

LAPORAN PRAKTIKUM 9

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Kelas : C2 - 2024

A. User yang kalian buat beserta alasannya:

1. manajer_bb

-User manajer_bb dengan hak akses SELECT pada semua tabel dan bisa INSERT, UPDATE, DELETE pada tabel employees, menu_items, dan promotions

-Alasan Membuat user manajer_bb:

Manajer perlu memonitor dan mengelola data menu, promosi, serta pegawai. Karena itu, dia diberikan akses membaca (SELECT), menambahkan (INSERT), mengubah (UPDATE), dan menghapus (DELETE) pada tabel tersebut.

-Query Grant

```
CREATE USER 'manajer_bb'@'localhost' IDENTIFIED BY 'manajer123';  
GRANT SELECT ON black_beans.* TO 'manajer_bb'@'localhost';  
GRANT INSERT, UPDATE, DELETE ON black_beans.employees TO 'manajer_bb'@'localhost';  
GRANT INSERT, UPDATE, DELETE ON black_beans.menu_items TO 'manajer_bb'@'localhost';  
GRANT INSERT, UPDATE, DELETE ON black_beans.promotions TO 'manajer_bb'@'localhost';  
FLUSH PRIVILEGES;
```

-Cek Grant User

```
SHOW GRANTS FOR 'manajer_bb'@'localhost';
```

```

Mariadb [(none)]> GRANT SELECT ON black_beans.* TO 'manajer_bb'@'localhost';
Query OK, 0 rows affected (0.055 sec)

Mariadb [(none)]> GRANT INSERT, UPDATE, DELETE ON black_beans.employees TO 'manajer_bb'@'localhost';
Query OK, 0 rows affected (0.012 sec)

Mariadb [(none)]> GRANT INSERT, UPDATE, DELETE ON black_beans.menu_items TO 'manajer_bb'@'localhost';
Query OK, 0 rows affected (0.005 sec)

Mariadb [(none)]> GRANT INSERT, UPDATE, DELETE ON black_beans.promotions TO 'manajer_bb'@'localhost';
Query OK, 0 rows affected (0.004 sec)

Mariadb [(none)]> SHOW GRANTS FOR 'manajer_bb'@'localhost';
+-----+
| Grants for manajer_bb@localhost |
+-----+
| GRANT USAGE ON *.* TO 'manajer_bb'@'localhost' |
| GRANT SELECT ON 'black_beans'.* TO 'manajer_bb'@'localhost' |
| GRANT INSERT, UPDATE, DELETE ON 'black_beans'.'promotions' TO 'manajer_bb'@'localhost' |
| GRANT INSERT, UPDATE, DELETE ON 'black_beans'.'menu_items' TO 'manajer_bb'@'localhost' |
| GRANT INSERT, UPDATE, DELETE ON 'black_beans'.'employees' TO 'manajer_bb'@'localhost' |
+-----+
5 rows in set (0.005 sec)

Mariadb [(none)]>

```

2. Kasir_bb

-User kasir_bb dengan hak akses SELECT dan INSERT pada tabel payments, orders, dan order_items.

-Alasan Membuat user kasir_bb :

Kasir perlu mengelola data orderan serta pembayaran. Karena itu, dia diberikan akses membaca (SELECT) dan menambahkan (INSERT) pada ketiga tabel.

-Query Grant

```

CREATE USER 'kasir_bb'@'localhost' IDENTIFIED BY 'kasir123';
GRANT SELECT, INSERT ON black_beans.orders to
'kasir_bb'@'localhost';
GRANT SELECT, INSERT ON black_beans.order_items to
'kasir_bb'@'localhost';
GRANT SELECT, INSERT ON black_beans.payments to
'kasir_bb'@'localhost';
FLUSH PRIVILEGES;

```

-Cek Grant User

```

SHOW GRANTS FOR 'kasir_bb'@'localhost';

