name VARCHAR(255), IN p_price DECIMAL(10,2), IN p_stock INT, IN p_description TEXT, IN
p_brand_id INT ) BEGIN IF p_price < 0 THEN SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'Harga tidak boleh kurang dari 0.'; ELSEIF p_stock < 0
THEN SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'Stok tidak boleh kurang dari 0.'; ELSE CASE WHEN p_price < 50 THEN INSERT INTO products
(name, price, stock, description, brand_id) VALUES (p_name, p_price, p_stock, CONCAT(p_description, ' - Budget Product'), p_brand_id); WHEN
p_price BETWEEN 50 AND 100 THEN INSERT INTO products (name, price, stock, description, brand_id) VALUES (p_name, p_price, p_stock,
CONCAT(p_description, ' - Standard Product'), p_brand_id); ELSE INSERT INTO products (name, price, stock, description, bra[...]
[ Edit ]
```

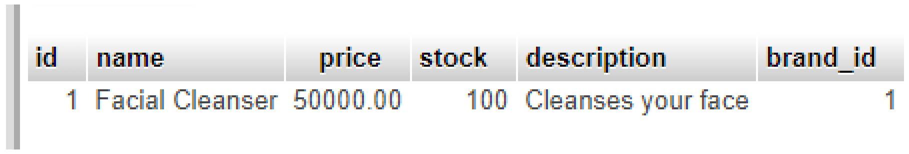
4. Execute each procedure

Answer:

1. Calculating total revenue

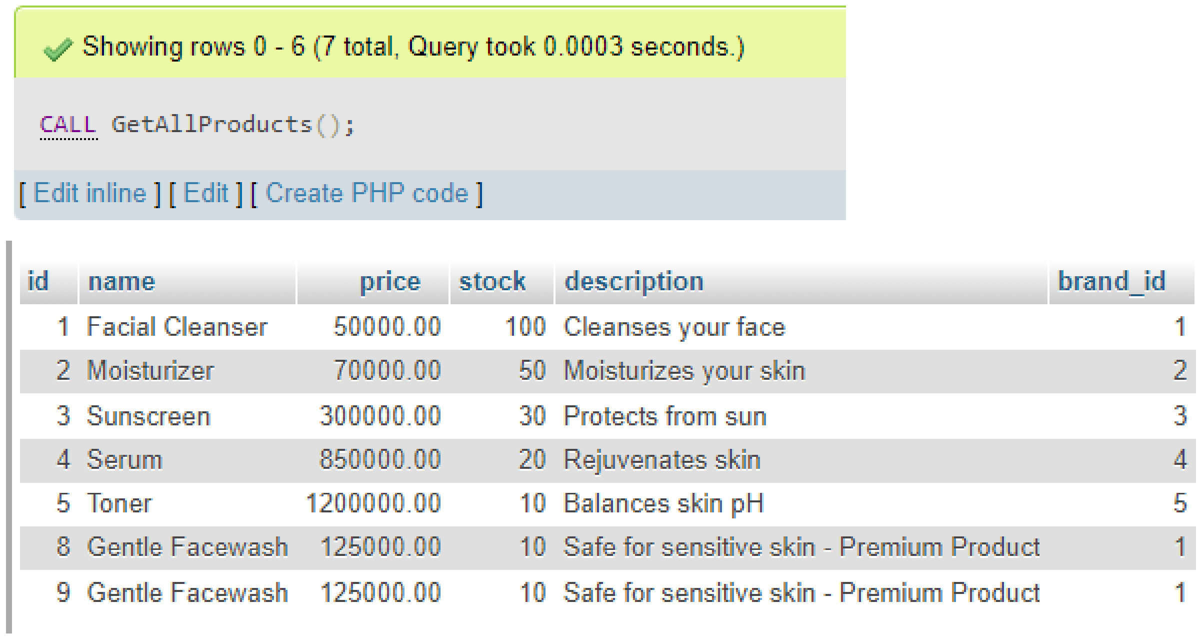
`CALL hitung_total_pendapatan();`
 total_pendapatan 4680000.00
Calculate all revenue from sales

2. View products according to category

CALL GetProductsByCategory(1)

Display products with category_id = 1

id	name	price	stock	description	brand_id
1	Facial Cleanser	50000.00	100	Cleanses your face	1

3. Display all existing products

CALL GetAllProducts()

Calculate revenue according to the date inputted

✓ Showing rows 0 - 6 (7 total, Query took 0.0003 seconds.)

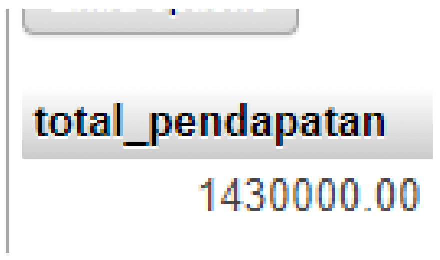
```
CALL GetAllProducts();
```

[Edit inline] [Edit] [Create PHP code]

id	name	price	stock	description	brand_id
1	Facial Cleanser	50000.00	100	Cleanses your face	1
2	Moisturizer	70000.00	50	Moisturizes your skin	2
3	Sunscreen	300000.00	30	Protects from sun	3
4	Serum	850000.00	20	Rejuvenates skin	4
5	Toner	1200000.00	10	Balances skin pH	5
8	Gentle Facewash	125000.00	10	Safe for sensitive skin - Premium Product	1
9	Gentle Facewash	125000.00	10	Safe for sensitive skin - Premium Product	1

4. Calculating total income over time

```
CALL hitung_pendapatan_berdasarkan_tanggal('2024-07-01', '2024-07-03');
```

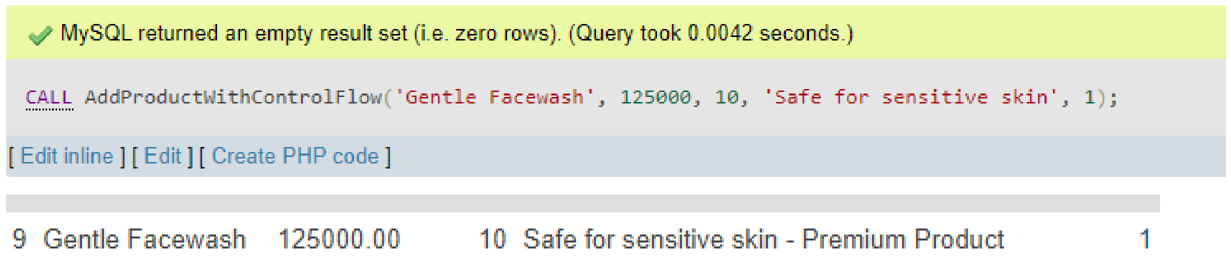


```
total_pendapatan
      1430000.00
```

Calculate revenue according to the date inputted

5. Adding new products

```
CALL AddProductWithControlFlow('Gentle Facewash', 125000, 10, 'Safe for sensitive skin', 1);
```

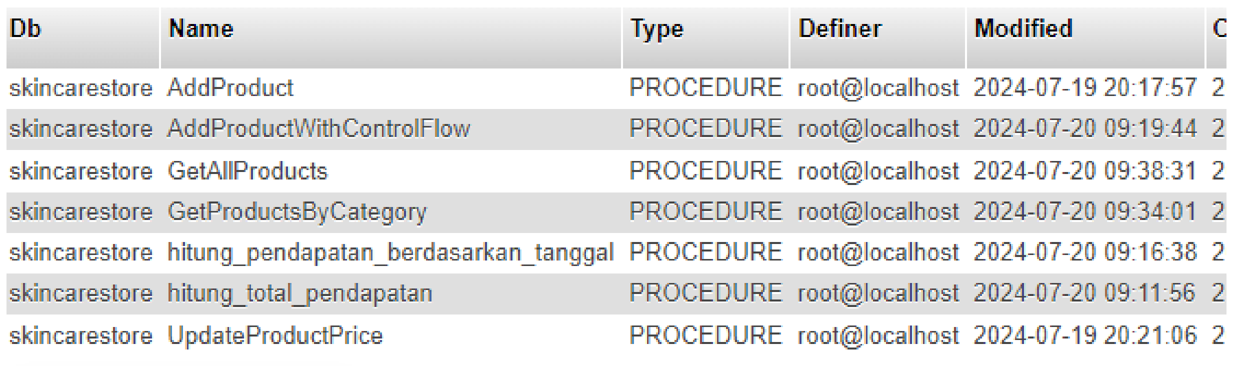


```
MySQL returned an empty result set (i.e. zero rows). (Query took 0.0042 seconds.)

CALL AddProductWithControlFlow('Gentle Facewash', 125000, 10, 'Safe for sensitive skin', 1);

[ Edit inline ] [ Edit ] [ Create PHP code ]

9  Gentle Facewash    125000.00        10  Safe for sensitive skin - Premium Product            1
```

Added new products with control flow.

5. Show Procedure List

Answer:



Db	Name	Type	Definer	Modified	C
skincarestore	AddProduct	PROCEDURE	root@localhost	2024-07-19 20:17:57	2
skincarestore	AddProductWithControlFlow	PROCEDURE	root@localhost	2024-07-20 09:19:44	2
skincarestore	GetAllProducts	PROCEDURE	root@localhost	2024-07-20 09:38:31	2
skincarestore	GetProductsByCategory	PROCEDURE	root@localhost	2024-07-20 09:34:01	2
skincarestore	hitung_pendapatan_berdasarkan_tanggal	PROCEDURE	root@localhost	2024-07-20 09:16:38	2
skincarestore	hitung_total_pendapatan	PROCEDURE	root@localhost	2024-07-20 09:11:56	2
skincarestore	UpdateProductPrice	PROCEDURE	root@localhost	2024-07-19 20:21:06	2

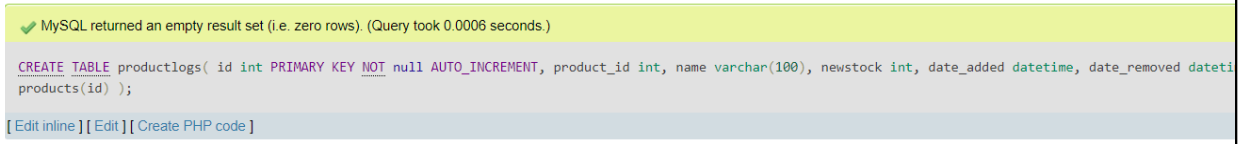
TRIGGER

Final Project skincarestore.sql | Membuat Trigger, dan Mengeksekusi Trigger.

1. Create several log tables to store data from trigger execution

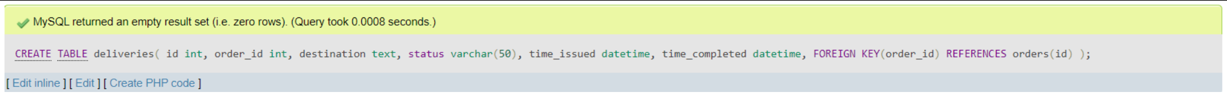
Jawab:

```
CREATE TABLE productlogs(
    id int PRIMARY KEY NOT null AUTO_INCREMENT,
    product_id int,
    name varchar(100),
     newstock int,
    date_added datetime,
    date_removed datetime,
    FOREIGN KEY(product_id) REFERENCES products(id)
    )
```



```
MySQL returned an empty result set (i.e. zero rows). (Query took 0.0006 seconds.)

CREATE TABLE productlogs( id int PRIMARY KEY NOT null AUTO_INCREMENT, product_id int, name varchar(100), newstock int, date_added datetime, date_removed dateti
products(id) );

[ Edit inline ] [ Edit ] [ Create PHP code ]
```

```
CREATE TABLE deliveries(
    id int,
    order_id int,
    destination text,
    status varchar(50),
    time_issued datetime,
    time_completed datetime,
    FOREIGN KEY(order_id) REFERENCES orders(id)
    )
```



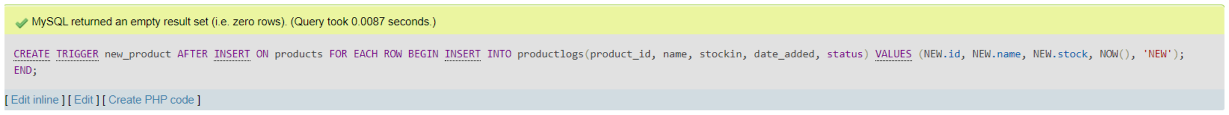
```
✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0008 seconds.)

