PRAKTIKUM SISTEM BASIS DATA

MODUL 10

SUBQUERY

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FAKULTAS KOMUNIKASI DAN INFORMATIKA

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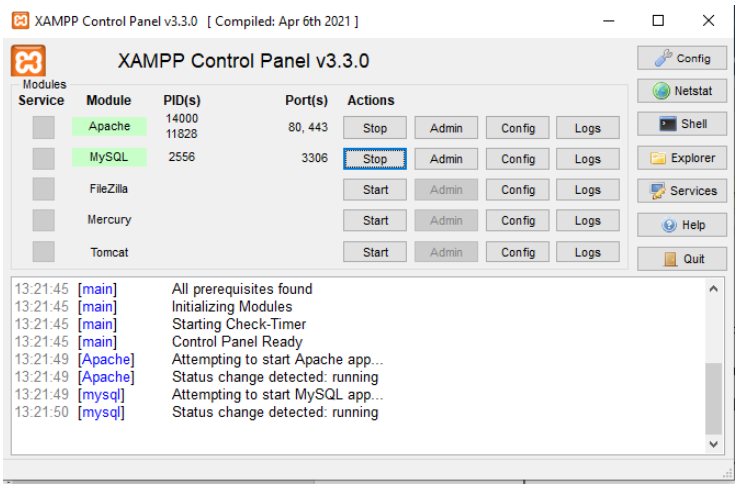
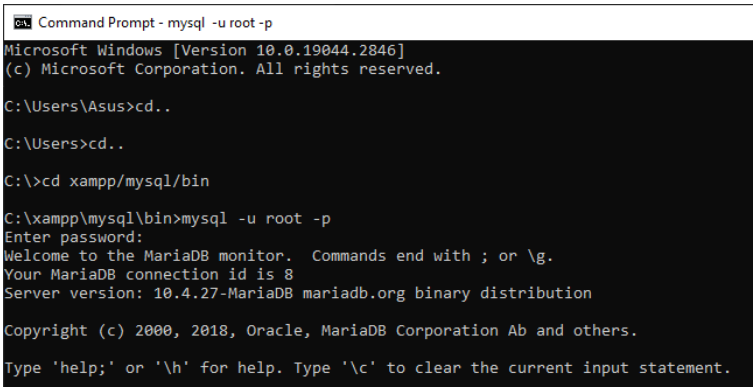
A. Praktikum

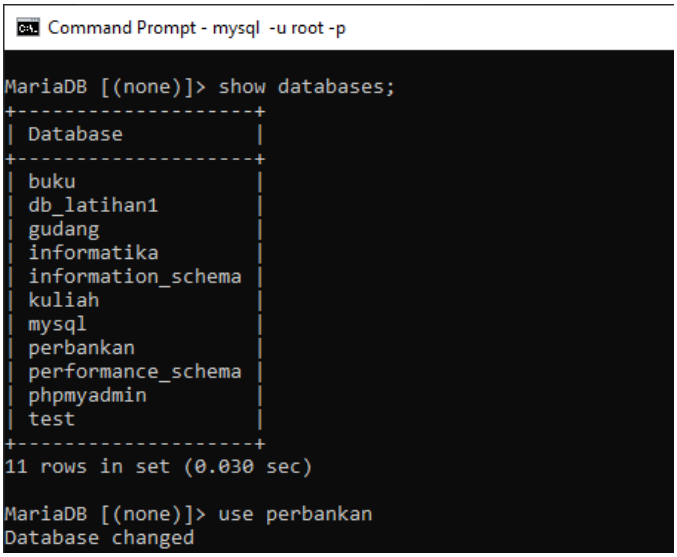
1. Jalankan XAMPP Control Panel.
2. Jalankan server Apache dan MySQL.