```

```

MariaDB [(none)]> create user 'kasir_bb'@'localhost' identified by 'kasir123';
Query OK, 0 rows affected (0.064 sec)

MariaDB [(none)]> use black_beans;
Database changed
MariaDB [black_beans]> grant select, insert orders to 'kasir_bb'@'localhost';
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the
right syntax to use near 'orders to 'kasir_bb'@'localhost'' at line 1
MariaDB [black_beans]> grant select, insert on orders to 'kasir_bb'@'localhost';
Query OK, 0 rows affected (0.040 sec)

MariaDB [black_beans]> grant select, insert on order_items to 'kasir_bb'@'localhost';
Query OK, 0 rows affected (0.008 sec)

MariaDB [black_beans]> grant select, insert on payments to 'kasir_bb'@'localhost';
Query OK, 0 rows affected (0.007 sec)

MariaDB [black_beans]> show grants for 'kasir_bb'@'localhost';
+-----+
| Grants for kasir_bb@localhost |
+-----+
| GRANT USAGE ON *.* TO 'kasir_bb'@'localhost' IDENTIFIED BY PASSWORD '*D584EF6B33BEBCE2A594C96BDDAA0E2B9A05B7D4' |
| GRANT SELECT, INSERT ON 'black_beans'.'payments' TO 'kasir_bb'@'localhost' |
| GRANT SELECT, INSERT ON 'black_beans'.'order_items' TO 'kasir_bb'@'localhost' |
| GRANT SELECT, INSERT ON 'black_beans'.'orders' TO 'kasir_bb'@'localhost' |
+-----+
4 rows in set (0.008 sec)

MariaDB [black_beans]>

```

3. Barista_bb

-User barista_bb hanya memiliki hak akses SELECT pada tabel menu_items, orders, promotions, category, dan shifts.

-Alasan Membuat user barista_bb :

Barista tentukan perlu untuk melihat menu, orderan, promosi, dll nya. Maka dari itu, kita perlu memberikan hak akses untuk menselect tabel tersebut.

-Query Grant

```

CREATE USER 'barista_bb'@'localhost' IDENTIFIED BY 'barista123';
GRANT SELECT ON black_beans.menu_items TO
'barista_bb'@'localhost';
GRANT SELECT ON black_beans.orders TO 'barista_bb'@'localhost';
GRANT SELECT ON black_beans.promotions TO
'barista_bb'@'localhost';
GRANT SELECT ON black_beans.categories TO
'barista_bb'@'localhost';
GRANT SELECT ON black_beans.shifts TO 'barista_bb'@'localhost';
FLUSH PRIVILEGES;

```

-Cek Grant User

```

SHOW GRANTS FOR 'barista_bb'@'localhost';

```

```

MariaDB [(none)]> CREATE USER 'barista_bb'@'localhost' IDENTIFIED BY 'barista123';
Query OK, 0 rows affected (0.017 sec)

MariaDB [(none)]> GRANT SELECT ON black_beans.menu_items TO 'barista_bb'@'localhost';
Query OK, 0 rows affected (0.004 sec)

MariaDB [(none)]> GRANT SELECT ON black_beans.orders TO 'barista_bb'@'localhost';
Query OK, 0 rows affected (0.004 sec)

MariaDB [(none)]> GRANT SELECT ON black_beans.promotions TO 'barista_bb'@'localhost';
Query OK, 0 rows affected (0.004 sec)

MariaDB [(none)]> GRANT SELECT ON black_beans.categories TO 'barista_bb'@'localhost';
Query OK, 0 rows affected (0.004 sec)

MariaDB [(none)]> GRANT SELECT ON black_beans.shifts TO 'barista_bb'@'localhost';
Query OK, 0 rows affected (0.004 sec)

MariaDB [(none)]> FLUSH PRIVILEGES;
Query OK, 0 rows affected (0.007 sec)

MariaDB [(none)]> SHOW GRANTS FOR 'barista_bb'@'localhost';
+-----+
| Grants for barista_bb@localhost |
+-----+
| GRANT USAGE ON *.* TO 'barista_bb'@'localhost' IDENTIFIED BY PASSWORD '*9C35639A3AA76D2016A98E6D0EA8ED1A1DC2403E' |
| GRANT SELECT ON 'black_beans'.'orders' TO 'barista_bb'@'localhost' |
| GRANT SELECT ON 'black_beans'.'categories' TO 'barista_bb'@'localhost' |
| GRANT SELECT ON 'black_beans'.'shifts' TO 'barista_bb'@'localhost' |
| GRANT SELECT ON 'black_beans'.'menu_items' TO 'barista_bb'@'localhost' |
| GRANT SELECT ON 'black_beans'.'promotions' TO 'barista_bb'@'localhost' |
+-----+
6 rows in set (0.001 sec)

MariaDB [(none)]> |