CREATE TABLE deliveries( id int, order_id int, destination text, status varchar(50), time_issued datetime, time_completed datetime, FOREIGN KEY(order_id) REFERENCES orders(id) );

[ Edit inline ] [ Edit ] [ Create PHP code ]
```

2. Create 6 triggers, consisting of BEFORE and AFTER

-

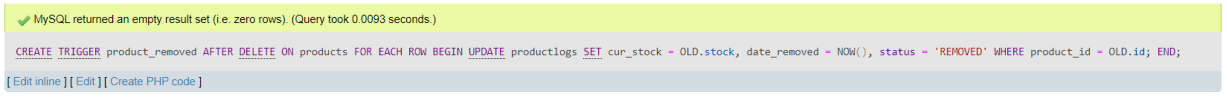
Jawab:

```
# AFTER INSERT
DELIMITER //
CREATE TRIGGER new_product
AFTER INSERT
ON products FOR EACH ROW
BEGIN
    INSERT INTO productlogs(product_id, name, stockin, date_added,
status) VALUES (NEW.id, NEW.name, NEW.stock, NOW(), 'NEW');
END //
```



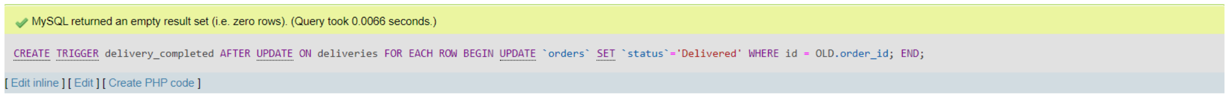
```
✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0087 seconds.)

CREATE TRIGGER new_product AFTER INSERT ON products FOR EACH ROW BEGIN INSERT INTO productlogs(product_id, name, stockin, date_added, status) VALUES (NEW.id, NEW.name, NEW.stock, NOW(), 'NEW');
END;

[ Edit inline ] [ Edit ] [ Create PHP code ]
```

```
# AFTER DELETE
DELIMITER //
CREATE TRIGGER product_removed
AFTER DELETE
ON products FOR EACH ROW
BEGIN
     UPDATE productlogs SET cur_stock = OLD.stock, date_removed =
NOW(), status = 'REMOVED' WHERE product_id = OLD.id;
END //
```



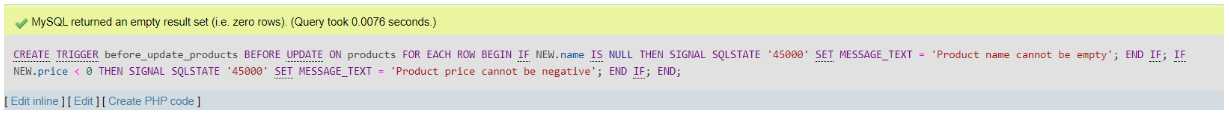
```
✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0093 seconds.)

CREATE TRIGGER product_removed AFTER DELETE ON products FOR EACH ROW BEGIN UPDATE productlogs SET cur_stock = OLD.stock, date_removed = NOW(), status = 'REMOVED' WHERE product_id = OLD.id; END;

[ Edit inline ] [ Edit ] [ Create PHP code ]
```

```
# AFTER UPDATE

DELIMITER //

CREATE TRIGGER delivery_completed

AFTER UPDATE

ON deliveries FOR EACH ROW

BEGIN

     UPDATE `orders` SET `status`='Delivered' WHERE id =
OLD.order_id;

END //
```



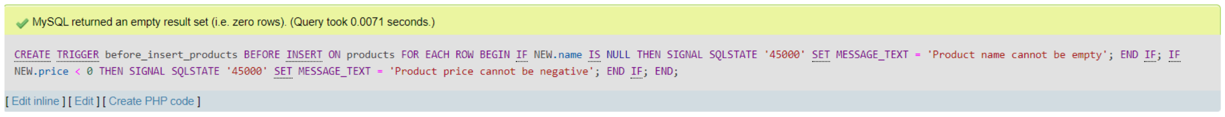
```
MySQL returned an empty result set (i.e. zero rows). (Query took 0.0066 seconds.)

CREATE TRIGGER delivery_completed AFTER UPDATE ON deliveries FOR EACH ROW BEGIN UPDATE `orders` SET `status`='Delivered' WHERE id = OLD.order_id; END;

[ Edit inline ] [ Edit ] [ Create PHP code ]
```

```
# BEFORE UPDATE

DELIMITER //

CREATE TRIGGER before_update_products

BEFORE UPDATE

ON products FOR EACH ROW

BEGIN

    IF NEW.name IS NULL THEN

        SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'Product name
cannot be empty';

    END IF;


    IF NEW.price < 0 THEN

        SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'Product price
cannot be negative';

    END IF;

END //
```



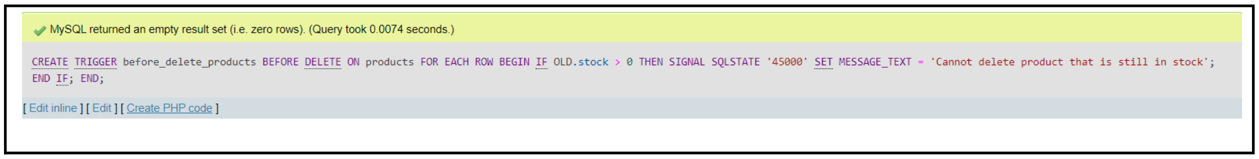
```
MySQL returned an empty result set (i.e. zero rows). (Query took 0.0076 seconds.)

CREATE TRIGGER before_update_products BEFORE UPDATE ON products FOR EACH ROW BEGIN IF NEW.name IS NULL THEN SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'Product name cannot be empty'; END IF; IF
NEW.price < 0 THEN SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'Product price cannot be negative'; END IF; END;

[ Edit inline ] [ Edit ] [ Create PHP code ]
```

```
# BEFORE INSERT

DELIMITER //

CREATE TRIGGER before_insert_products

BEFORE INSERT

ON products FOR EACH ROW

BEGIN

    IF NEW.name IS NULL THEN

        SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'Product name
cannot be empty';

    END IF;


    IF NEW.price < 0 THEN

        SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'Product price
cannot be negative';

    END IF;

END //
```



```
✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0071 seconds.)

CREATE TRIGGER before_insert_products BEFORE INSERT ON products FOR EACH ROW BEGIN IF NEW.name IS NULL THEN SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'Product name cannot be empty'; END IF; IF
NEW.price < 0 THEN SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'Product price cannot be negative'; END IF; END;
```

```
# BEFORE DELETE

DELIMITER //

CREATE TRIGGER before_delete_products

BEFORE DELETE

ON products FOR EACH ROW

BEGIN

    IF OLD.stock > 0 THEN

        SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'Cannot delete
product that is still in stock';

    END IF;

END //
```



```
MySQL returned an empty result set (i.e. zero rows). (Query took 0.0074 seconds.)

CREATE TRIGGER before_delete_products BEFORE DELETE ON products FOR EACH ROW BEGIN IF OLD.stock > 0 THEN SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'Cannot delete product that is still in stock';
END IF; END;
```

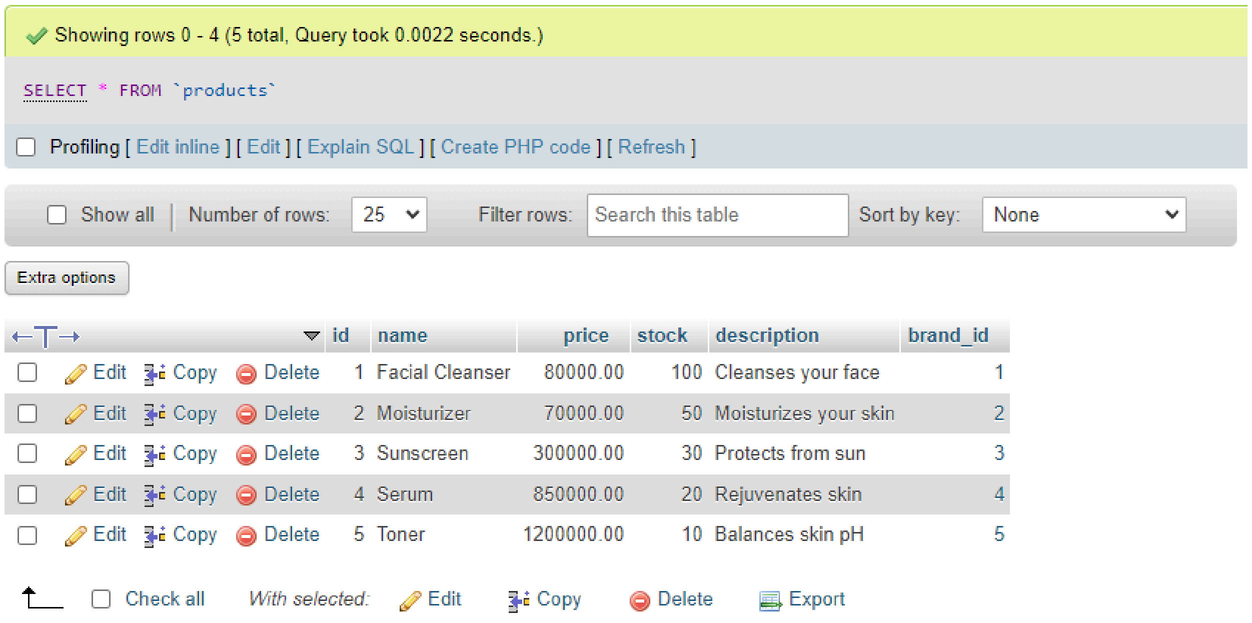
membuat 6 trigger dengan nama

- ***new_product (after insert)***
    - this trigger is run after a new product is inserted to the *products* table, with target table *productlogs*.
- ***product_removed (after delete)***
    - this trigger is run after a product is deleted from the *products* table, with target table *productlogs*.
- ***delivery_completed (after update)***
    - this trigger is run after the status of a delivery in table *deliveries* is changed into “completed” with target table *orders.*
- ***before_update_products (before update)***
    - this trigger is run before a product is edited in the *products* table, to validate whether the edited product has a valid name and/or price.
- ***before_insert_products (before insert)***
    - this trigger is run before a product is inserted in the *products* table, to validate whether the inserted product has a valid name and/or price.
- ***before_delete_products (before delete)***
    - this trigger is run before a product is deleted in the *products* table, to validate whether the deleted product has a valid stock count.

3. Execute each EVENT and record them to the corresponding table

- **INSERT**

SEBELUM



✓ Showing rows 0 - 4 (5 total, Query took 0.0022 seconds.)

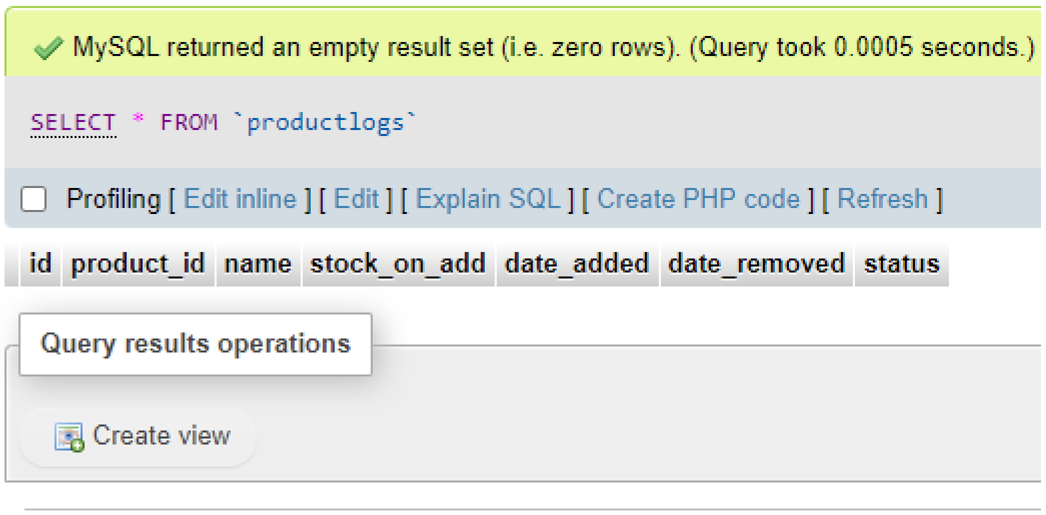
```
SELECT * FROM `products`
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None

