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NIM : L200170100

KELAS : D

MODUL I

1. Jelaskan mengapa dibutuhkan data!

Data diperlukan dalam segala hal, baik berupa pengukuran, pencatatan, pengumpulan informasi, maupun pengambilan keputusan semuanya memerlukan data. Dengan kata lain data sangat dibutuhkan karena informasi yang ada akan memberikan arti yang sangat penting baik untuk saat ini maupun untuk akan datang. Sehingga definisi dari data adalah informasi yang mengandung arti.

2. Jelaskan manfaat database dan contohnya!

Keuntungan Database

Adapun keuntungan database terhadap sistem pemrosesan adalah:

1) Kemubajiran data terkurangi.
2) Integritas data dapat selalu terjaga.
3) Berbagai data dapat selalu dilakukan oleh setiap user.
4) Penggunaan data lebih mudah.
5) Konsistensi data dapat selalu terjaga.

Manfaat Database

Adapun manfaat database adalah:

a) Sebagai komponen utama atau penting dalam sistem informasi, karena merupakan dasar dalam menyediakan informasi.
b) Menentukan kualitas informasi yaitu cepat, akurat, dan relevan, sehingga infromasi yang disajikan tidak basi. Informasi dapat dikatakan bernilai bila manfaatnya lebih efektif dibandingkan dengan biaya mendapatkanya.
c) Mengatasi kerangkapan data (redundancy data).
d) Menghindari terjadinya inkonsistensi data.
e) Mengatasi kesulitan dalam mengakses data.
f) Menyusun format yang standar dari sebuah data.
g) Penggunaan oleh banyak pemakai (multiple user). Sebuah database bisa dimanfaatkan sekaligus secara bersama oleh banyak pengguna (multiuser).
h) Melakukan perlindungan dan pengamanan data. Setiap data hanya bisa diakses atau dimanipulasi oleh pihak yang diberi otoritas dengan memberikan login dan password terhadap masing-masing data.
i) Agar pemakai mampu menyusun suatu pandangan (view) abstraksi dari data. Hal ini bertujuan menyederhanakan interaksi antara pengguna dengan sistemnya dan database dapat mempresentasikan pandangan yang berbeda kepada para pengguna, programmer dan administratornya.

3. Untuk menentukan jenis database yang digunakan, apa yang menjadi acuan dalam pemilihan database tersebut?

yang menjadi acuan dalam pemilihan database adalah sebagai berikut.

a) Pendeskripsian kebutuhan informasi dan data
b) Spesifikasi data
c) Pemrosesan yang diperlukan oleh data
d) Pertimbangan keamanan
e) Kecocokan dengan tipe aplikasi
f) Bahasa query
g) Biaya tak langsung terhadap pemrosesan

4. Jelaskan istilah atau terminology yang digunakan dalam Database (database,table, field, record)

Database: Sekumpulan data yang saling berhubungan untuk mencapai suatu tujuan.

Tabel: Merupakan hal yang paling mendasar dalam hal penyimpanan data yang terdiri dari field dan record.

Field (kolom) : Merupakan elemen dari tabel yang berisikan informasi tertentu yang spesifik tentang subjudul tabel pada sebuah item data.

Syarat-syarat pembentukan Field Name pada tabel:

a) Harus Unik atau Spesifik
b) Boleh disingkat
c) Pemisah sebagai pengganti spasi dalam pembentuk field adalah tanda lambang "_"

Contoh: Kode Barang menjadi KdBarang, KodeBrg, Kd_Brg, Kd_Barang.

Record (baris): Sekumpulan data yang saling berkaitan tentang sebuah subjek tertentu, misalnya data seorang siswa akan disimpan dalam record yang terdiri dari beberapa kolom / field.

5. Bandingkan perbedaan pengolahan data secara manual dengan mengunakan system database.

pengolahan data secara manual segala bentuk pengolahan juga dilakukan secara manual (disusun, dihitung atau dibuat laporannya secara manual). Cara ini tentu saja membutuhkan ekstra tenaga dan waktu. Dan lebih sering lagi, diperlukan pengumpulan data-data yang sejenis secara berkali- kali dan dilakukan juga pengolahan dan pembuatan laporan secara berkali-kali pula. Sedangkan pengolahan data pada sistem database lebih praktis, dapat meminimalkan duplikasi data, integritas data tinggi, keamanan lebih terjamin, dan sharing data lebih mudah.