3. Buka Command Prompt dan login sebagai root ke MySQL seperti di langkah pada Modul 1.



4. Pilih database perbankan dengan perintah “use perbankan”. Sehingga akan muncul pemberitahuan “database changed”



5. Tampilkan detail data nasabah yang pernah melakukan transaksi kredit dengan menggunakan syntax subquery dibawah ini :

```
SELECT * FROM nasabah where nasabah.id_nasabah
 IN (select DISTINCT transaksi.id_nasabahFK from transaksi
where jenis_transaksi='kredit');
```

```
Command Prompt - mysql  -u root -p
MariaDB [perbankan]> SELECT * FROM nasabah where nasabah.id_nasabah
    -> IN (select DISTINCT transaksi.id_nasabahFK from transaksi
    -> where jenis_transaksi='kredit');
+------------+------------------+-------------------------+
| id_nasabah | nama_nasabah     | alamat_nasabah          |
+------------+------------------+-------------------------+
|          1 | Sutopo           | Jl. Jendral Sudirman 12 |
|          2 | Maryati          | Jl. MT. Haryono 31      |
|          3 | Suparman         | Jl. Hasanudin 81        |
|          4 | Kartika Padmasari | Jl. Manggis 15         |
|          5 | Budi Eko Prayogo | Jl. Kantil 30           |
|          9 | Canka Lokananta  | Jl. Tidar 86            |
+------------+------------------+-------------------------+
6 rows in set (0.010 sec)
```

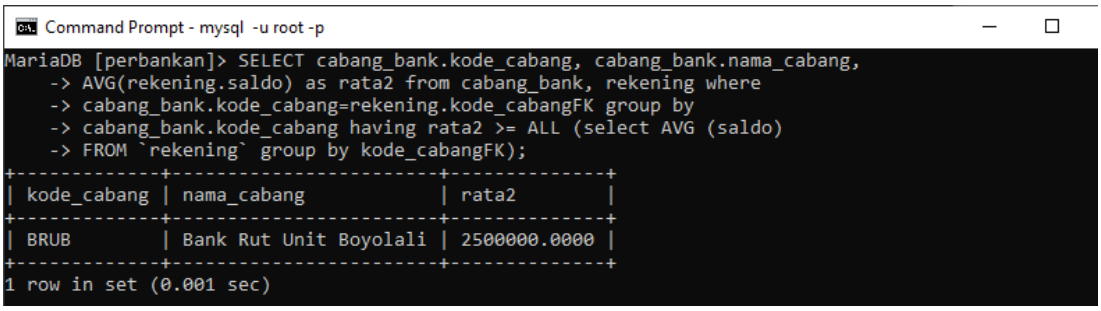
6. Tampilkan detail data nasabah yang pernah melakukan transaksi kredit dengan menggunakan syntax subquery dibawah ini :

```
SELECT * FROM nasabah where nasabah.id_nasabah
NOT IN (select DISTINCT transaksi.id_nasabahFK from transaksi);
```

```
MariaDB [perbankan]> SELECT * FROM nasabah where nasabah.id_nasabah
    -> NOT IN (select DISTINCT transaksi.id_nasabahFK from transaksi);
+------------+------------------+----------------------+
| id_nasabah | nama_nasabah     | alamat_nasabah       |
+------------+------------------+----------------------+
|          6 | Satria Eka Jaya  | Jl. Slamet Riyadi 45 |
|          8 | Sari Murti       | Jl. Pangandaran 11   |
|         11 | Dewi Lestari     | Jl. Surya Kencana 8  |
|         12 | Agus Salim       | Jl. Pahlawan 45      |
|         13 | Rina Wijayanti   | Jl. Diponegoro 22    |
|         14 | Arief Budi Santoso | Jl. Citarum 30     |
|         15 | Yenny Wahid      | Jl. Patimura 76      |
|         16 | Dhani Andhika    | Jl. Trunojoyo 9      |
|         17 | Ratna Sari       | Jl. Gajah Mada 12    |
|         18 | Bambang Sutedjo  | Jl. Sudirman 19      |
|         19 | Dian Novita      | Jl. Veteran 55       |
|         20 | Arya Kusuma      | Jl. Raya Bogor 89    |
|         31 | Cookie           | Surakarta            |
+------------+------------------+----------------------+
13 rows in set (0.002 sec)
```

7. Tampilkan cabang bank yang memiliki nilai rata-rata saldo paling besar untuk seluruh rekening dalam cabang tersebut menggunakan syntax sub query dibawah ini :

```
SELECT cabang_bank.kode_cabang, cabang_bank.nama_cabang, AVG(rekening.saldo) as rata2 from cabang_bank, rekening where cabang_bank.kode_cabang=rekening.kode_cabangFK group by cabang_bank.kode_cabang having rata2 >= ALL (select AVG (saldo) FROM `rekening` group by kode_cabangFK);
```



```
Command Prompt - mysql  -u root -p
MariaDB [perbankan]> SELECT cabang_bank.kode_cabang, cabang_bank.nama_cabang,
    -> AVG(rekening.saldo) as rata2 from cabang_bank, rekening where
    -> cabang_bank.kode_cabang=rekening.kode_cabangFK group by
    -> cabang_bank.kode_cabang having rata2 >= ALL (select AVG (saldo)
    -> FROM `rekening` group by kode_cabangFK);
+-------------+-----------------------+--------------+
| kode_cabang | nama_cabang           | rata2        |
+-------------+-----------------------+--------------+
| BRUB        | Bank Rut Unit Boyolali | 2500000.0000 |
+-------------+-----------------------+--------------+
1 row in set (0.001 sec)
```