Extra options

id	name	price	stock	description	brand_id
1	Facial Cleanser	80000.00	100	Cleanses your face	1
2	Moisturizer	70000.00	50	Moisturizes your skin	2
3	Sunscreen	300000.00	30	Protects from sun	3
4	Serum	850000.00	20	Rejuvenates skin	4
5	Toner	1200000.00	10	Balances skin pH	5



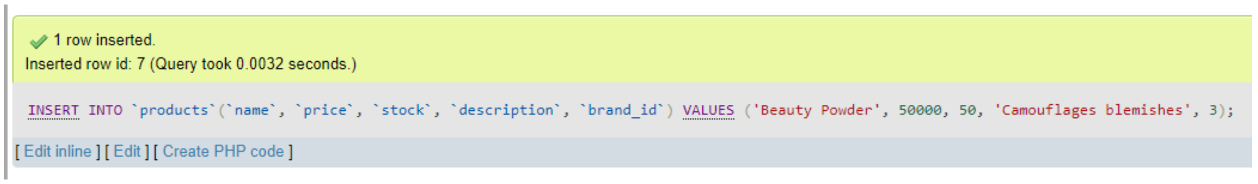
✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0005 seconds.)

```
SELECT * FROM `productlogs`
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

id	product_id	name	stock_on_add	date_added	date_removed	status

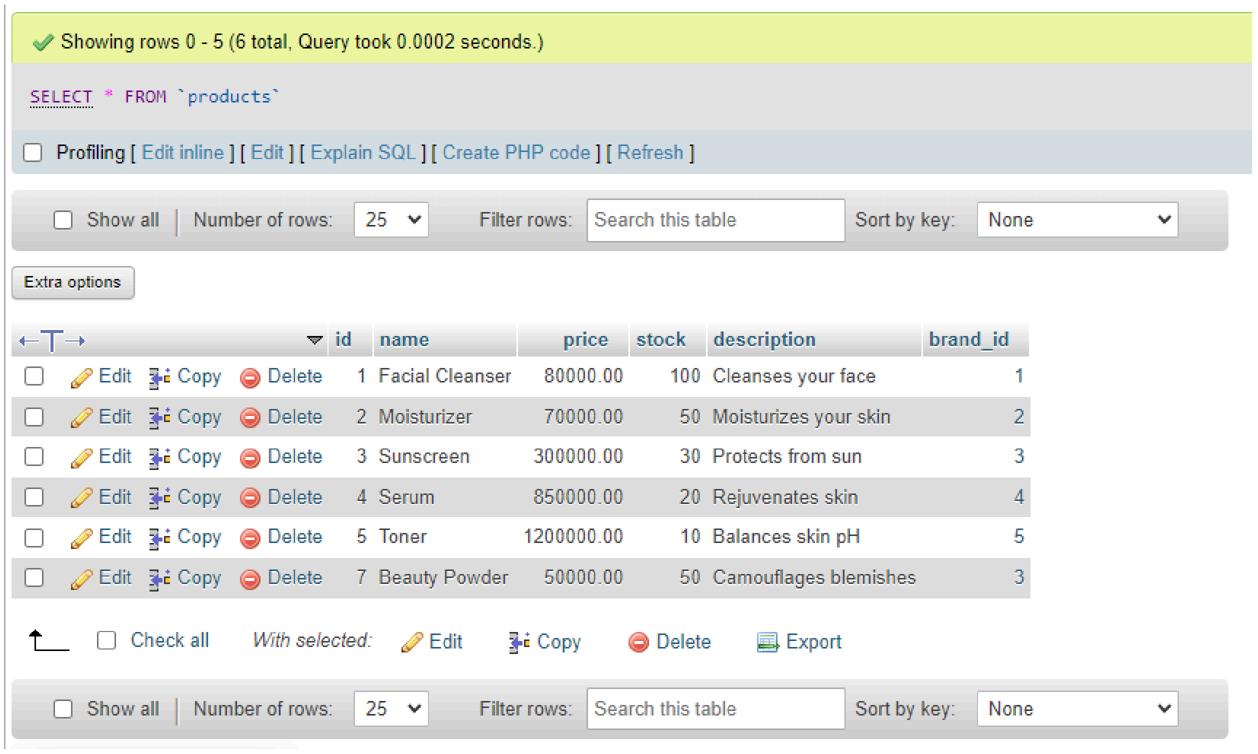
SETELAH INSERT



✓ 1 row inserted.
Inserted row id: 7 (Query took 0.0032 seconds.)

```
INSERT INTO `products`(`name`, `price`, `stock`, `description`, `brand_id`) VALUES ('Beauty Powder', 50000, 50, 'Camouflages blemishes', 3);
```

[Edit inline] [Edit] [Create PHP code]



✓ Showing rows 0 - 5 (6 total, Query took 0.0002 seconds.)

```
SELECT * FROM `products`
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

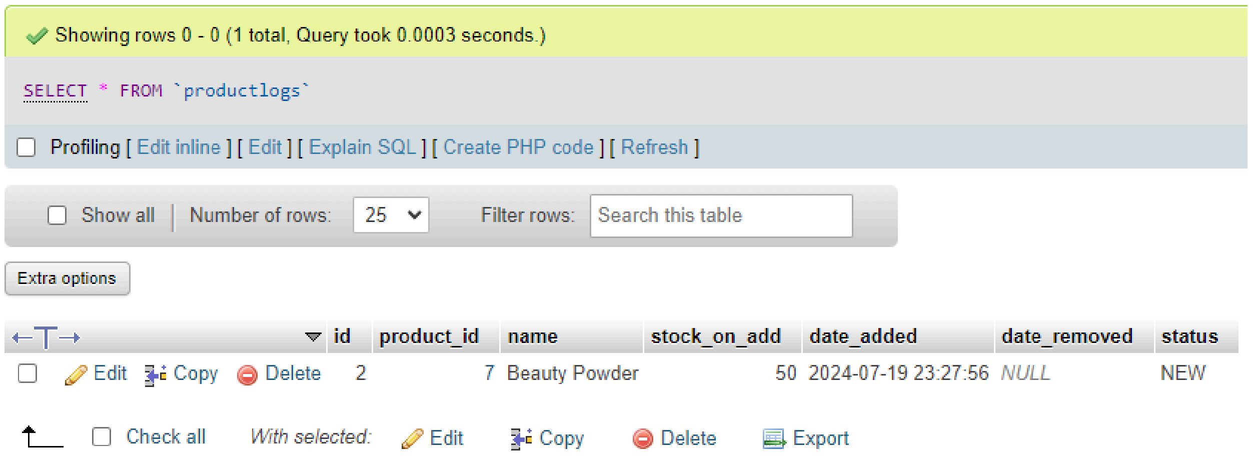
Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None

Extra options

id	name	price	stock	description	brand_id
1	Facial Cleanser	80000.00	100	Cleanses your face	1
2	Moisturizer	70000.00	50	Moisturizes your skin	2
3	Sunscreen	300000.00	30	Protects from sun	3
4	Serum	850000.00	20	Rejuvenates skin	4
5	Toner	1200000.00	10	Balances skin pH	5
7	Beauty Powder	50000.00	50	Camouflages blemishes	3

Check all With selected: Edit Copy Delete Export

Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None



✓ Showing rows 0 - 0 (1 total, Query took 0.0003 seconds.)

```
SELECT * FROM `productlogs`
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table

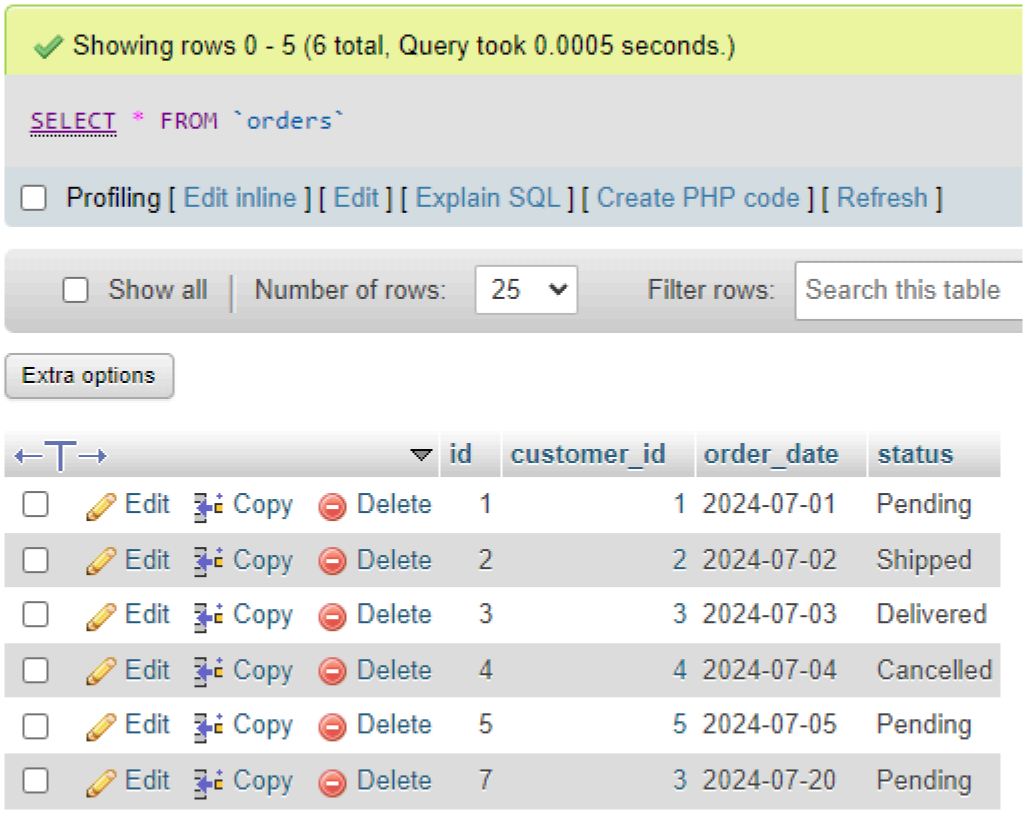
Extra options

id	product_id	name	stock_on_add	date_added	date_removed	status
2	7	Beauty Powder	50	2024-07-19 23:27:56	*NULL*	NEW

Check all With selected: Edit Copy Delete Export

- **UPDATE**

SEBELUM



✓ Showing rows 0 - 5 (6 total, Query took 0.0005 seconds.)

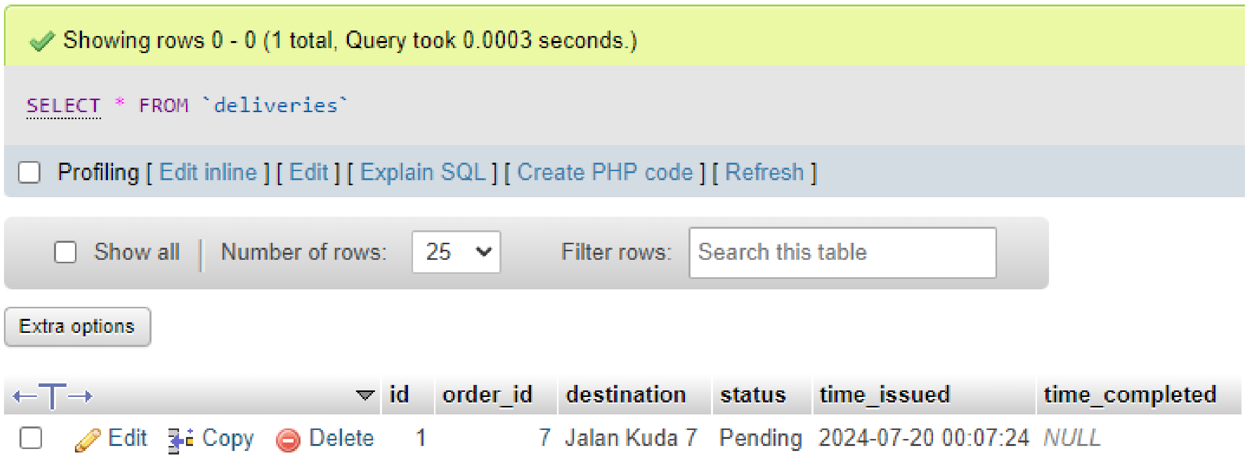
```
SELECT * FROM `orders`
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table