6. Mengapa dibutuhkan DBMS?

Tujuan utama DBMS adalah untuk menyediakan tinjauan abstrak dari data bagi user. Jadi sistem menyembunyikan informasi mengenai bagaimana data disimpan dan dirawat, tetapi data tetap dapat diambil dengan efisien. Pertimbangan efisien yang digunakan adalah bagaimana merancang struktur data yang kompleks, tetapi tetap dapat digunakan oleh pengguna yang masih awam, tanpa mengetahui kompleksitas struktur data. Basis data menjadi penting karena munculnya beberapa masalah bila tidak menggunakan data yang terpusat, seperti adanya duplikasi data, hubungan antar data tidak jelas, organisasi data dan update menjadi rumit.

7. Pada percobaan diatas ada beberapa field yang tipe data dan ukurannya berbeda. Jelaskan!

Pada tabel Mhs, ada 6 field yaitu: NIM, NAMA, TEMPAT_LAHIR, TANGGAL_LAHIR, ALAMAT, TELEPON. Masing-masing field diatur sesuai tipe data yang dibutuhkan, pada field

NIM diatur tipe data text, berarti pada record dapat diisikan data berupa teks huruf, angka, dan simbol-simbol lain. Ukuran tipe data pada field NIM diatur sepanjang 10, artinya digit maksimum yang dapat dimasukkan ke dalam record adalah 10 digit. Jika data yang dimasukkan lebih dari 10 digit, maka digit ke-11 dan berikutnya tidak akan terbaca. Untuk pengaturan maksimum defaultnya sendiri adalah sepanjang 255 digit. Kemudian pada field NAMA, sama-sama diatur tipe data text, namun panjang ukurannya berbeda, yaitu 30, artinya kita dapat memasukkan digit maksimum ke dalam record yaitu sepanjang 30 digit, melebihi 30 data ke-31 dan seterusnya tidak akan terbaca. Pada filed TANGGAL_LAHIR diatur tipe date/time yang berarti pada record dapat diisikan data berupa angka dan simbol.

MODUL 2

Tugas 1 :

1. Entitas :

- Mahasiswa: menyimoan data pribadi mahasiswa
- Dosen : menyimpan data pribadi dosen
- MataKuliah: menyimpan informasi mata kuliah
- RuangKelas : menyimpan informasi Ruang kelas

Atributs :

1. Mahasiswa

- id_Mahasiswa : nomor id untuk mahasiswa (integer)PK
- Nama_mahasiswa : nama lengkap mahasiswa (varchar(10))
- Nim_Mahasiswa : Nim untuk Mahasiswa (verchar(10))
- Alamat_Mahasiswa : Alamat lengkap mahasiswa (varchar(255))

2. Dosen

- Nik_Dosen : Nomor NIK untuk dosen (integer)PK
- Nama_Dosen : nama lengkap Dosen (varchar(25))
- Alamat_dosen : alamat lengkap untuk dosen(varchar(225))

3. Mata_Kuliah

- Kode_Mk : kede mata kuliah (varchar(10)PK
- Nama_Mk : nama Mata Kuliah (varchar(45))
- Jumlah_sks : jumlah sks mata kuliah (integer)

4. Ruang_Kelas

- Kode_Ruang : kode ruang kelas (integer)PK
- Nama_Ruang : nama ruang kelas (varchar(100))
- Kapasitas_ruang : kapasitas dalam ruang kelas (integer)

	Mahasiswa	Dosen	Mata_Kuliah	Ruang_Kelas
Mahasiswa	-	n : n	n : n	1 : n
Dosen		-	n : n	-
Mata_Kuliah			-	-
Ruang_Kelas				-

Hubungan :

1. Dosen Mengajar mahasiswa

- Tabel utama : Mahasiswa, Dosen \
- Tabel Kedua : mahasiswa_has_Dosen
- Relationship : Many-to-many
- Attribute penghubung : id_Mahasiswa, Nik_Dosen (FK id_mahasiswa, Nik_mahasiswa di mahasiswa_has_Dosen)

2. Mahasiswa Mengambil Mata Kuliah

- Tabel Utama : mahasiswa, mata Kuliah
- Tabel Kedua : Mengambil
- Relationship : Many-to-Many