```

Alasan User yang telah dibuat telah cukup:

Saya membuat user sesuai dengan job desk yang ada pada pegawai black_beans saja, yang paling utamanya yaitu manajer, kasir, barista, dan waiter. Manajer di sini tentunya memiliki hak akses yang paling beda (spesial) karena dia bisa menambahkan, merubah, atau menghapus pegawai yang ada pada black_beans. Selain itu, ada kasir yang tentunya akan fokus pada transaksi orderan dan pembayaran. Dan Terakhir, tentunya kita juga perlu membuatkan user untuk pekerja lainnya, disini saya menyatukan kategori untuk waiter dan barista, karena menurut saya, mereka memiliki kewenangan yang sama untuk mengakses data dalam black_beans.

Menurut saya 3 user itu cukup, karena setiap dari user itu memiliki peran yang berbeda-beda, dan untuk pelanggan itu sebenarnya tidak perlu melihat data langsung dari databasenya untuk menu, dia bisa melihat data menu berdasarkan data yang sudah disajikan oleh pegawai, dalam bentuk buku menu yang tinggal dibaca saja.

B. Perintah hak akses dengan transactions (cukup DML saja):

1. Manajer_bb

-Screenshot mysql -u user -p

```
D:\Muhammad 'Azmi Salam\Kuliah\Semester 2\Algoritma dan Struktur Data\Day-13
>mysql -u manajer_bb -p
Enter password: *****
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 11
Server version: 10.4.32-MariaDB mariadb.org binary distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]>
```

-Query Commit

START TRANSACTION;

INSERT INTO menu_items (name, price, category_id)

VALUES ('Kopi Luwak', 20000, 1);

COMMIT;

-Cek perubahan

```
MariaDB [black_beans]> SELECT item_id, name, price, c.category_name from menu_items
-> JOIN categories c ON menu_items.category_id = c.category_id;
+-----+-----+-----+-----+
| item_id | name          | price  | category_name |
+-----+-----+-----+-----+
| 1       | Espresso     | 25000.00 | Coffee        |
| 2       | Latte        | 30000.00 | Coffee        |
| 3       | Americano    | 27000.00 | Coffee        |
| 4       | Cappuccino   | 32000.00 | Coffee        |
| 5       | Green Tea    | 28000.00 | Tea           |
| 6       | Black Tea    | 25000.00 | Tea           |
| 7       | Matcha Latte | 35000.00 | Tea           |
| 8       | Croissant    | 20000.00 | Pastry        |
| 9       | Chocolate Muffin | 22000.00 | Pastry        |
| 10      | Cheese Danish | 24000.00 | Pastry        |
| 11      | Espresso     | 28000.00 | Coffee        |
| 12      | Oolong Tea   | 29000.00 | Tea           |
| 13      | Almond Croissant | 26000.00 | Pastry        |
+-----+-----+-----+-----+
13 rows in set (0.002 sec)
```

```

MariaDB [black_beans]> START TRANSACTION;
Query OK, 0 rows affected (0.001 sec)

MariaDB [black_beans]> INSERT INTO menu_items (name, price, category_id)
-> VALUES ('Kopi Luwak', 20000, 1);
Query OK, 1 row affected (0.003 sec)

MariaDB [black_beans]> COMMIT;
Query OK, 0 rows affected (0.004 sec)

MariaDB [black_beans]> SELECT item_id, name, price, c.category_name from menu_items
-> JOIN categories c ON menu_items.category_id = c.category_id;
+-----+-----+-----+-----+
| item_id | name       | price  | category_name |
+-----+-----+-----+-----+
| 1       | Espresso  | 25000.00 | Coffee        |
| 2       | Latte     | 30000.00 | Coffee        |
| 3       | Americano | 27000.00 | Coffee        |
| 4       | Cappuccino | 32000.00 | Coffee        |
| 5       | Green Tea | 28000.00 | Tea           |
| 6       | Black Tea | 25000.00 | Tea           |
| 7       | Matcha Latte | 35000.00 | Tea           |
| 8       | Croissant | 20000.00 | Pastry        |
| 9       | Chocolate Muffin | 22000.00 | Pastry        |
| 10      | Cheese Danish | 24000.00 | Pastry        |
| 11      | Espresso  | 28000.00 | Coffee        |
| 12      | Oolong Tea | 29000.00 | Tea           |
| 13      | Almond Croissant | 26000.00 | Pastry        |
| 15      | Kopi Luwak | 20000.00 | Coffee        |
+-----+-----+-----+-----+
14 rows in set (0.001 sec)

MariaDB [black_beans]>

```

Setelah dicommit data baru menjadi masuk ke database, karena kita mengakhiri transaksi dengan query COMMIT.