Extra options

	id	customer_id	order_date	status
Edit Copy Delete	1	1	2024-07-01	Pending
Edit Copy Delete	2	2	2024-07-02	Shipped
Edit Copy Delete	3	3	2024-07-03	Delivered
Edit Copy Delete	4	4	2024-07-04	Cancelled
Edit Copy Delete	5	5	2024-07-05	Pending
Edit Copy Delete	7	3	2024-07-20	Pending



✓ Showing rows 0 - 0 (1 total, Query took 0.0003 seconds.)

```
SELECT * FROM `deliveries`
```

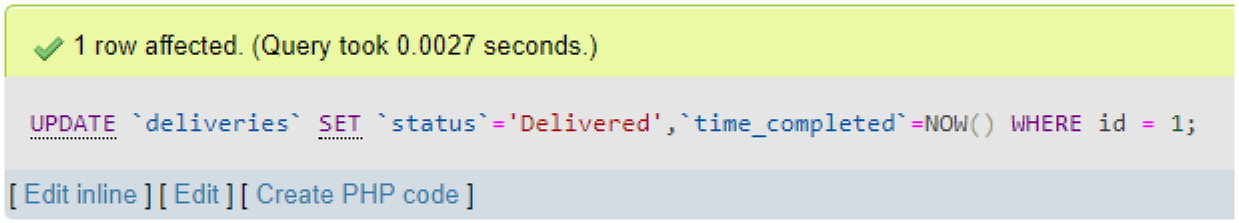
Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table

Extra options

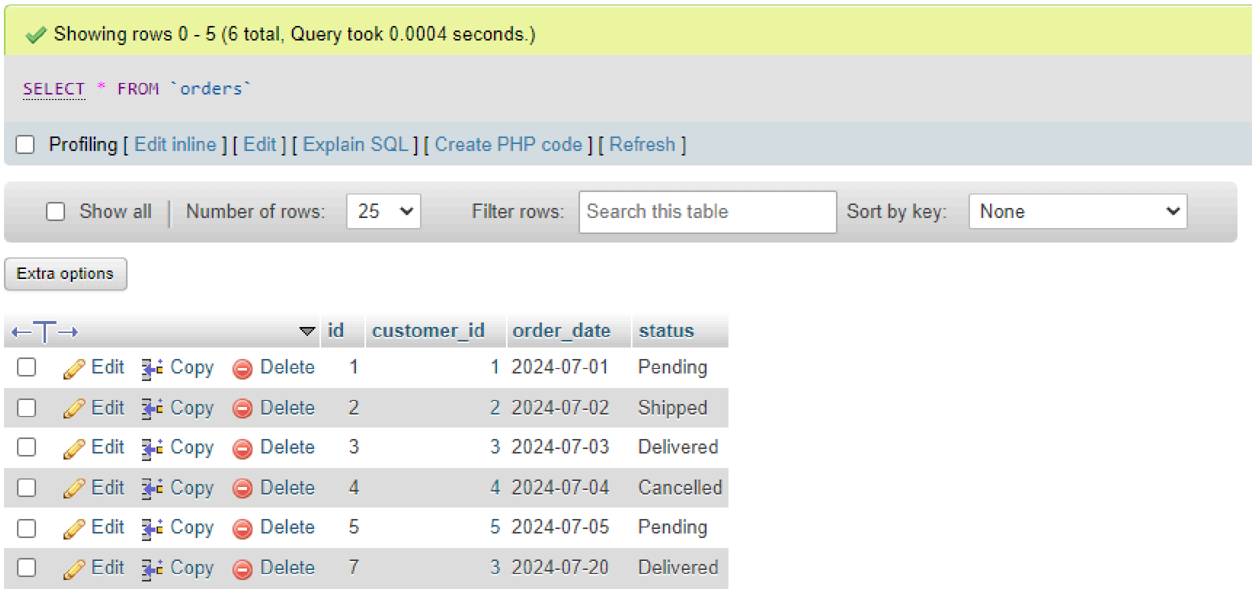
	id	order_id	destination	status	time_issued	time_completed
Edit Copy Delete	1	7	Jalan Kuda 7	Pending	2024-07-20 00:07:24	NULL

SETELAH UPDATE



1 row affected. (Query took 0.0027 seconds.)

```
UPDATE `deliveries` SET `status`='Delivered',`time_completed`=NOW() WHERE id = 1;
```

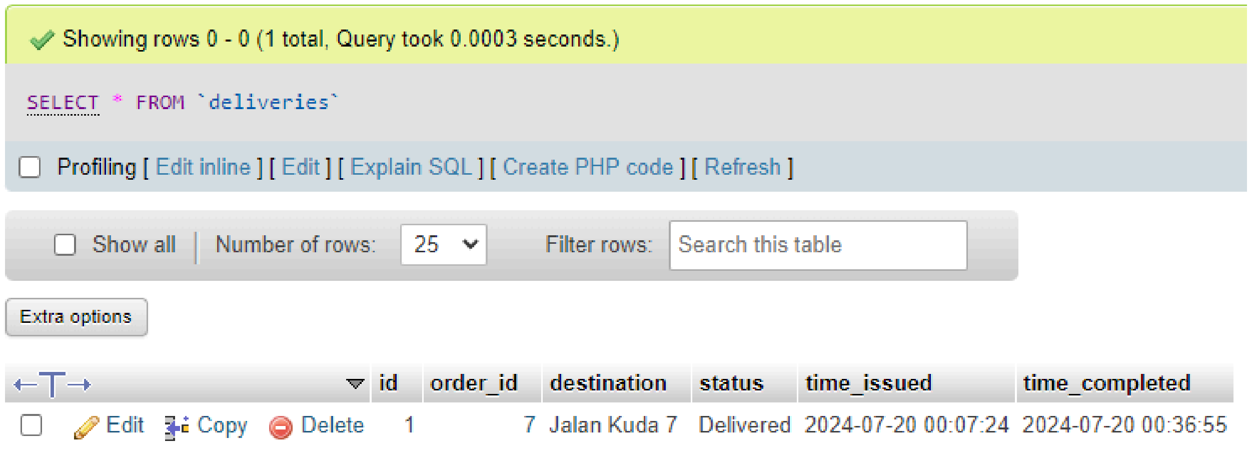


Showing rows 0 - 5 (6 total, Query took 0.0004 seconds.)

```
SELECT * FROM `orders`
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]
Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None
Extra options

id	customer_id	order_date	status
1	1	2024-07-01	Pending
2	2	2024-07-02	Shipped
3	3	2024-07-03	Delivered
4	4	2024-07-04	Cancelled
5	5	2024-07-05	Pending
7	3	2024-07-20	Delivered



Showing rows 0 - 0 (1 total, Query took 0.0003 seconds.)

```
SELECT * FROM `deliveries`
```

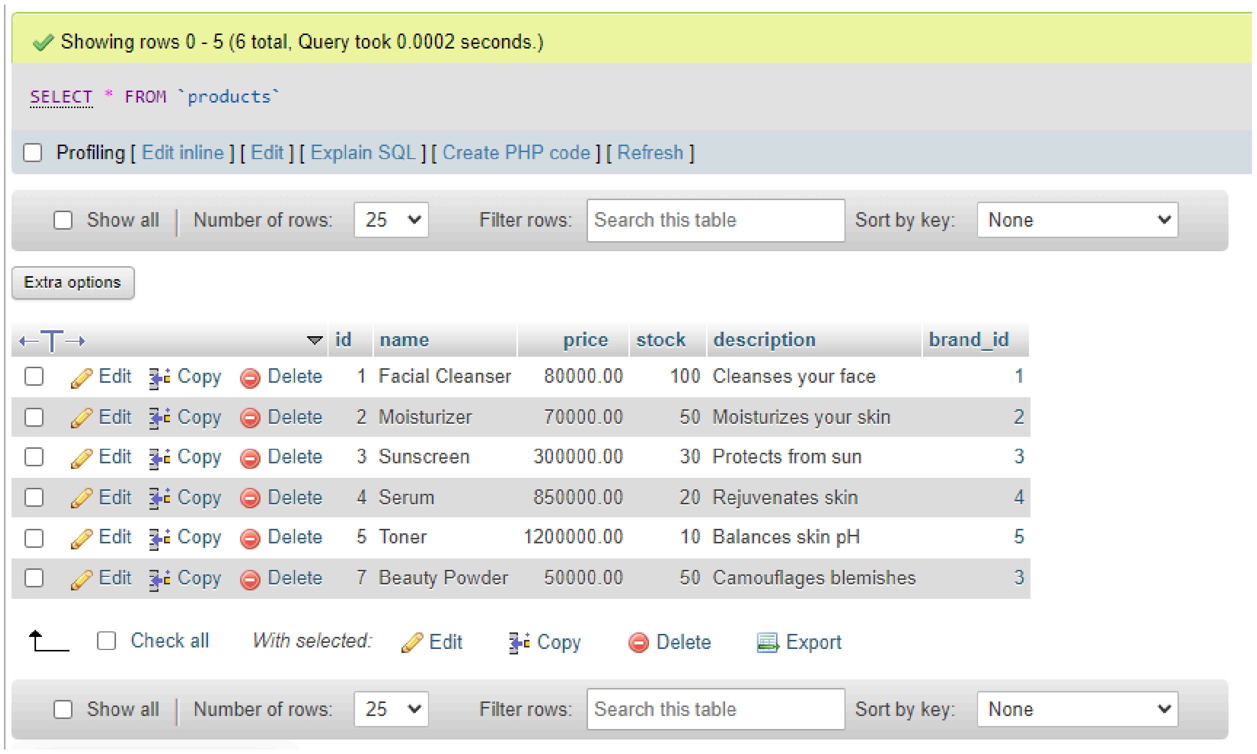
Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]
Show all | Number of rows: 25 Filter rows: Search this table
Extra options

id	order_id	destination	status	time_issued	time_completed
1	7	Jalan Kuda 7	Delivered	2024-07-20 00:07:24	2024-07-20 00:36:55

.

- DELETE

SEBELUM


✓ Showing rows 0 - 5 (6 total, Query took 0.0002 seconds.)