8. Tampilkan data transaksi yang melibatkan jumlah uang lebih besar dari rata-rata nilai keseluruhan transaksi yang pernah dilakukan menggunakan syntax sub query dibawah ini :

```
Select * from transaksi where jumlah > (SELECT AVG(jumlah) FROM `transaksi`);
```

```
MariaDB [perbankan]> Select * from transaksi where jumlah > (SELECT AVG(jumlah) FROM
    -> `transaksi`);
+--------------+--------------+--------------+-----------------+---------------------+--------+
| no_transaksi | id_nasabahFK | no_rekeningFK | jenis_transaksi | tanggal             | jumlah |
+--------------+--------------+--------------+-----------------+---------------------+--------+
|            6 |            1 |          104 | kredit          | 2009-11-15 00:00:00 | 200000 |
|            7 |            9 |          110 | kredit          | 2009-11-15 00:00:00 | 150000 |
|           10 |            4 |          107 | debit           | 2009-11-19 00:00:00 | 100000 |
|           11 |            2 |          103 | debit           | 2009-11-19 00:00:00 | 100000 |
|           13 |            4 |          107 | kredit          | 2009-11-20 00:00:00 | 200000 |
|           15 |            1 |          104 | kredit          | 2009-11-22 00:00:00 | 100000 |
|           19 |           10 |          108 | debit           | 2009-11-26 00:00:00 | 100000 |
|           21 |            2 |          103 | kredit          | 2009-11-28 00:00:00 | 200000 |
|           22 |            3 |          105 | kredit          | 2009-11-28 00:00:00 | 100000 |
|           27 |            2 |          103 | kredit          | 2009-12-05 00:00:00 | 100000 |
|           28 |            5 |          102 | kredit          | 2009-12-05 00:00:00 | 200000 |
|           29 |            7 |          109 | debit           | 2009-11-10 00:00:00 | 100000 |
|           32 |            5 |            0 | kredit          | 2009-11-21 00:00:00 | 100000 |
|           37 |           10 |          108 | debit           | 2009-11-21 00:00:00 | 200000 |
|           38 |            7 |          109 | kredit          | 2009-11-21 00:00:00 | 150000 |
|           39 |            9 |          110 | debit           | 2009-11-21 00:00:00 | 100000 |
|           41 |            1 |          104 | kredit          | 2009-11-21 00:00:00 | 200000 |
|           45 |            5 |          107 | kredit          | 2009-11-21 00:00:00 | 100000 |
|           52 |            5 |          107 | kredit          | 2009-11-21 00:00:00 | 150000 |
|           58 |            1 |          104 | debit           | 2009-11-21 00:00:00 | 105000 |
|           59 |            5 |          102 | kredit          | 2009-11-21 00:00:00 | 200000 |
|           60 |            3 |          106 | kredit          | 2009-11-21 00:00:00 | 505000 |
+--------------+--------------+--------------+-----------------+---------------------+--------+
22 rows in set (0.001 sec)
```

B. Tugas

1. Buatlah query untuk menampilkan jumlah transaksi terbesar!

```
SELECT MAX(jumlah) AS jumlah_terbesar
FROM transaksi;
```

```
Command Prompt - mysql  -u root -p

MariaDB [perbankan]> SELECT MAX(jumlah) AS jumlah_terbesar
    -> FROM transaksi;
+-----------------+
| jumlah_terbesar |
+-----------------+
|          505000 |
+-----------------+
1 row in set (0.000 sec)
```

2. Buatlah query untuk menampilkan jumlah transaksi terkecil!

```
SELECT MIN(jumlah) AS jumlah_terbesar
FROM transaksi;
```

```
MariaDB [perbankan]> SELECT MIN(jumlah) AS jumlah_terbesar
    -> FROM transaksi;
+-----------------+
| jumlah_terbesar |
+-----------------+
|           20000 |
+-----------------+
1 row in set (0.000 sec)
```