- Attribute Penghubung : id_Mahasiswa, kode_MK (FK id_Mahasiswa, kode_MK di Mengambil)

3. Mahasiswa Menempati Ruang kelas

- Tabel Utama : Mahasiswa
- Tabel Kedua : Ruang kelas
- Relationship : one-to-Money
- Attribute Penghubung: id_Mahasiswa (FK id_Mahasiswa di Ruang kelas)

4.Dosen mengambil Mata Kuliah

- Tabel Utama : Dosen, mata Kuliah
- Tabel Kedua : Dosen_has_MataKuliah
- Relationship : Many-to-Many
- Attribute Penghubung : Nik_Dosen , Kode_MK (FK Nik_Dosen, Kode_MK di Dosen_has_MataKuliah

Tugas 2:

2. Entitas :

- Dokter : Menyimpan data informasi Dokter
- Pasien : Menyimpan data pasien
- Perawat : Menyimpan data perawat
- Apoteker : Menyimpan informasi Apoteker

Atributs :

4. Dokter

- id_dokter : nomor id untuk Dokter (integer)PK
- Nama_dokter : nama lengkap Dokter (varchar(10))
- Spesialis_dokter : spesialis dokter (varchar(20))
- Alamat_dokter: Alamat lengkap dokter (varchar(255))

5. Pasien

- No_Pasien: Nomor antrian pasien (integer)PK
- Nama_Pasien : nama lengkap Pasien (varchar(45))
- Alamat_Pasien : Alamat Lengkap Pasien(varchar(100))

6. Perawat

- Id_Pr : Nomor Id untuk Perawat(integer)PK
- Nama_Pr : nama lengkap Perawat (varchar(45))
- Alamat_Pr: Alamat Perawat (varchar(25))

4. Apoteker

- Id_Apt : Nomor id Apoteker (integer)PK
- Nama_Apt : nama Lengkap Apoteker(varchar(15))
- Stock_Obat : Stock Obat (integer)
- Alamat_Apt : Alamat lengkap Apoteker(varchar(25))

	Dokter	Pasien	Perawat	Apoteker
Dokter	-	n : 1	1 : 1	1 : n
Pasien		-	1 : n	1 : n
Perawat			-	-
Apoteker			-	-

Hubungan :

3. Dokter Periksa Pasien

- Tabel utama : Dokter
- Tabel Kedua : Pasien

- Relationship : Many-to-one
- Attribute penghubung : No_Pasien (FK No_Pasien di Dokter)

4. Dokter Di bantu Perawat

- Tabel Utama : Dokter
- Tabel Kedua : Perawat
- Relationship : one-to-one
- Attribute Penghubung : id_Dokter (FK id_Dokter di Perawat)

3. Dokter Resep Apoteker

- Tabel Utama : Dokter
- Tabel Kedua : Apoteker
- Relationship : one-to-many
- Attribute Penghubung: id_Dokter (FK id_Dokter di Apoteker)