```
SELECT * FROM `products`
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

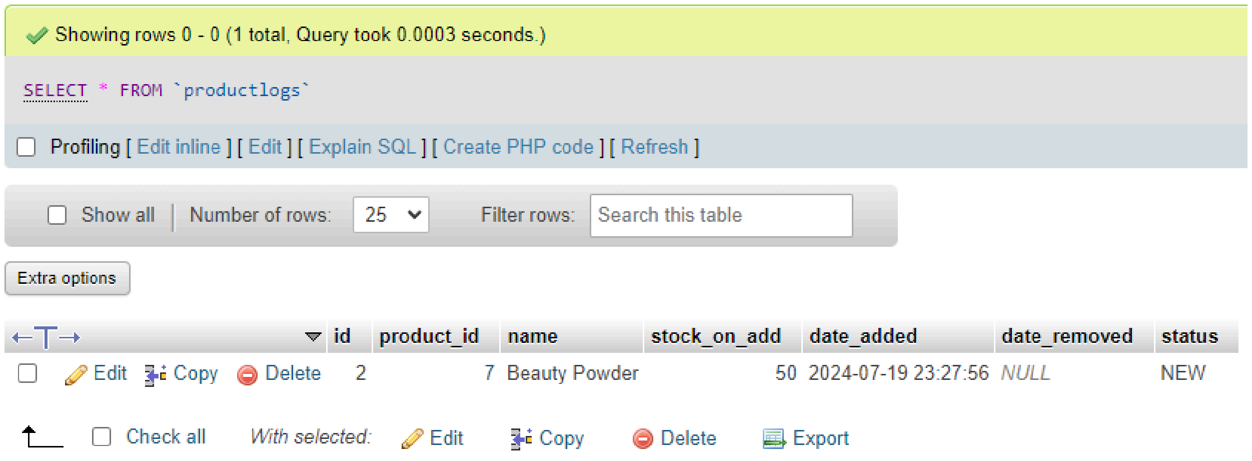
Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None

Extra options

	id	name	price	stock	description	brand_id
Edit Copy Delete	1	Facial Cleanser	80000.00	100	Cleanses your face	1
Edit Copy Delete	2	Moisturizer	70000.00	50	Moisturizes your skin	2
Edit Copy Delete	3	Sunscreen	300000.00	30	Protects from sun	3
Edit Copy Delete	4	Serum	850000.00	20	Rejuvenates skin	4
Edit Copy Delete	5	Toner	1200000.00	10	Balances skin pH	5
Edit Copy Delete	7	Beauty Powder	50000.00	50	Camouflages blemishes	3

Check all With selected: Edit Copy Delete Export

Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None


✓ Showing rows 0 - 0 (1 total, Query took 0.0003 seconds.)

```
SELECT * FROM `productlogs`
```

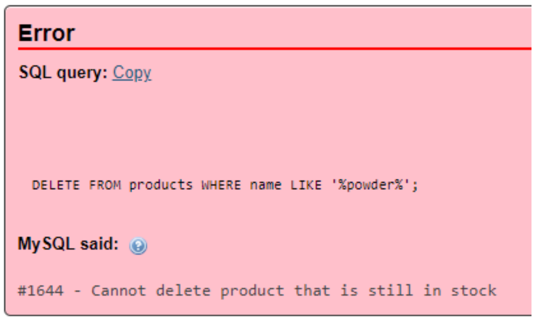
Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table

Extra options

	id	product_id	name	stock_on_add	date_added	date_removed	status
Edit Copy Delete	2	7	Beauty Powder	50	2024-07-19 23:27:56	NULL	NEW

Check all With selected: Edit Copy Delete Export


Error

SQL query: Copy

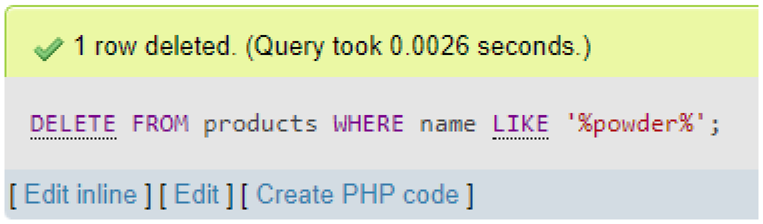
```
DELETE FROM products WHERE name LIKE '%powder%';
```

MySQL said:

```
#1644 - Cannot delete product that is still in stock
```

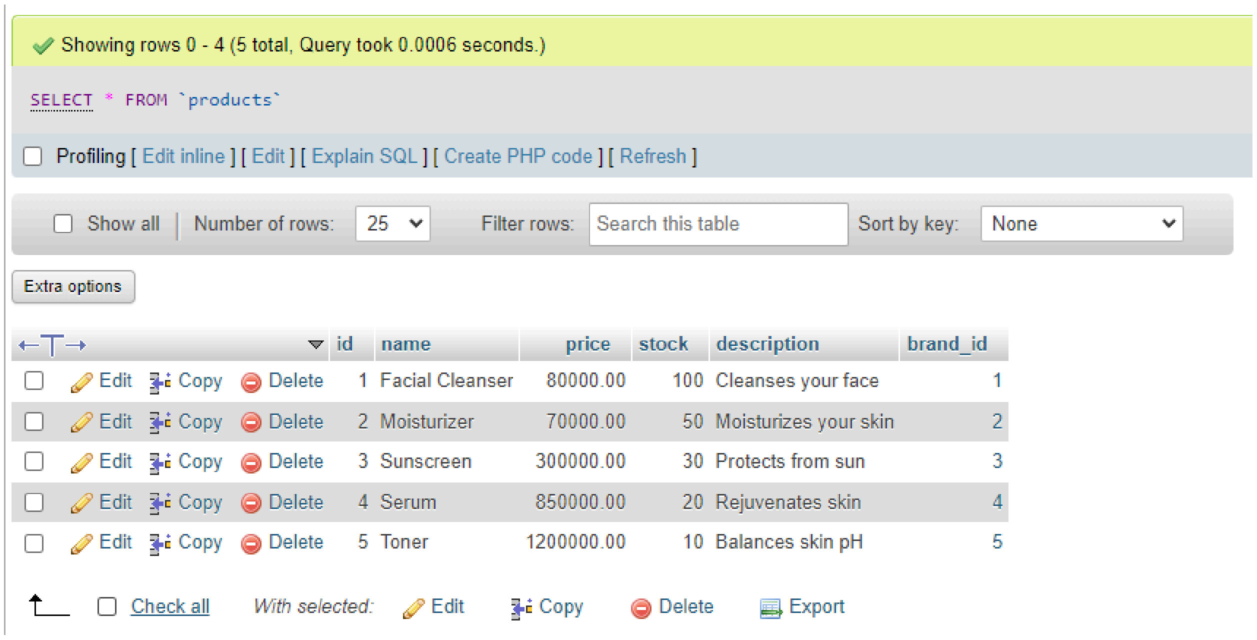
SETELAH DELETE

this is after changing the stock count of Beauty Powder to 0.



1 row deleted. (Query took 0.0026 seconds.)

```
DELETE FROM products WHERE name LIKE '%powder%';
```



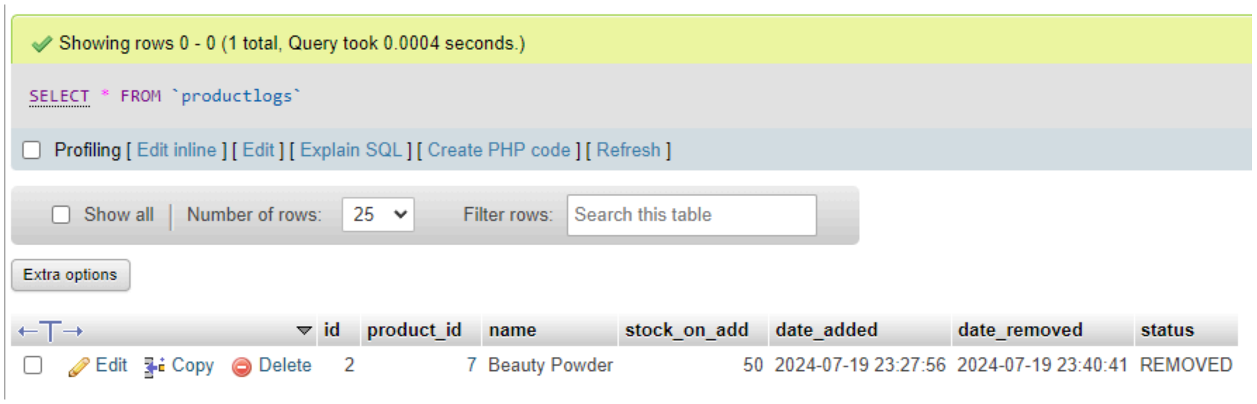
Showing rows 0 - 4 (5 total, Query took 0.0006 seconds.)

```
SELECT * FROM `products`
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]
Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None
Extra options

	id	name	price	stock	description	brand_id
Edit Copy Delete	1	Facial Cleanser	80000.00	100	Cleanses your face	1
Edit Copy Delete	2	Moisturizer	70000.00	50	Moisturizes your skin	2
Edit Copy Delete	3	Sunscreen	300000.00	30	Protects from sun	3
Edit Copy Delete	4	Serum	850000.00	20	Rejuvenates skin	4
Edit Copy Delete	5	Toner	1200000.00	10	Balances skin pH	5

Check all With selected: Edit Copy Delete Export



Showing rows 0 - 0 (1 total, Query took 0.0004 seconds.)

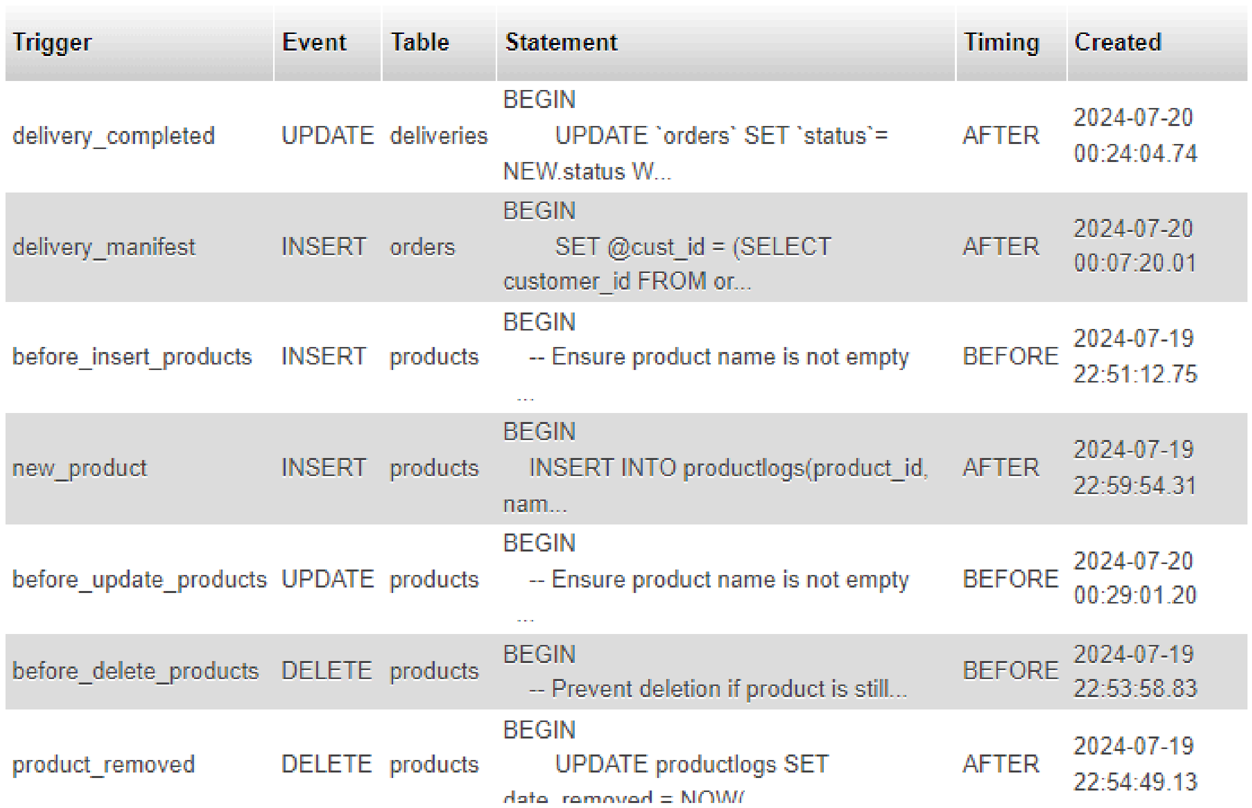
```
SELECT * FROM `productlogs`
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]
Show all | Number of rows: 25 Filter rows: Search this table
Extra options

	id	product_id	name	stock_on_add	date_added	date_removed	status
Edit Copy Delete	2	7	Beauty Powder	50	2024-07-19 23:27:56	2024-07-19 23:40:41	REMOVED

.