-Query Rollback

```

START TRANSACTION;
INSERT INTO menu_items (name, price, category_id)
VALUES ('Teh Tarik Mantap', 23000, 2);
SELECT item_id, name, price, c.category_name from menu_items
JOIN categories c ON menu_items.category_id = c.category_id;
ROLLBACK;

```

-Cek Perubahan data (screenshot tabel select - before dan after transaction)

```

MariaDB [black_beans]> SELECT item_id, name, price, c.category_name from menu_items
-> JOIN categories c ON menu_items.category_id = c.category_id;
+-----+-----+-----+-----+
| item_id | name       | price  | category_name |
+-----+-----+-----+-----+
| 1       | Espresso  | 25000.00 | Coffee        |
| 2       | Latte     | 30000.00 | Coffee        |
| 3       | Americano | 27000.00 | Coffee        |
| 4       | Cappuccino | 32000.00 | Coffee        |
| 5       | Green Tea | 28000.00 | Tea           |
| 6       | Black Tea | 25000.00 | Tea           |
| 7       | Matcha Latte | 35000.00 | Tea           |
| 8       | Croissant | 20000.00 | Pastry        |
| 9       | Chocolate Muffin | 22000.00 | Pastry        |
| 10      | Cheese Danish | 24000.00 | Pastry        |
| 11      | Espresso  | 28000.00 | Coffee        |
| 12      | Oolong Tea | 29000.00 | Tea           |
| 13      | Almond Croissant | 26000.00 | Pastry        |
| 15      | Kopi Luwak | 20000.00 | Coffee        |
+-----+-----+-----+-----+
14 rows in set (0.002 sec)

```

Dapat dilihat gambar di atas merupakan tabel sebelum kita melakukan transaksi apapun, data terakhir ada pada kopi luwak.

```
MariaDB [black_beans]> INSERT INTO menu_items (name, price, category_id)
-> VALUES ('Teh Tarik Mantap', 23000, 2);
Query OK, 1 row affected (0.003 sec)

MariaDB [black_beans]> SELECT item_id, name, price, c.category_name from menu_items
-> JOIN categories c ON menu_items.category_id = c.category_id;
+-----+-----+-----+-----+
| item_id | name          | price  | category_name |
+-----+-----+-----+-----+
| 1       | Espresso     | 25000.00 | Coffee        |
| 2       | Latte        | 30000.00 | Coffee        |
| 3       | Americano    | 27000.00 | Coffee        |
| 4       | Cappuccino   | 32000.00 | Coffee        |
| 5       | Green Tea    | 28000.00 | Tea           |
| 6       | Black Tea    | 25000.00 | Tea           |
| 7       | Matcha Latte | 35000.00 | Tea           |
| 8       | Croissant    | 20000.00 | Pastry        |
| 9       | Chocolate Muffin | 22000.00 | Pastry        |
| 10      | Cheese Danish | 24000.00 | Pastry        |
| 11      | Espresso     | 28000.00 | Coffee        |
| 12      | Oolong Tea   | 29000.00 | Tea           |
| 13      | Almond Croissant | 26000.00 | Pastry        |
| 15      | Kopi Luwak   | 20000.00 | Coffee        |
| 16      | Teh Tarik Mantap | 23000.00 | Tea           |
+-----+-----+-----+-----+
15 rows in set (0.001 sec)

MariaDB [black_beans]> ROLLBACK;
Query OK, 0 rows affected (0.005 sec)

MariaDB [black_beans]> SELECT item_id, name, price, c.category_name from menu_items
-> JOIN categories c ON menu_items.category_id = c.category_id;
+-----+-----+-----+-----+
| item_id | name          | price  | category_name |
+-----+-----+-----+-----+
| 1       | Espresso     | 25000.00 | Coffee        |
| 2       | Latte        | 30000.00 | Coffee        |
| 3       | Americano    | 27000.00 | Coffee        |
| 4       | Cappuccino   | 32000.00 | Coffee        |
| 5       | Green Tea    | 28000.00 | Tea           |
| 6       | Black Tea    | 25000.00 | Tea           |
| 7       | Matcha Latte | 35000.00 | Tea           |
| 8       | Croissant    | 20000.00 | Pastry        |
| 9       | Chocolate Muffin | 22000.00 | Pastry        |
| 10      | Cheese Danish | 24000.00 | Pastry        |
| 11      | Espresso     | 28000.00 | Coffee        |
| 12      | Oolong Tea   | 29000.00 | Tea           |
| 13      | Almond Croissant | 26000.00 | Pastry        |
| 15      | Kopi Luwak   | 20000.00 | Coffee        |
+-----+-----+-----+-----+
14 rows in set (0.001 sec)

MariaDB [black_beans]> |
```