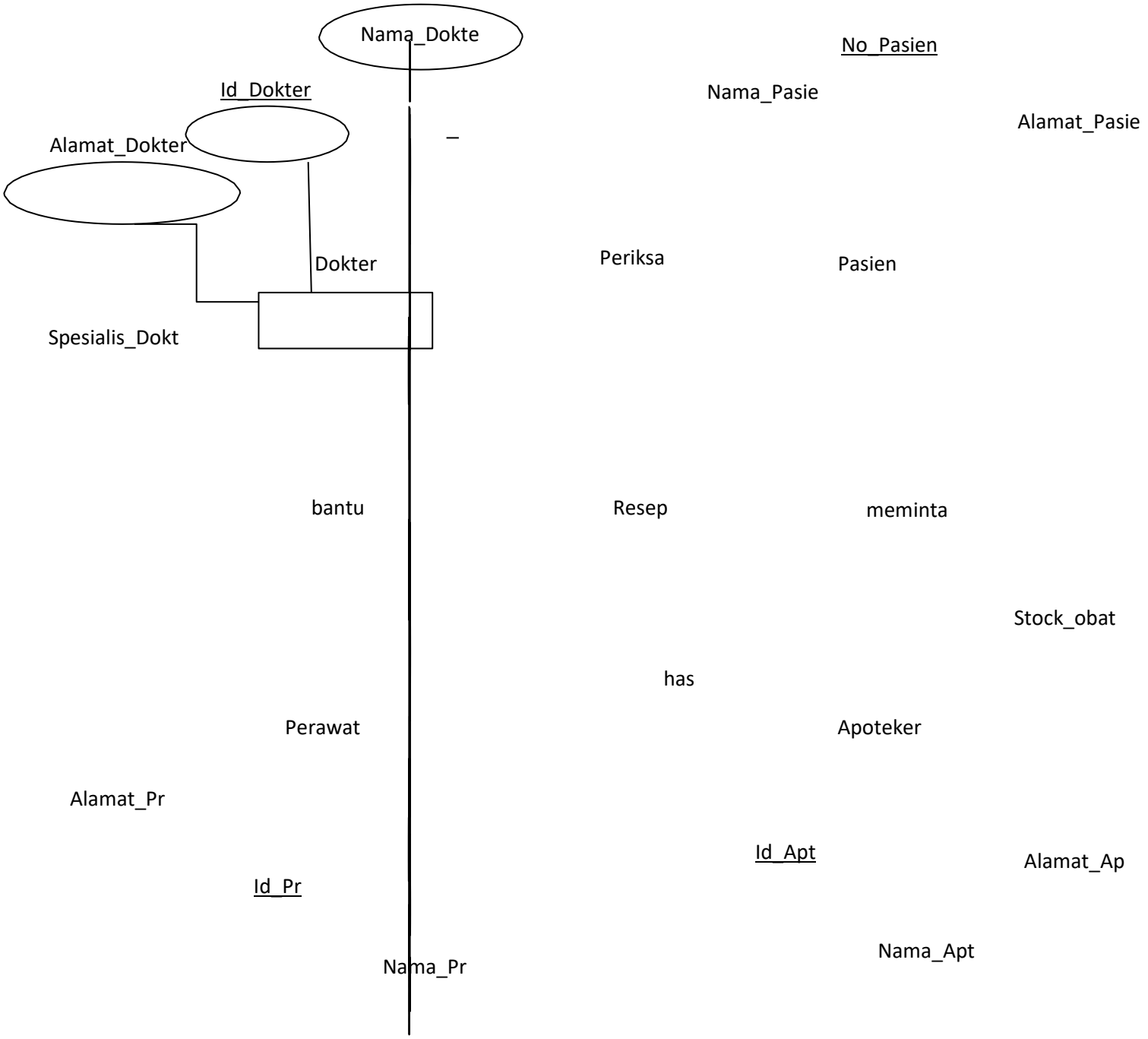
4.Pasien dibantu Perawat

- Tabel Utama : Pasien
- Tabel Kedua : Perawat
- Relationship : One-to-Many
- Attribute Penghubung : No_Pasien (FK No_Pasien di Perawat)

5. Pasien Meminta Resep di Apoteker

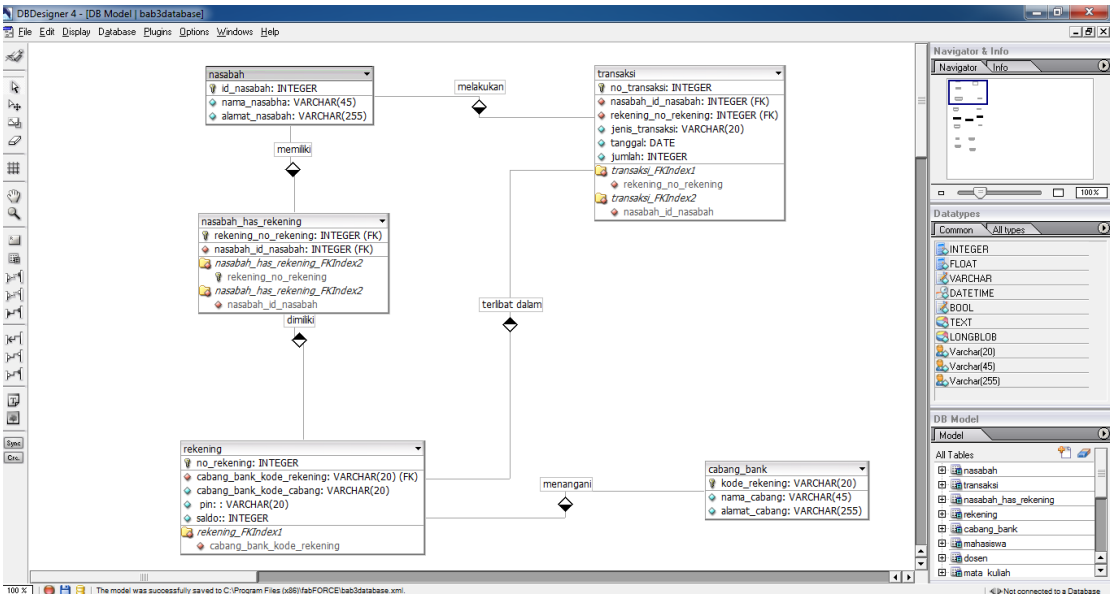
- Tabel Utama : Pasien
- Tabel Kedua : Apoteker
- Relationship : One-to_Many
- Attribute Penghubung : No_Pasien (FK No_Pasien di Apoteker)