4. Show list of all triggers



Trigger	Event	Table	Statement	Timing	Created
delivery_completed	UPDATE	deliveries	BEGIN UPDATE \`orders\` SET \`status\`= NEW.status W...	AFTER	2024-07-20 00:24:04.74
delivery_manifest	INSERT	orders	BEGIN SET @cust_id = (SELECT customer_id FROM or...	AFTER	2024-07-20 00:07:20.01
before_insert_products	INSERT	products	BEGIN -- Ensure product name is not empty ...	BEFORE	2024-07-19 22:51:12.75
new_product	INSERT	products	BEGIN INSERT INTO productlogs(product_id, nam...	AFTER	2024-07-19 22:59:54.31
before_update_products	UPDATE	products	BEGIN -- Ensure product name is not empty ...	BEFORE	2024-07-20 00:29:01.20
before_delete_products	DELETE	products	BEGIN -- Prevent deletion if product is still...	BEFORE	2024-07-19 22:53:58.83
product_removed	DELETE	products	BEGIN UPDATE productlogs SET date_removed = NOW(	AFTER	2024-07-19 22:54:49.13

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INDEX

Final Project skincarestore.sql | Create Composite Index and display indexes

1. Create 3 indexes each by: creating a new table, creating an index with CREATE INDEX, creating an index with ALTER TABLE. In the index, use composite key (key with more than 1 Columns)

Answer:

1. Create Index by creating a new table

```
CREATE TABLE Accounts (
    account_id SERIAL PRIMARY KEY,
    customer_id INT NOT NULL,
    account_name varchar(255) NOT NULL,
    account_type varchar(50) NOT NULL,
    open_date DATE NOT NULL,
    balance DECIMAL(10, 2) NOT NULL,
    status varchar(50) NOT NULL,
    INDEX idx_customer_account (customer_id, account_type)
);
```

2. Create Index with CREATE Index

```
CREATE INDEX idx_account_name_status
ON accounts (account_name ASC, status);
```

3. Creating an Index with ALTER TABLE

```
ALTER TABLE accounts
ADD INDEX idx_account_balance (account_name, balance );
```

4. Show the Index list

```
SHOW INDEXES FROM accounts;
```

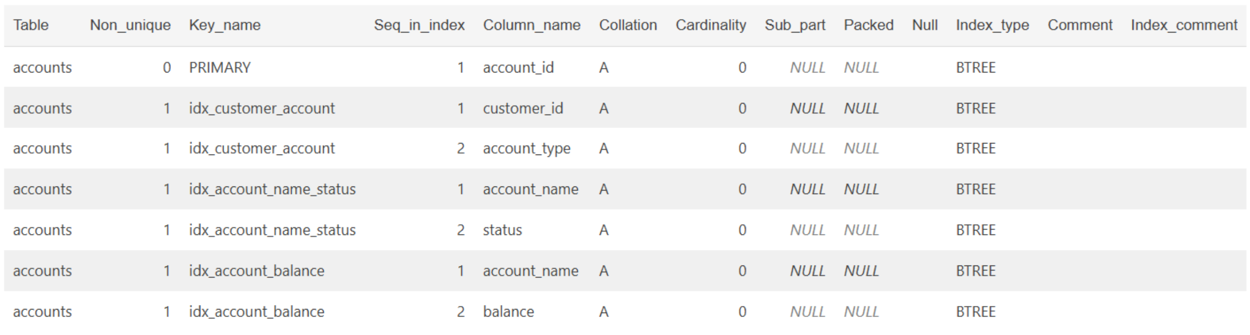


Table	Non_unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment	Index_comment
accounts	0	PRIMARY	1	account_id	A	0	NULL	NULL		BTREE		
accounts	1	idx_customer_account	1	customer_id	A	0	NULL	NULL		BTREE		
accounts	1	idx_customer_account	2	account_type	A	0	NULL	NULL		BTREE		
accounts	1	idx_account_name_status	1	account_name	A	0	NULL	NULL		BTREE		
accounts	1	idx_account_name_status	2	status	A	0	NULL	NULL		BTREE		
accounts	1	idx_account_balance	1	account_name	A	0	NULL	NULL		BTREE		
accounts	1	idx_account_balance	2	balance	A	0	NULL	NULL		BTREE		

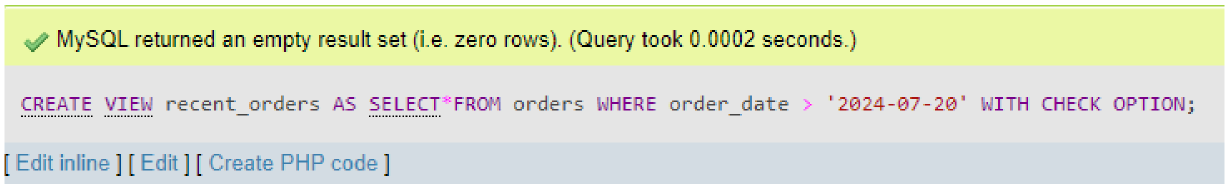
VIEW

Final Project skincarestore.sql | Create a VIEW, and perform updates

1. Create 3 views and use the WITH CHECK OPTION clause either cascaded or local

Answer:

```
CREATE VIEW recent_orders AS
SELECT*FROM orders
WHERE order_date > '2024-07-20'
WITH CHECK OPTION;
```

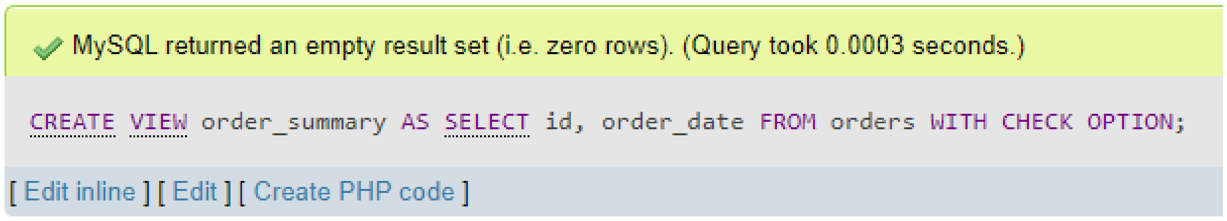


```
✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0002 seconds.)

CREATE VIEW recent_orders AS SELECT*FROM orders WHERE order_date > '2024-07-20' WITH CHECK OPTION;

[ Edit inline ] [ Edit ] [ Create PHP code ]
```

```
CREATE VIEW order_summary AS
SELECT id, order_date
FROM orders
WITH CHECK OPTION;
```

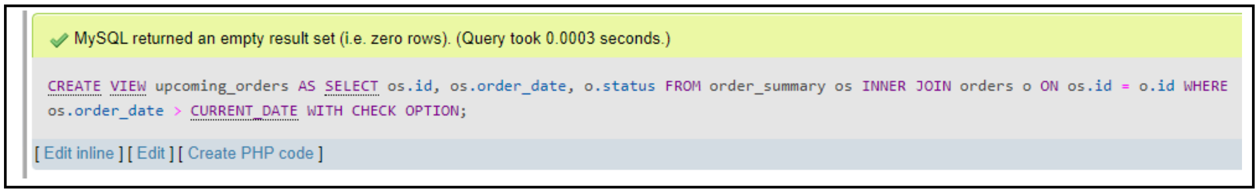


```
✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0003 seconds.)

CREATE VIEW order_summary AS SELECT id, order_date FROM orders WITH CHECK OPTION;

[ Edit inline ] [ Edit ] [ Create PHP code ]
```

```
CREATE VIEW upcoming_orders AS
SELECT os.id, os.order_date, o.status
FROM order_summary os
INNER JOIN orders o ON os.id = o.id
WHERE os.order_date > CURRENT_DATE
WITH CHECK OPTION;
```


✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0003 seconds.)

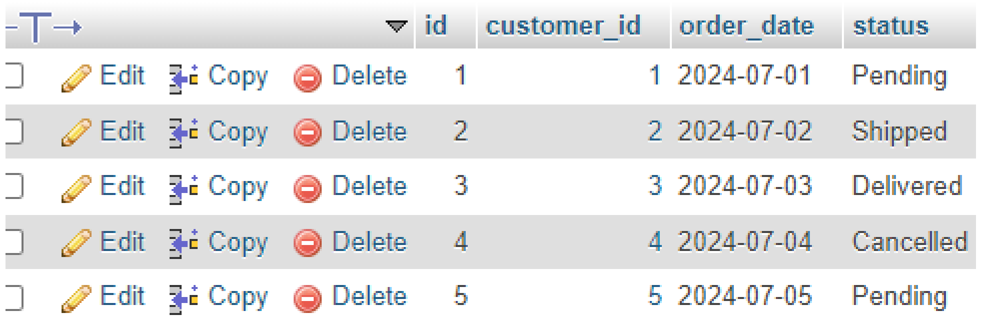
```
CREATE VIEW upcoming_orders AS SELECT os.id, os.order_date, o.status FROM order_summary os INNER JOIN orders o ON os.id = o.id WHERE
os.order_date > CURRENT_DATE WITH CHECK OPTION;
```

2. Update dan insert

Answer:

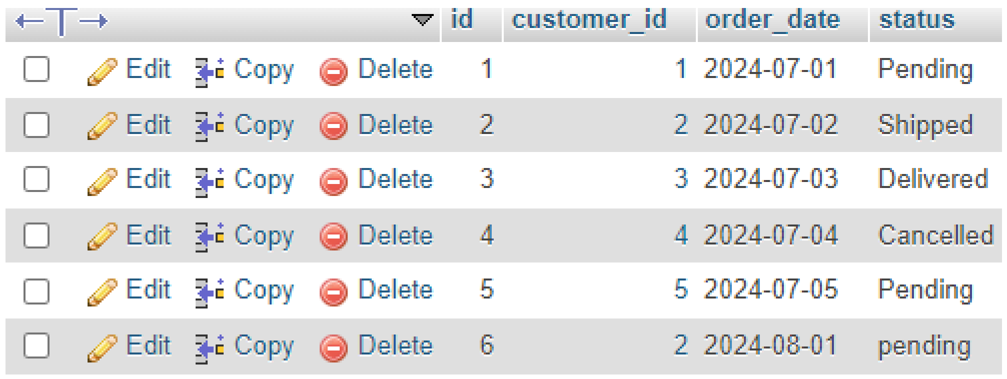
INSERT INTO recent_orders (customer_id, order_date, status)
VALUES (2, '2024-08-01', 'pending');

sebelum



id	customer_id	order_date	status
1	1	2024-07-01	Pending
2	2	2024-07-02	Shipped
3	3	2024-07-03	Delivered
4	4	2024-07-04	Cancelled
5	5	2024-07-05	Pending

sesudah

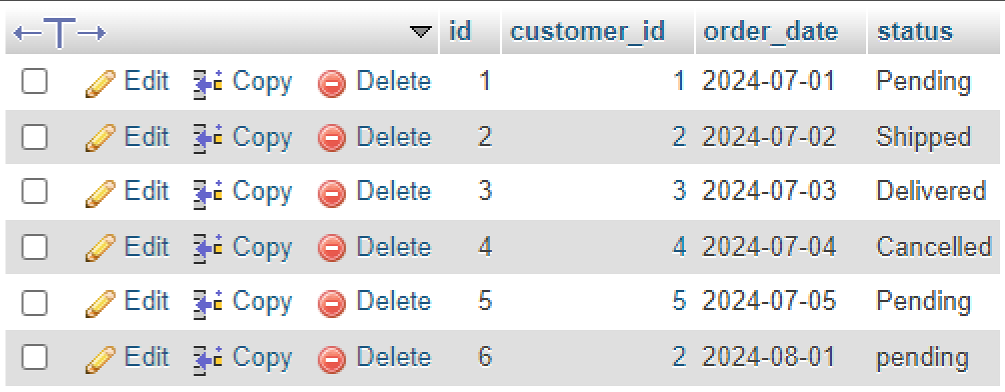


id	customer_id	order_date	status
1	1	2024-07-01	Pending
2	2	2024-07-02	Shipped
3	3	2024-07-03	Delivered
4	4	2024-07-04	Cancelled
5	5	2024-07-05	Pending
6	2	2024-08-01	pending

Answer:

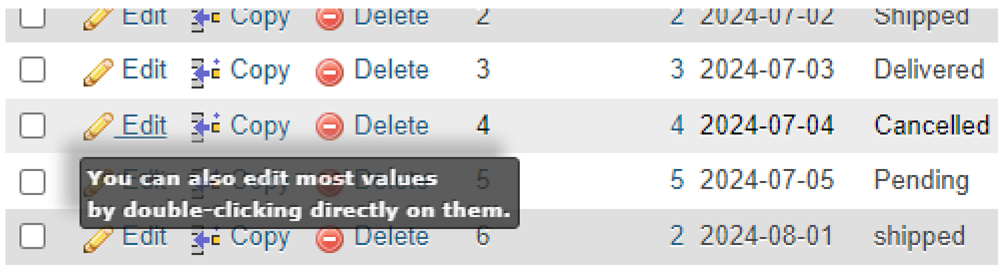
UPDATE upcoming_orders
SET status = 'shipped'
WHERE id = 6;

BEFORE



				id	customer_id	order_date	status
☐	Edit	Copy	Delete	1	1	2024-07-01	Pending
☐	Edit	Copy	Delete	2	2	2024-07-02	Shipped
☐	Edit	Copy	Delete	3	3	2024-07-03	Delivered
☐	Edit	Copy	Delete	4	4	2024-07-04	Cancelled
☐	Edit	Copy	Delete	5	5	2024-07-05	Pending
☐	Edit	Copy	Delete	6	2	2024-08-01	pending

AFTER



☐	Edit	Copy	Delete	2	2	2024-07-02	Shipped
☐	Edit	Copy	Delete	3	3	2024-07-03	Delivered
☐	Edit	Copy	Delete	4	4	2024-07-04	Cancelled
☐				5	5	2024-07-05	Pending
☐	Edit	Copy	Delete	6	2	2024-08-01	shipped

You can also edit most values
by double-clicking directly on them.

