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MODUL 1

SubQuery

TUGAS

1. Menampilkan jumlah transaksi terbesar

```
MariaDB [perbankan]> SELECT DISTINCT jumlah FROM transaksi WHERE jumlah IN (SELECT MAX(jumlah) FROM transaksi);
+-----+
| jumlah |
+-----+
| 200000 |
+-----+
1 row in set (0.001 sec)
```

2. Menampilkan jumlah transaksi terkecil

```
MariaDB [perbankan]> SELECT DISTINCT jumlah FROM transaksi WHERE jumlah IN (SELECT MIN(jumlah) FROM transaksi);
+-----+
| jumlah |
+-----+
| 200000 |
+-----+
1 row in set (0.001 sec)
```

3. Menampilkan nasabah dengan jumlah transaksi terbesar

```
MariaDB [perbankan]> SELECT * FROM nasabah where nasabah.id_nasabah IN (select DISTINCT transaksi.id_nasabahFK from transaksi HAVING MAX(jumlah));
+-----+-----+-----+
| id_nasabah | nama_nasabah | alamat_nasabah |
+-----+-----+-----+
| 3 | Suparman | Jl. Hasanudin 81 |
+-----+-----+-----+
1 row in set (0.025 sec)
```

4. Menampilkan cabang bank yang tidak memiliki nomor rekening

```
MariaDB [perbankan]> SELECT * FROM cabang_bank where cabang_bank.kode_cabang NOT IN(select DISTINCT rekening.kode_cabangFK from rekening);
+-----+-----+-----+
| kode_cabang | nama_cabang | alamat_cabang |
+-----+-----+-----+
| BRUW | Bank Rut Unit Wonogiri | Jalan A. Yani No.34 |
+-----+-----+-----+
1 row in set (0.002 sec)
```

5. Menampilkan nomor rekening dengan saldo di atas rata-rata

```
MariaDB [perbankan]> SELECT no_rekening FROM rekening where saldo >= (SELECT AVG(saldo) FROM rekening);
+-----+
| no_rekening |
+-----+
| 105 |
| 106 |
| 108 |
| 118 |
| 119 |
| 121 |
+-----+
6 rows in set (0.001 sec)
```

6. a. Menampilkan nasabah yang pernah melakukan transaksi antara tanggal 1 Januari 2009 sampai 12 Desember 2010

```
Command Prompt - mysql -u root -p
MariaDB [perbankan]> SELECT * FROM nasabah where nasabah.id_nasabah IN(select DISTINCT transaksi.id_nasabahFK from transaksi where transaksi.tanggal BETWEEN '2009-01-01' AND '2010-12-12');
+-----+-----+-----+
| 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)
```

- b. Menampilkan nasabah yang memiliki jumlah transaksi paling besar untuk seluruh transaksi dari semua nasabah

```
Command Prompt - mysql -u root -p
MariaDB [perbankan]> SELECT DISTINCT nasabah.id_nasabah, nasabah.nama_nasabah, SUM(transaksi.jumlah) as 'Jumlah Transaksi' from nasabah, transaksi where nasabah.id_nasabah=transaksi.id_nasabahFK group by nasabah.id_nasabah >= (SELECT SUM(jumlah) from transaksi);
+-----+-----+-----+
| id_nasabah | nama_nasabah | Jumlah Transaksi |
+-----+-----+-----+
| 3          | Suparman    | 3730000          |
+-----+-----+-----+
1 row in set (0.006 sec)

MariaDB [perbankan]>
```

- c. Menampilkan data rekening yang melibatkan jumlah saldo lebih besar dari rata-rata

```
Command Prompt - mysql -u root -p
MariaDB [perbankan]> SELECT *from rekening where rekening.saldo > (select AVG(saldo) from rekening);
+-----+-----+-----+-----+
| no_rekening | kode_cabangFK | pin | saldo |
+-----+-----+-----+-----+
| 105         | BRUM          | 5555 | 2000000 |
| 106         | BRUS          | 6666 | 3000000 |
| 108         | BRUB          | 0    | 5000000 |
| 118         | BRUP          | 4567 | 1300000 |
| 119         | BRUSA         | 7654 | 2000000 |
| 121         | BRUBE         | 8765 | 2400000 |
+-----+-----+-----+-----+
6 rows in set (0.009 sec)
```