3. Bualah query untuk menampilkan nasabah dengan jumlah transaksi terbesar!

```
SELECT * FROM nasabah
WHERE id_nasabah
IN (SELECT id_nasabahFK FROM transaksi
WHERE jumlah IN (SELECT MAX(jumlah) FROM transaksi));
```

```
MariaDB [perbankan]> SELECT * FROM nasabah
    -> WHERE id_nasabah
    -> IN (SELECT id_nasabahFK FROM transaksi
    -> WHERE jumlah IN (SELECT MAX(jumlah) FROM transaksi));
+------------+--------------+------------------+
| id_nasabah | nama_nasabah | alamat_nasabah   |
+------------+--------------+------------------+
|          3 | Suparman     | Jl. Hasanudin 81 |
+------------+--------------+------------------+
1 row in set (0.001 sec)
```

4. Buatlah query untuk menampilkan cabang bank yang tidak memiliki nomor rekening!

```
SELECT * FROM cabang_bank
WHERE cabang_bank.kode_cabang
NOT IN (SELECT kode_cabang FROM rekening WHERE no_rekening);
```

```
MariaDB [perbankan]> SELECT * FROM cabang_bank
    -> WHERE cabang_bank.kode_cabang
    -> NOT IN (SELECT kode_cabang FROM rekening WHERE no_rekening);
Empty set (0.001 sec)
```

5. Buatlah query untuk menampilkan nomor rekening dengan saldo di atas rata-rata!

```
SELECT no_rekening
FROM rekening
WHERE saldo >= (SELECT AVG(saldo) FROM rekening);
```

```
Command Prompt - mysql  -u root -p

MariaDB [perbankan]> SELECT no_rekening
    -> FROM rekening
    -> WHERE saldo >= (SELECT AVG(saldo) FROM rekening);
+-------------+
| no_rekening |
+-------------+
|         105 |
|         106 |
|         108 |
+-------------+
3 rows in set (0.000 sec)
```

6. Buatlah 5 buah soal dan jawaban menurut versi Anda sendiri yang menggunakan Subquery!

```
SELECT * FROM nasabah WHERE id_nasabah IN (SELECT id_nasabahFK
FROM transaksi WHERE jumlah IN (SELECT MIN(jumlah) FROM
transaksi));
```

```
MariaDB [perbankan]> SELECT * FROM nasabah
    -> WHERE id_nasabah
    -> IN (SELECT id_nasabahFK FROM transaksi
    -> WHERE jumlah IN (SELECT MIN(jumlah) FROM transaksi));
+------------+------------------+------------------+
| id_nasabah | nama_nasabah     | alamat_nasabah   |
+------------+------------------+------------------+
|          3 | Suparman         | Jl. Hasanudin 81 |
|          4 | Kartika Padmasari | Jl. Manggis 15   |
|          5 | Budi Eko Prayogo | Jl. Kantil 30    |
|          9 | Canka Lokananta  | Jl. Tidar 86     |
+------------+------------------+------------------+
4 rows in set (0.001 sec)
```

SELECT * FROM rekening WHERE saldo > (SELECT AVG(saldo) FROM rekening);

```
MariaDB [perbankan]> SELECT * FROM rekening WHERE saldo > (SELECT AVG(saldo) FROM
    -> rekening);
+------------+--------------+------+---------+
| no_rekening | kode_cabangFK | pin  | saldo   |
+------------+--------------+------+---------+
|         105 | BRUM         | 5555 | 2000000 |
|         106 | BRUS         | 6666 | 3000000 |
|         108 | BRUB         | 0000 | 5000000 |
+------------+--------------+------+---------+
3 rows in set (0.000 sec)
```