3. Show list view

Answer:

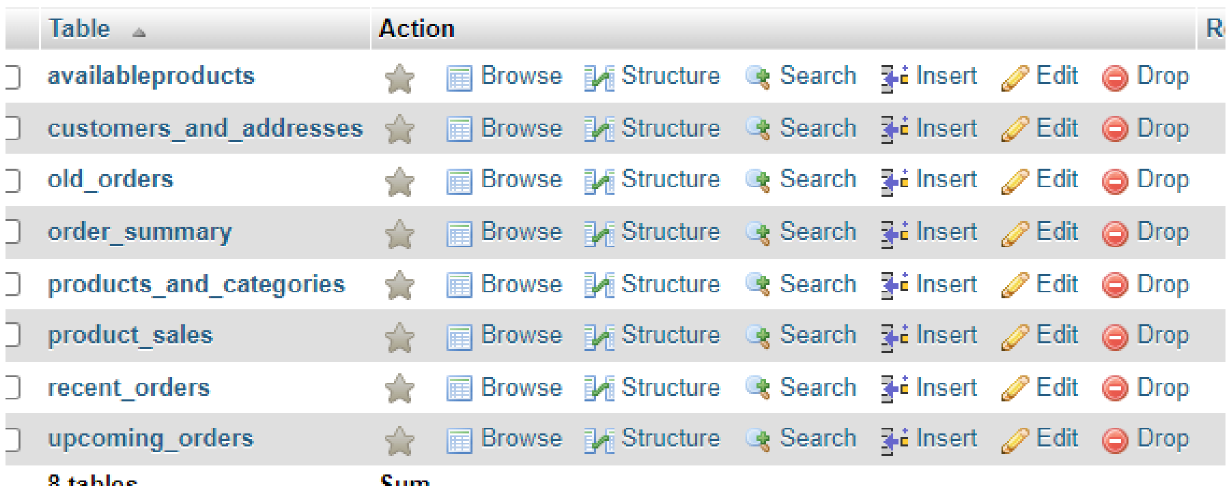


	Table	Action							R
☐	availableproducts	☆	Browse	Structure	Search	Insert	Edit	Drop	
☐	customers_and_addresses	☆	Browse	Structure	Search	Insert	Edit	Drop	
☐	old_orders	☆	Browse	Structure	Search	Insert	Edit	Drop	
☐	order_summary	☆	Browse	Structure	Search	Insert	Edit	Drop	
☐	products_and_categories	☆	Browse	Structure	Search	Insert	Edit	Drop	
☐	product_sales	☆	Browse	Structure	Search	Insert	Edit	Drop	
☐	recent_orders	☆	Browse	Structure	Search	Insert	Edit	Drop	
☐	upcoming_orders	☆	Browse	Structure	Search	Insert	Edit	Drop	
	8 tables	Sum							

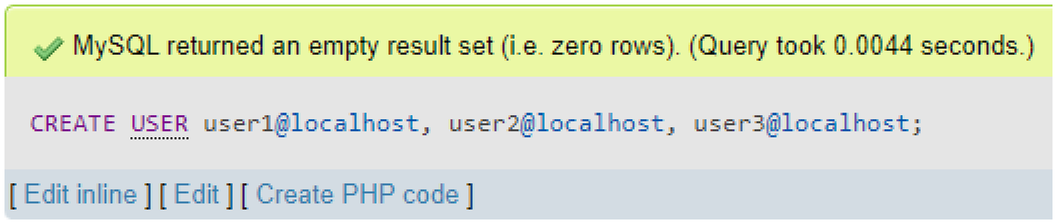
DATABASE SECURITY

Final Project RentalMobil.sql | Create USER-ROLE- and give Privilege.

1. Create 3 new users with the names user1, user2, and user3

Answer:

```
CREATE USER user1@localhost, user2@localhost, user3@localhost
```


MySQL returned an empty result set (i.e. zero rows). (Query took 0.0044 seconds.)

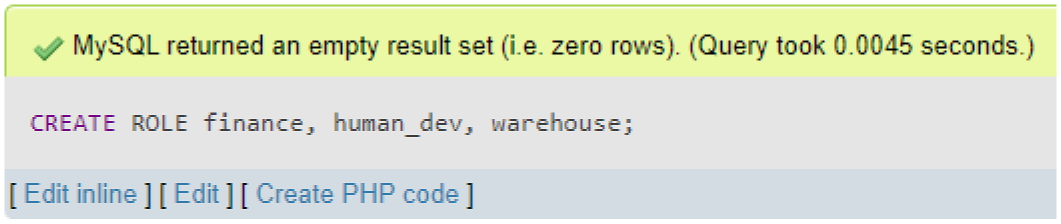
```
CREATE USER user1@localhost, user2@localhost, user3@localhost;
```

create 3 new users with the names user1, user2, and user3 by using the CREATE USER command.

2. Create 3 new roles finance, human_dev, warehouse

Answer:

```
CREATE ROLE finance, human_dev, warehouse;
```

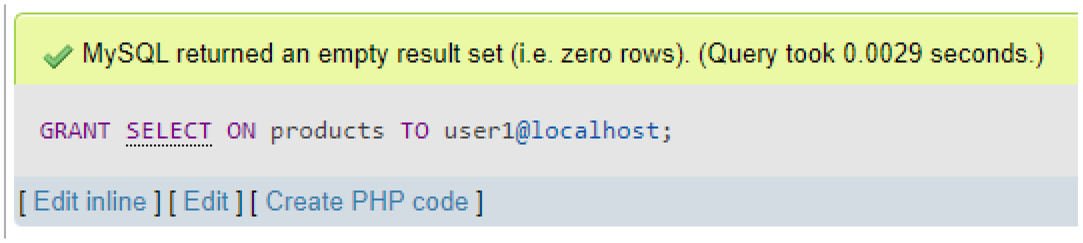

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0045 seconds.)

```
CREATE ROLE finance, human_dev, warehouse;
```

3. Add privileges to user1 so that he can access one of the tables in the database.

Answer:

```
GRANT SELECT
ON products
TO user1@localhost
```


MySQL returned an empty result set (i.e. zero rows). (Query took 0.0029 seconds.)

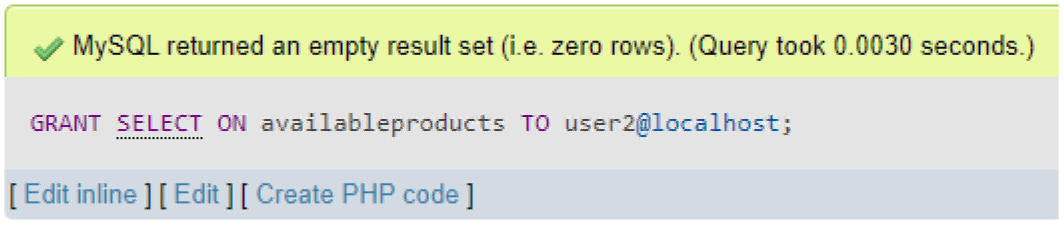
```
GRANT SELECT ON products TO user1@localhost;
```

[Edit inline] [Edit] [Create PHP code]

4. Add privileges to user2 to access one of the views in your database

Answer:

```
GRANT SELECT
ON availableproducts
TO user2@localhost
```


MySQL returned an empty result set (i.e. zero rows). (Query took 0.0030 seconds.)

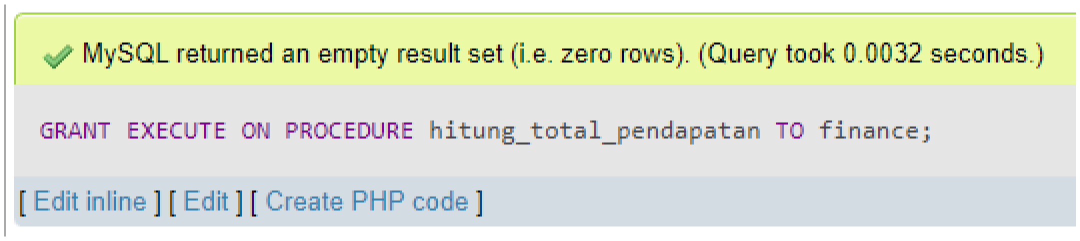
```
GRANT SELECT ON availableproducts TO user2@localhost;
```

[Edit inline] [Edit] [Create PHP code]

5. Add privileges to finance to access one of the procedures in your database

Answer:

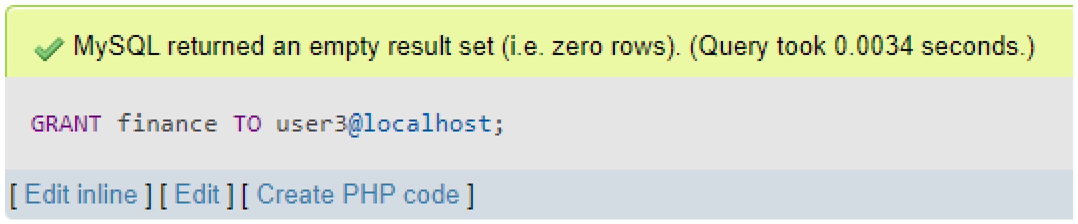
```
GRANT EXECUTE
ON PROCEDURE hitung_total_pendapatan
TO finance
GRANT finance
TO user3@localhost
```



✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0032 seconds.)

```
GRANT EXECUTE ON PROCEDURE hitung_total_pendapatan TO finance;
```

[Edit inline] [Edit] [Create PHP code]



✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0034 seconds.)

```
GRANT finance TO user3@localhost;
```

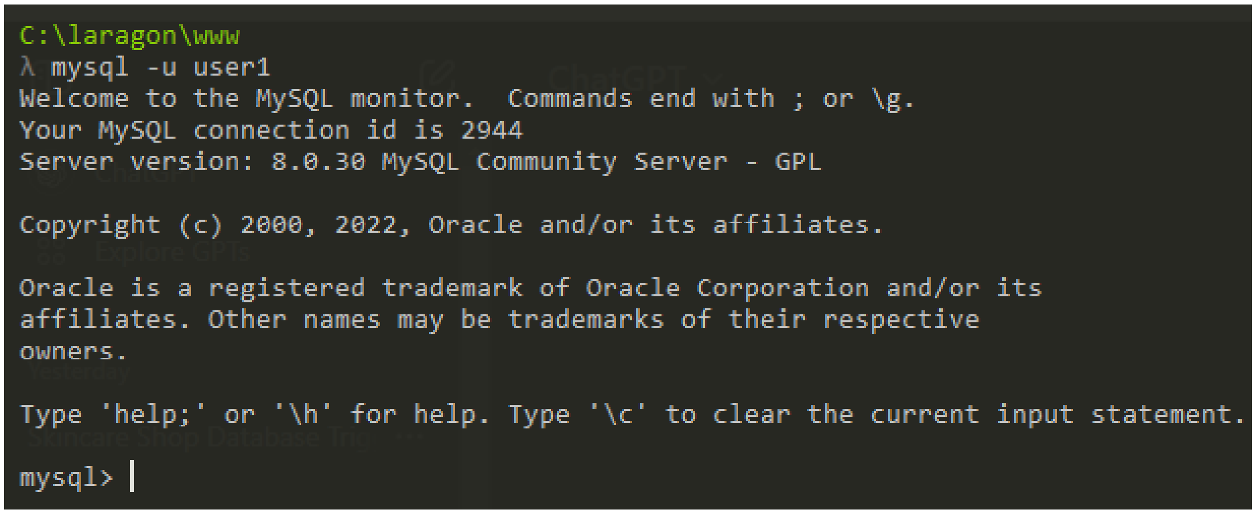
[Edit inline] [Edit] [Create PHP code]

