

**PRAKTIKUM SISTEM BASIS DATA**

**MODUL 10**

**SUBQUERY**



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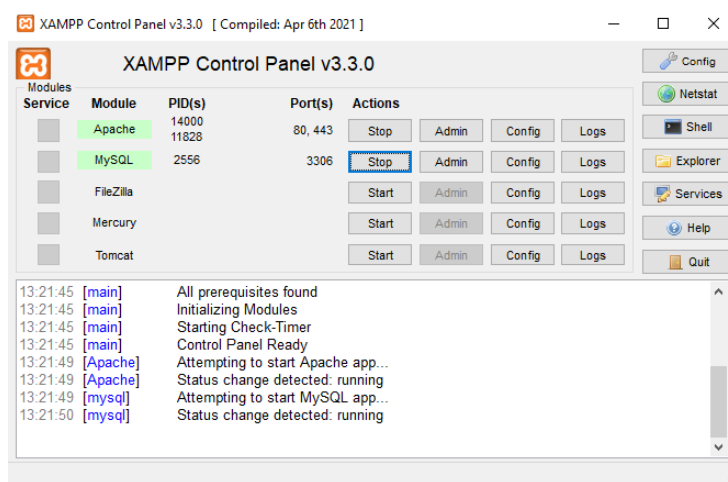
**Kelas : D**

**PROGRAM STUDI TEKNIK INFORMATIKA  
FAKULTAS KOMUNIKASI DAN INFORMATIKA  
UNIVERSITAS MUHAMMADIYAH SURAKARTA**

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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.

```
Command Prompt - mysql -u root -p
Microsoft Windows [Version 10.0.19044.2846]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Asus>cd..
C:\Users>cd..
C:\>cd xampp/mysql/bin
C:\xampp\mysql\bin>mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 8
Server version: 10.4.27-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.
```

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

```
Command Prompt - mysql -u root -p
MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| buku      |
| db_latihan1 |
| gudang    |
| informatika |
| information_schema |
| kuliah    |
| mysql     |
| perbankan |
| performance_schema |
| phpmyadmin |
| test      |
+-----+
11 rows in set (0.030 sec)

MariaDB [(none)]> use perbankan
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');
```

```
cmd 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. Buatlah 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);

Command Prompt - mysql -u root -p

```
MariaDB [perbankan]> SELECT * FROM transaksi
-> WHERE jumlah <= (SELECT AVG(jumlah) FROM transaksi);
```

no_transaksi	id_nasabahFK	no_rekeningFK	jenis_transaksi	tanggal	jumlah
1	3	105	debit	2009-11-10 00:00:00	50000
2	2	103	debit	2009-11-10 00:00:00	40000
3	4	101	kredit	2009-11-12 00:00:00	20000
4	3	106	debit	2009-11-13 00:00:00	50000
5	5	107	kredit	2009-11-13 00:00:00	30000
8	5	102	debit	2009-11-16 00:00:00	20000
9	3	105	kredit	2009-11-18 00:00:00	50000
12	1	104	debit	2009-11-19 00:00:00	50000
14	3	105	debit	2009-11-21 00:00:00	40000
16	4	101	kredit	2009-11-22 00:00:00	20000
17	2	103	debit	2009-11-22 00:00:00	50000
18	5	102	debit	2009-11-25 00:00:00	50000
20	3	106	kredit	2009-11-27 00:00:00	50000
23	5	102	debit	2009-11-30 00:00:00	20000
24	1	104	debit	2009-12-01 00:00:00	50000
25	2	103	debit	2009-12-02 00:00:00	40000
26	4	101	debit	2009-12-04 00:00:00	50000
30	9	110	debit	2009-12-06 00:00:00	20000
31	3	106	debit	2009-11-21 00:00:00	30000
33	1	0	kredit	2009-11-21 00:00:00	50000
34	2	103	kredit	2009-11-21 00:00:00	30000
35	3	105	debit	2009-11-21 00:00:00	40000
36	4	101	debit	2009-11-21 00:00:00	50000
40	4	101	kredit	2009-11-21 00:00:00	40000
42	2	103	debit	2009-11-21 00:00:00	50000
43	3	106	debit	2009-11-21 00:00:00	20000
44	5	102	debit	2009-11-21 00:00:00	40000
46	7	109	debit	2009-11-21 00:00:00	50000
47	3	105	kredit	2009-11-21 00:00:00	20000
48	9	110	kredit	2009-11-21 00:00:00	50000
49	4	101	debit	2009-11-21 00:00:00	20000
50	1	104	debit	2009-11-21 00:00:00	40000
51	5	102	kredit	2009-11-21 00:00:00	50000
53	3	105	debit	2009-11-21 00:00:00	30000
54	2	103	kredit	2009-11-21 00:00:00	50000
55	10	108	debit	2009-11-21 00:00:00	30000
56	7	109	kredit	2009-11-21 00:00:00	50000

SELECT \* FROM cabang\_bank

WHERE kode\_cabang

IN (SELECT rekening.kode\_cabangFK FROM rekening WHERE saldo

<=100000);

Command Prompt - mysql -u root -p

```
MariaDB [perbankan]> SELECT * FROM cabang_bank
-> WHERE kode_cabang
-> IN (SELECT rekening.kode_cabangFK FROM rekening WHERE saldo <=100000);
```

kode_cabang	nama_cabang	alamat_cabang
BRUB	Bank Rut Unit Boyolali	Jl. Ahmad Yani 45

1 row in set (0.000 sec)