Gambar di atas merupakan query ketika saya sudah memulai transaksi, saya memasukan salah satu data, dan dapat dilihat data itu juga masuk ke dalam tabel yaitu 'Teh Tarik Mantap'. Namun, saya ingin membatalkan transaksi, maka saya perlu mengakhiri transaksinya dengan query ROLLBACK, dan saya juga kembali menselect tabel, dapat dilihat data 'Teh Tarik Mantap', yang tadi sempat masuk ke dalam tabel, kini sudah tidak ada dalam tabel, hal itu dikarenakan transaksi yang kita lakukan tadi sudah kita batalkan dengan query ROLLBACK.

2. kasir_bb

-Screenshot mysql -u user -p

```
C:\Users\ASUS>mysql -u kasir_bb -p
Enter password: *****
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 62
Server version: 10.4.32-MariaDB mariadb.org binary distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]>
```

-Query Commit

START TRANSACTION;

INSERT INTO payments (order_id, amount_paid, payment_method)

VALUES (7, 75000, 'Cash');

COMMIT;

-Cek perubahan

```
MariaDB [black_beans]> SELECT payment_id, order_id, amount_paid, payment_method from payments;
+-----+-----+-----+-----+
| payment_id | order_id | amount_paid | payment_method |
+-----+-----+-----+-----+
| 1 | 1 | 58500.00 | Cash |
| 2 | 2 | 48000.00 | Debit Card |
| 3 | 3 | 40000.00 | E-Wallet |
| 4 | 4 | 48600.00 | Cash |
| 5 | 5 | 43200.00 | E-Wallet |
| 6 | 6 | 59000.00 | Credit Card |
+-----+-----+-----+-----+
6 rows in set (0.001 sec)

MariaDB [black_beans]> START TRANSACTION;
Query OK, 0 rows affected (0.000 sec)

MariaDB [black_beans]> INSERT INTO payments (order_id, amount_paid, payment_method)
-> VALUES (7, 75000, 'Cash');
Query OK, 1 row affected (0.003 sec)

MariaDB [black_beans]> COMMIT;
Query OK, 0 rows affected (0.003 sec)

MariaDB [black_beans]> SELECT payment_id, order_id, amount_paid, payment_method from payments;
+-----+-----+-----+-----+
| payment_id | order_id | amount_paid | payment_method |
+-----+-----+-----+-----+
| 1 | 1 | 58500.00 | Cash |
| 2 | 2 | 48000.00 | Debit Card |
| 3 | 3 | 40000.00 | E-Wallet |
| 4 | 4 | 48600.00 | Cash |
| 5 | 5 | 43200.00 | E-Wallet |
| 6 | 6 | 59000.00 | Credit Card |
| 7 | 7 | 75000.00 | Cash |
+-----+-----+-----+-----+
7 rows in set (0.001 sec)

MariaDB [black_beans]> |
```

Setelah di commit data baru menjadi masuk ke database, karena kita mengakhiri transaksi dengan query COMMIT.