6. Execute to prove that the privileges have been successfully assigned to the user and role

   a. Login as user1

```
mysql -u user1

select * from products
```



```
C:\laragon\www
λ mysql -u user1
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 2944
Server version: 8.0.30 MySQL Community Server - GPL

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
```
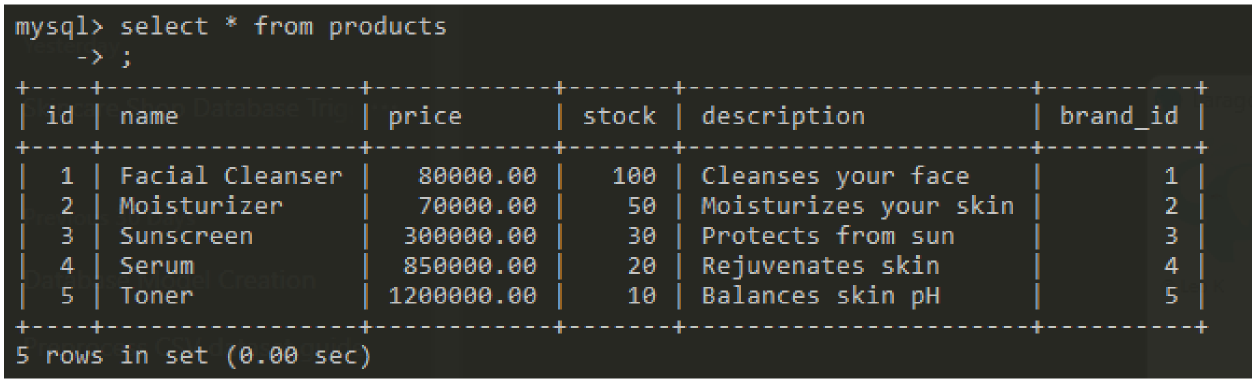
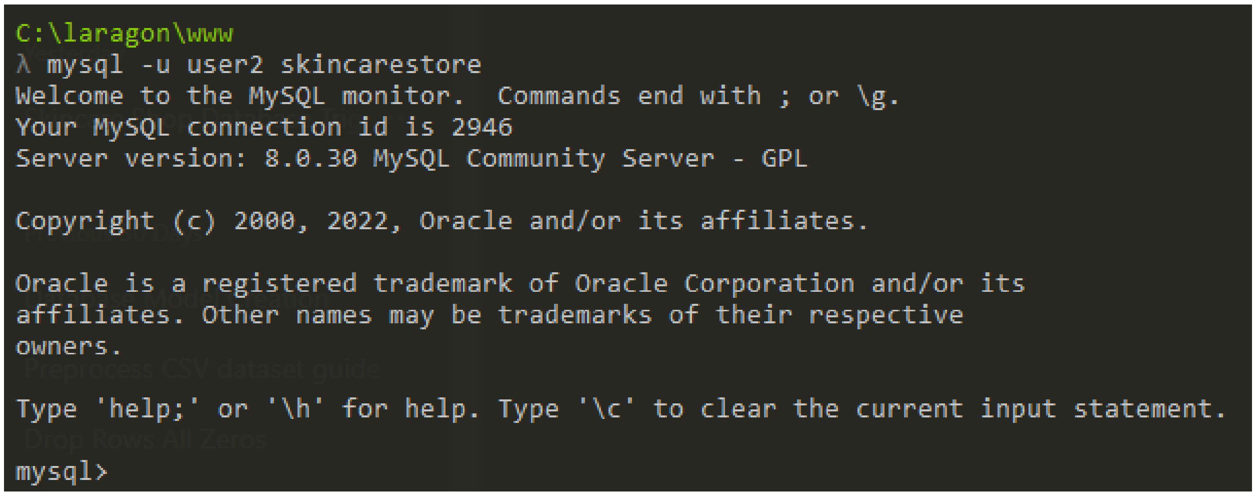



```
mysql> select * from products
    -> ;
+----+-----------------+------------+-------+-------------------------+----------+
| id | name            | price      | stock | description             | brand_id |
+----+-----------------+------------+-------+-------------------------+----------+
|  1 | Facial Cleanser |   80000.00 |   100 | Cleanses your face      |        1 |
|  2 | Moisturizer     |   70000.00 |    50 | Moisturizes your skin   |        2 |
|  3 | Sunscreen       |  300000.00 |    30 | Protects from sun       |        3 |
|  4 | Serum           |  850000.00 |    20 | Rejuvenates skin        |        4 |
|  5 | Toner           | 1200000.00 |    10 | Balances skin pH        |        5 |
+----+-----------------+------------+-------+-------------------------+----------+
5 rows in set (0.00 sec)
```

b. Login as user2

```
mysql -u user2 skincarestore

SELECT * FROM AvailableProducts;
```



```
C:\laragon\www
λ mysql -u user2 skincarestore
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 2946
Server version: 8.0.30 MySQL Community Server - GPL

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Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
```
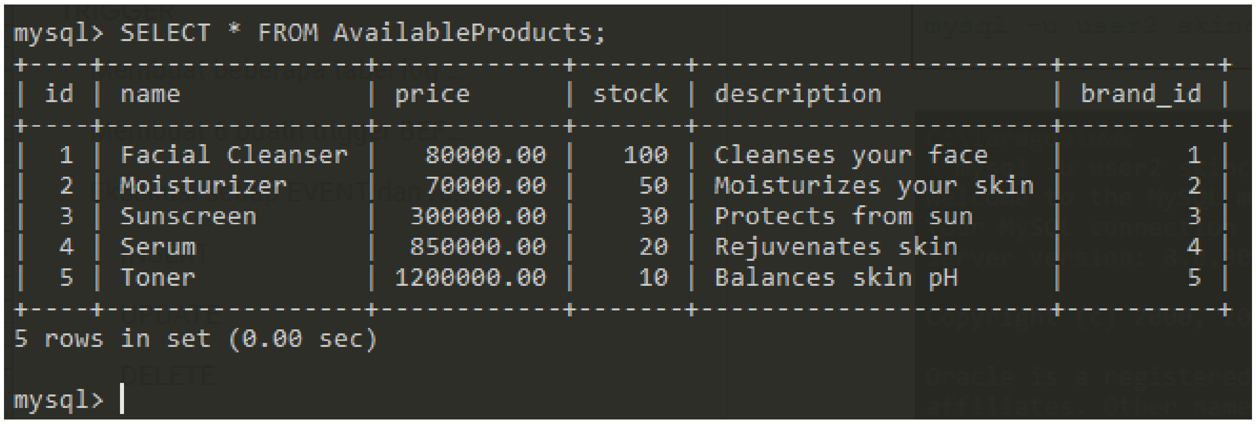
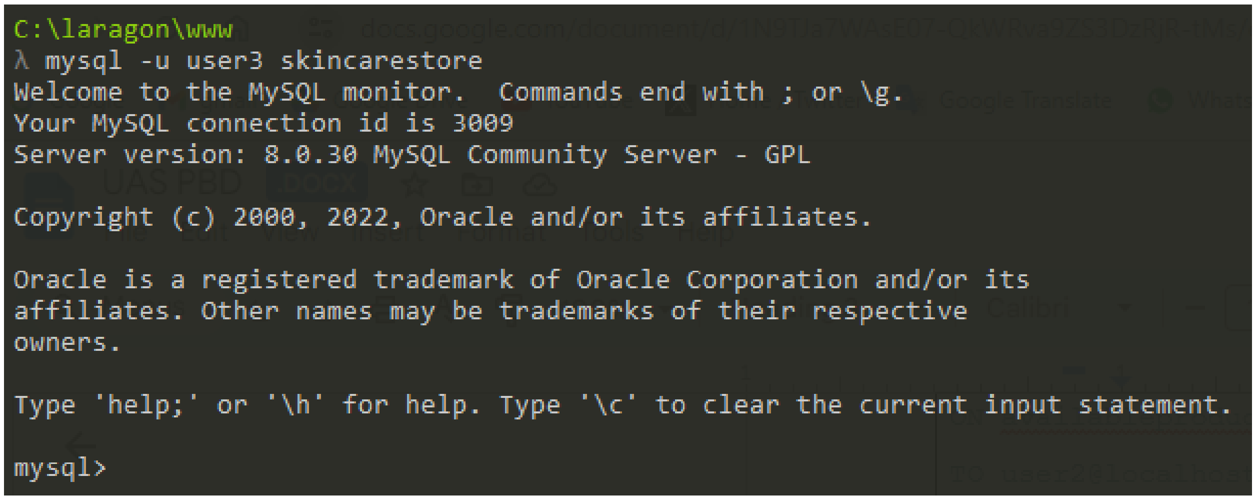



```
mysql> SELECT * FROM AvailableProducts;
+----+-----------------+------------+-------+-------------------------+----------+
| id | name            | price      | stock | description             | brand_id |
+----+-----------------+------------+-------+-------------------------+----------+
|  1 | Facial Cleanser |   80000.00 |   100 | Cleanses your face      |        1 |
|  2 | Moisturizer     |   70000.00 |    50 | Moisturizes your skin   |        2 |
|  3 | Sunscreen       |  300000.00 |    30 | Protects from sun       |        3 |
|  4 | Serum           |  850000.00 |    20 | Rejuvenates skin        |        4 |
|  5 | Toner           | 1200000.00 |    10 | Balances skin pH        |        5 |
+----+-----------------+------------+-------+-------------------------+----------+
5 rows in set (0.00 sec)

mysql>
```

c. Login as user3

```
mysql -u user3 skincarestore
CALL hitung_total_pendapatan();
```



```
C:\laragon\www
λ mysql -u user3 skincarestore
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 3009
Server version: 8.0.30 MySQL Community Server - GPL

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
```

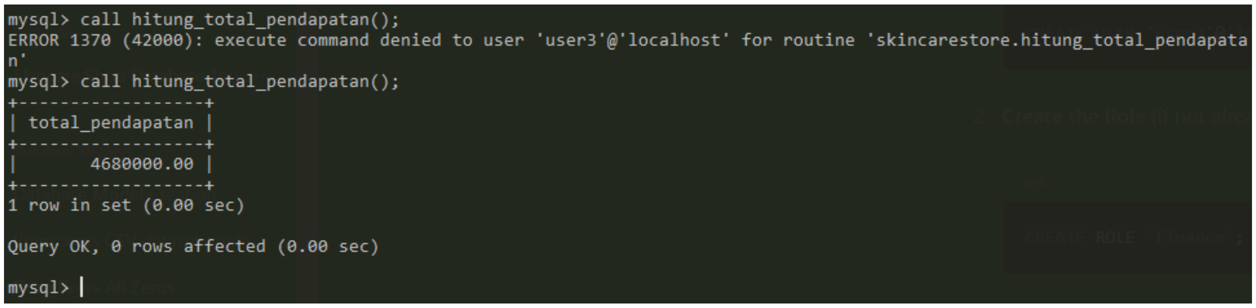

```
mysql> call hitung_total_pendapatan();
ERROR 1370 (42000): execute command denied to user 'user3'@'localhost' for routine 'skincarestore.hitung_total_pendapata
n'
mysql> call hitung_total_pendapatan();
+-------------------+
| total_pendapatan |
+-------------------+
|       4680000.00 |
+-------------------+
1 row in set (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

mysql>
```