- d. Menampilkan cabang bank yang memiliki saldo lebih dari Rp 5.000.000

```
Command Prompt - mysql -u root -p
MariaDB [perbankan]> select *from cabang_bank where cabang_bank.kode_cabang IN (select rekening.kode_cabangFK from rekening where saldo >=5000000);
+-----+-----+-----+
| kode_cabang | nama_cabang | alamat_cabang |
+-----+-----+-----+
| BRUB        | Bank Rut Unit Boyolali | Jl. Ahmad Yani 45 |
+-----+-----+-----+
1 row in set (0.001 sec)

MariaDB [perbankan]>
```

e. Menampilkan nasabah yang mempunyai nomor rekening = 110

```
Command Prompt - mysql -u root -p
MariaDB [perbankan]> select *from nasabah where nasabah.id_nasabah IN (select nasabah_has_rekening.id_nasabahFK from nasabah_has_rekening where no_rekeningFK=110);
+-----+-----+-----+
| id_nasabah | nama_nasabah | alamat_nasabah |
+-----+-----+-----+
|          9 | Canka Lokananta | Jl. Tidar 86 |
+-----+-----+-----+
1 row in set (0.001 sec)
```

7. a. Ambil salah satu mata kuliah. Tampilkan daftar mahasiswa yang tidak mengambil mata kuliah tersebut.

```
Command Prompt - mysql -u root -p
MariaDB [data_kuliah]> select *from mahasiswa where mahasiswa.nim NOT IN(select mahasiswa_has_matakuliah.nimFK from mahasiswa_has_matakuliah where kode_mkFK="TI01");
+-----+-----+-----+
| nim | nama_mahasiswa | alamat_mahasiswa |
+-----+-----+-----+
| INF01 | Salsabila | Yogyakarta |
| INF02 | Naya Aulia | Semarang |
| INF03 | Rafi Fahmi | Boyolali |
| INF04 | Muhammad Harsya | Surakarta |
| INF06 | Echan Saputra | Magelang |
| INF07 | Bilqis Putri | Surakarta |
| INF08 | Melania Febri | Semarang |
| INF09 | Dodo | Yogyakarta |
| INF10 | Dila Novianti | Surakarta |
+-----+-----+-----+
9 rows in set (0.005 sec)

MariaDB [data_kuliah]>
```

b. Satu dosen dapat mengampu lebih dari satu mata kuliah dan satu mahasiswa dapat mengambil lebih dari satu mata kuliah. Tampilkan daftar mahasiswa yang mengambil semua mata kuliah yang diampu oleh salah satu dosen

```
Command Prompt - mysql -u root -p
MariaDB [data_kuliah]> select *from mahasiswa where mahasiswa.nim IN(select mahasiswa_has_dosen.nimFK from mahasiswa_has_dosen where nidnFK=1234);
+-----+-----+-----+
| nim | nama_mahasiswa | alamat_mahasiswa |
+-----+-----+-----+
| INF05 | Tyo Mahendra | Sragen |
+-----+-----+-----+
1 row in set (0.001 sec)

MariaDB [data_kuliah]>
```

c. Karena salah satu mata kuliah A dihilangkan, seluruh mahasiswa yang mengambil mata kuliah tersebut dipindahkan untuk mengambil mata kuliah lain B. Lakukan

update data menggunakan sub query

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

MariaDB [data_kuliah]> select *from mahasiswa_has_matakuliah;
+-----+-----+
| nimFK | kode_mkFK |
+-----+-----+
| INF05 | TI01      |
| INF02 | TI03      |
| INF03 | TI05      |
| INF01 | TI08      |
| INF07 | TI02      |
| INF09 | TI04      |
| INF04 | TI07      |
| INF10 | TI09      |
| INF08 | TI06      |
| INF06 | TI10      |
+-----+-----+
10 rows in set (0.001 sec)