-Query Rollback

START TRANSACTION;

INSERT INTO payments (order_id, amount_paid, payment_method)

VALUES (10, 80000, 'Debit Card');

SELECT payment_id, order_id, amount_paid, payment_method from payments;

ROLLBACK;

-Cek Perubahan data (screenshot tabel select - before dan after transaction)

```
MariaDB [black_beans]> SELECT payment_id, order_id, amount_paid, payment_method from payments;
```

payment_id	order_id	amount_paid	payment_method
1	1	58500.00	Cash
2	2	48000.00	Debit Card
3	3	40000.00	E-Wallet
4	4	48600.00	Cash
5	5	43200.00	E-Wallet
6	6	59000.00	Credit Card
7	7	75000.00	Cash

```
7 rows in set (0.001 sec)

MariaDB [black_beans]>
```

Dapat dilihat gambar di atas merupakan tabel sebelum kita melakukan transaksi apapun, data terakhir ada pada id ke 7.

```
MariaDB [black_beans]> START TRANSACTION;
Query OK, 0 rows affected (0.000 sec)

MariaDB [black_beans]> INSERT INTO payments (order_id, amount_paid, payment_method)
-> VALUES (10, 80000, 'Debit Card');
Query OK, 1 row affected (0.003 sec)

MariaDB [black_beans]> SELECT payment_id, order_id, amount_paid, payment_method from payments;
```

payment_id	order_id	amount_paid	payment_method
1	1	58500.00	Cash
2	2	48000.00	Debit Card
3	3	40000.00	E-Wallet
4	4	48600.00	Cash
5	5	43200.00	E-Wallet
6	6	59000.00	Credit Card
7	7	75000.00	Cash
8	10	80000.00	Debit Card

```
8 rows in set (0.001 sec)

MariaDB [black_beans]> ROLLBACK;
Query OK, 0 rows affected (0.006 sec)

MariaDB [black_beans]> SELECT payment_id, order_id, amount_paid, payment_method from payments;
```

payment_id	order_id	amount_paid	payment_method
1	1	58500.00	Cash
2	2	48000.00	Debit Card
3	3	40000.00	E-Wallet
4	4	48600.00	Cash
5	5	43200.00	E-Wallet
6	6	59000.00	Credit Card
7	7	75000.00	Cash

```
7 rows in set (0.001 sec)

MariaDB [black_beans]>
```

Gambar di atas merupakan query ketika saya sudah memulai transaksi, saya memasukan salah satu data, dan dapat dilihat data itu juga masuk ke dalam tabel yaitu payment dengan id 8. Namun, saya ingin membatalkan transaksi, maka saya perlu mengakhiri transaksinya dengan query ROLLBACK, dan saya juga kembali menselect tabel, dapat dilihat data pada payment id ke 8, yang tadi sempat masuk ke dalam tabel, kini sudah tidak ada dalam tabel, hal itu dikarenakan transaksi yang kita lakukan tadi sudah kita batalkan dengan query ROLLBACK.

3. barista_bb

-Screenshot mysql -u user -p

```
C:\Users\ASUS>mysql -u barista_bb -p
Enter password: *****
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 188
Server version: 10.4.32-MariaDB mariadb.org binary distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]>
```

-Query Commit

START TRANSACTION;

SELECT item_id, name, price, c.category_name from menu_items

JOIN categories c ON menu_items.category_id = c.category_id;

COMMIT;

-Cek perubahan

```
MariaDB [black_beans]> START TRANSACTION;
Query OK, 0 rows affected (0.001 sec)

MariaDB [black_beans]> SELECT item_id, name, price, c.category_name from menu_items
-> JOIN categories c ON menu_items.category_id = c.category_id;
+-----+-----+-----+-----+
| item_id | name          | price  | category_name |
+-----+-----+-----+-----+
| 1       | Espresso     | 25000.00 | Coffee        |
| 2       | Latte        | 30000.00 | Coffee        |
| 3       | Americano    | 27000.00 | Coffee        |
| 4       | Cappuccino   | 32000.00 | Coffee        |
| 5       | Green Tea    | 28000.00 | Tea           |
| 6       | Black Tea    | 25000.00 | Tea           |
| 7       | Matcha Latte | 35000.00 | Tea           |
| 8       | Croissant    | 20000.00 | Pastry        |
| 9       | Chocolate Muffin | 22000.00 | Pastry        |
| 10      | Cheese Danish | 24000.00 | Pastry        |
| 11      | Espresso     | 28000.00 | Coffee        |
| 12      | Oolong Tea   | 29000.00 | Tea           |
| 13      | Almond Croissant | 26000.00 | Pastry        |
| 15      | Kopi Luwak   | 20000.00 | Coffee        |
+-----+-----+-----+-----+
14 rows in set (0.017 sec)

MariaDB [black_beans]> COMMIT;
Query OK, 0 rows affected (0.000 sec)

MariaDB [black_beans]> |
```

Sebenarnya tidak ada perubahan apapun yang dapat dilakukan pada transaction, karena grant untuk user barista_bb hanya untuk men select tabel tertentu saja, jadi tentunya dia tidak akan bisa INSERT/ UPDATE/ DELETE data pada tabel manapun.