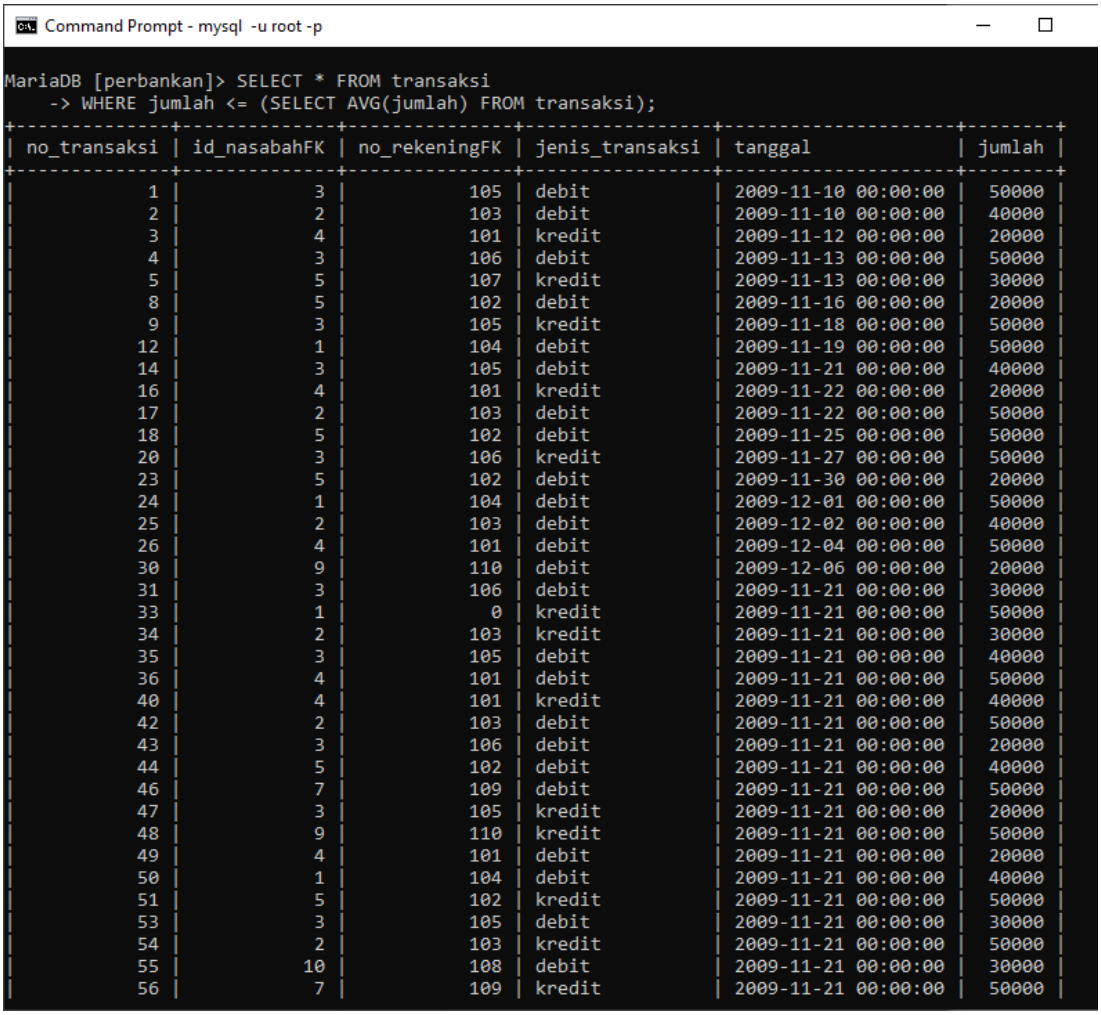
SELECT * FROM nasabah WHERE nasabah.id_nasabah IN (SELECT DISTINCT transaksi.id_nasabahFK FROM transaksi WHERE jenis_transaksi=’debit’);

Command Prompt - mysql -u root -p

```
MariaDB [perbankan]> SELECT * FROM nasabah WHERE nasabah.id_nasabah IN
    -> (SELECT DISTINCT transaksi.id_nasabahFK FROM transaksi
    -> WHERE jenis_transaksi=’debit’);
+------------+------------------+-------------------------+
| id_nasabah | nama_nasabah     | alamat_nasabah          |
+------------+------------------+-------------------------+
|          1 | Sutopo           | Jl. Jendral Sudirman 12 |
|          2 | Maryati          | Jl. MT. Haryono 31      |
|          3 | Suparman         | Jl. Hasanudin 81        |
|          4 | Kartika Padmasari | Jl. Manggis 15         |
|          5 | Budi Eko Prayogo | Jl. Kantil 30           |
|          9 | Canka Lokananta  | Jl. Tidar 86            |
|         10 | Budi Murtono     | Jl. Merak 22            |
+------------+------------------+-------------------------+
7 rows in set (0.001 sec)
```

SELECT * FROM transaksi

WHERE jumlah <= (SELECT AVG(jumlah) FROM transaksi);



SELECT * FROM cabang_bank

WHERE kode_cabang

IN (SELECT rekening.kode_cabangFK FROM rekening WHERE saldo <=100000);