MariaDB [data_kuliah]> update mahasiswa_has_matakuliah set kode_mkFK = 'TI01' where kode_mkFK=(SELECT kode_mk from matakuliah where kode_mk='TI02');
Query OK, 1 row affected (0.005 sec)
Rows matched: 1  Changed: 1  Warnings: 0

MariaDB [data_kuliah]> select *from mahasiswa_has_matakuliah;
+-----+-----+
| nimFK | kode_mkFK |
+-----+-----+
| INF05 | TI01      |
| INF02 | TI03      |
| INF03 | TI05      |
| INF01 | TI08      |
| INF07 | TI01      |
| INF09 | TI04      |
| INF04 | TI07      |
| INF10 | TI09      |
| INF08 | TI06      |
| INF06 | TI10      |
+-----+-----+
10 rows in set (0.000 sec)

MariaDB [data_kuliah]>
```

d. Dosen A mata kuliah A sedang Thesis diluar negeri sehingga mata kuliah A digantikan dengan dosen mata kuliah B. Lakukan update pada data menggunakan sub query.

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

MariaDB [data_kuliah]> select *from mahasiswa_has_dosen;
+-----+-----+
| nimFK | nidnFK |
+-----+-----+
| INF05 | 1234   |
| INF03 | 1111   |
| INF07 | 3456   |
| INF02 | 5678   |
| INF09 | 2222   |
| INF01 | 7777   |
| INF08 | 6987   |
| INF04 | 6666   |
| INF06 | 9999   |
| INF10 | 7809   |
+-----+-----+
10 rows in set (0.001 sec)

MariaDB [data_kuliah]> update mahasiswa_has_dosen set nidnFK = 1234 where nidnFK=(SELECT nidn from dosen where nidn=2222);
Query OK, 1 row affected (0.006 sec)
Rows matched: 1  Changed: 1  Warnings: 0

MariaDB [data_kuliah]> select *from mahasiswa_has_dosen;
+-----+-----+
| nimFK | nidnFK |
+-----+-----+
| INF05 | 1234   |
| INF03 | 1111   |
| INF07 | 3456   |
| INF02 | 5678   |
| INF09 | 1234   |
| INF01 | 7777   |
| INF08 | 6987   |
| INF04 | 6666   |
| INF06 | 9999   |
| INF10 | 7809   |
+-----+-----+
10 rows in set (0.000 sec)

MariaDB [data_kuliah]>
```

e. Mata kuliah A tidak memenuhi standar kebijakan prodi akan pengadaan/pengelolaan kelas karena <10 mahasiswa disebabkan kurang minatnya mahasiswa akan mata kuliah A. Sehingga mahasiswa yang mengambil mata

kuliah A diharuskan revisi ke mata kuliah lain (atau yang sudah terselenggara)

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

ERROR: No query specified

MariaDB [data_kuliah]> select *from mahasiswa_has_matakuliah;
+-----+-----+
| nimFK | kode_mkFK |
+-----+-----+
| INF02 | TI03      |
| INF03 | TI05      |
| INF01 | TI08      |
| INF09 | TI04      |
| INF04 | TI07      |
| INF10 | TI09      |
| INF08 | TI06      |
| INF06 | TI10      |
| TI01  | INF05     |
+-----+-----+
9 rows in set (0.000 sec)

MariaDB [data_kuliah]> INSERT INTO mahasiswa_has_matakuliah VALUE('INF05','TI01');
Query OK, 1 row affected (0.004 sec)

MariaDB [data_kuliah]> delete from mahasiswa_has_matakuliah where kode_mkFK=(select kode_mkFK from mahasiswa_has_matakuliah where kode_mkFK='TI01' AND nimFK='INF05');
Query OK, 1 row affected (0.005 sec)

MariaDB [data_kuliah]> select *from mahasiswa_has_matakuliah;
+-----+-----+
| nimFK | kode_mkFK |
+-----+-----+
| INF02 | TI03      |
| INF03 | TI05      |
| INF01 | TI08      |
| INF09 | TI04      |
| INF04 | TI07      |
| INF10 | TI09      |
| INF08 | TI06      |
| INF06 | TI10      |
| TI01  | INF05     |
+-----+-----+
9 rows in set (0.000 sec)
```