-Query Rollback

START TRANSACTION;

INSERT INTO menu_items (name, price, category_id)

VALUES ('Espresso Special', 18000, 1);

SELECT item_id, name, price, c.category_name from menu_items

JOIN categories c ON menu_items.category_id = c.category_id;

ROLLBACK;

-Cek Perubahan data (screenshot tabel select - before dan after transaction)

```
MariaDB [black_beans]> SELECT item_id, name, price, c.category_name from menu_items
-> JOIN categories c ON menu_items.category_id = c.category_id;
```

item_id	name	price	category_name
1	Espresso	25000.00	Coffee
2	Latte	30000.00	Coffee
3	Americano	27000.00	Coffee
4	Cappuccino	32000.00	Coffee
5	Green Tea	28000.00	Tea
6	Black Tea	25000.00	Tea
7	Matcha Latte	35000.00	Tea
8	Croissant	20000.00	Pastry
9	Chocolate Muffin	22000.00	Pastry
10	Cheese Danish	24000.00	Pastry
11	Espresso	28000.00	Coffee
12	Oolong Tea	29000.00	Tea
13	Almond Croissant	26000.00	Pastry
15	Kopi Luwak	20000.00	Coffee

14 rows in set (0.002 sec)

Dapat dilihat gambar di atas merupakan tabel sebelum kita melakukan transaksi apapun, data terakhir ada pada kopi luwak.

```

MariaDB [black_beans]> START TRANSACTION;
Query OK, 0 rows affected (0.000 sec)

MariaDB [black_beans]> INSERT INTO menu_items (name, price, category_id)
-> VALUES ('Espresso Special', 18000, 1);
ERROR 1142 (42000): INSERT command denied to user 'barista_bb'@'localhost' for table 'black_beans`.`menu_items`
MariaDB [black_beans]> SELECT item_id, name, price, c.category_name from menu_items
-> JOIN categories c ON menu_items.category_id = c.category_id;
+-----+-----+-----+-----+
| item_id | name          | price  | category_name |
+-----+-----+-----+-----+
| 1       | Espresso     | 25000.00 | Coffee        |
| 2       | Latte        | 30000.00 | Coffee        |
| 3       | Americano    | 27000.00 | Coffee        |
| 4       | Cappuccino   | 32000.00 | Coffee        |
| 5       | Green Tea    | 28000.00 | Tea           |
| 6       | Black Tea    | 25000.00 | Tea           |
| 7       | Matcha Latte | 35000.00 | Tea           |
| 8       | Croissant    | 20000.00 | Pastry        |
| 9       | Chocolate Muffin | 22000.00 | Pastry        |
| 10      | Cheese Danish | 24000.00 | Pastry        |
| 11      | Espresso     | 28000.00 | Coffee        |
| 12      | Oolong Tea   | 29000.00 | Tea           |
| 13      | Almond Croissant | 26000.00 | Pastry        |
| 15      | Kopi Luwak   | 20000.00 | Coffee        |
+-----+-----+-----+-----+
14 rows in set (0.001 sec)

MariaDB [black_beans]> ROLLBACK;
Query OK, 0 rows affected (0.001 sec)

MariaDB [black_beans]>

```

Gambar di atas merupakan query ketika saya sudah memulai transaksi, saya mencoba memasukkan salah satu data, dan dapat dilihat ketika saya mencoba melakukan INSERT, dia mengeluarkan ERROR denied, hal itu dikarenakan pada user barista_bb, dia tidak memiliki hak akses untuk melakukan INSERT data, maka dari itu akan terjadi error, dan karena ada yang error saya mengakhiri transaksinya dengan query ROLLBACK, (sebenarnya sama aja sih gak bakal ngaruh apa apa, untuk user yang tidak dapat melakukan perubahan pada isi tabel, umumnya tidak perlu melakukan transaksi, di sini saya melakukan transaksi itu biar tau aja ternyata kita bisa START TRANSACTION tanpa perlu ngapa-ngapain lohh hehe, bisa diakhiri dengan COMMIT dan ROLLBACK juga, biar tau saja. Aslinya mah biar ngikutin template jawaban asprak sih hehe)