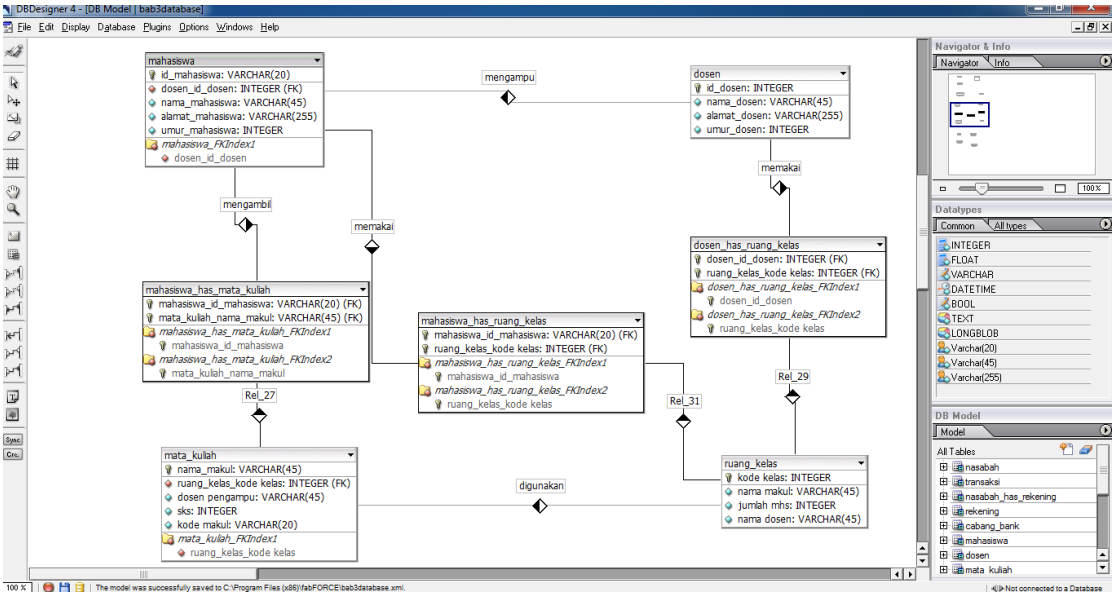
Diagram ER

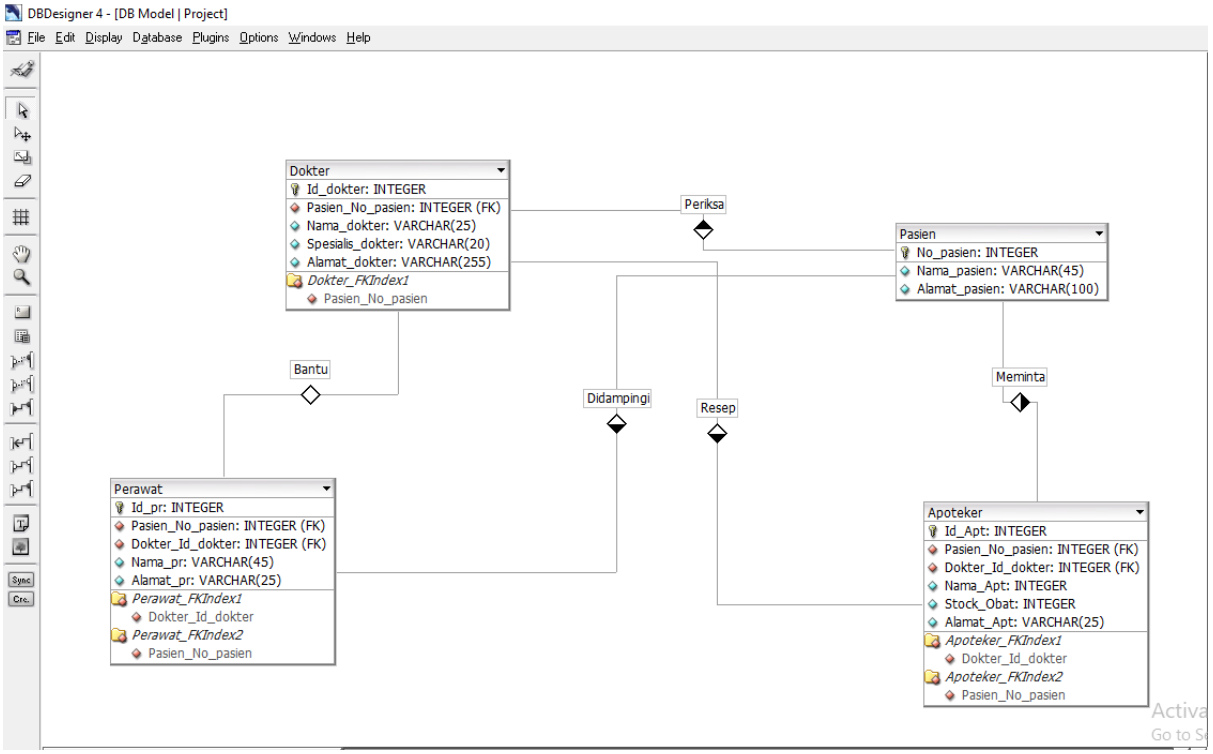

Nama_Dokte
No_Pasien
Id_Dokter
Nama_Pasie
Alamat_Pasie
Alamat_Dokter
Dokter
Periksa
Pasien
Spesialis_Dokt
bantu
Resep
meminta
Stock_obat
has
Perawat
Apoteker
Alamat_Pr
Id_Apt
Alamat_Ap
Id_Pr
Nama_Apt
Nama_Pr

MODUL 3

Tugas modul3






DBDesigner 4 - [DB Model | Project]
File Edit Display Database Plugins Options Windows Help
Dokter
Id_dokter: INTEGER
Pasien_No_pasien: INTEGER (FK)
Nama_dokter: VARCHAR(25)
Spesialis_dokter: VARCHAR(20)
Alamat_dokter: VARCHAR(255)
Dokter_FKIndex1
Pasien_No_pasien
Periksa
Pasien
No_pasien: INTEGER
Nama_pasien: VARCHAR(45)
Alamat_pasien: VARCHAR(100)
Bantu
Didampingi
Resep
Meminta
Perawat
Id_pr: INTEGER
Pasien_No_pasien: INTEGER (FK)
Dokter_Id_dokter: INTEGER (FK)
Nama_pr: VARCHAR(45)
Alamat_pr: VARCHAR(25)
Perawat_FKIndex1
Dokter_Id_dokter
Perawat_FKIndex2
Pasien_No_pasien
Apoteker
Id_Apt: INTEGER
Pasien_No_pasien: INTEGER (FK)
Dokter_Id_dokter: INTEGER (FK)
Nama_Apt: INTEGER
Stock_Obat: INTEGER
Alamat_Apt: VARCHAR(25)
Apoteker_FKIndex1
Dokter_Id_dokter
Apoteker_FKIndex2
Pasien_No_pasien

MODUL 4

TUGAS DAN KEGIATAN MODUL 4

TUGAS 1:

Select Command Prompt - mysql -u root -p

```
Microsoft Windows [Version 10.0.17134.648]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\ASUS>cd ..

C:\Users>cd\

C:\>cd C:\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 3
Server version: 10.1.38-MariaDB mariadb.org binary distribution

Copyright (c) 2000, 2017, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> create database Kuliah;
Query OK, 1 row affected (0.01 sec)

MariaDB [(none)]> use Kuliah;
Database changed
MariaDB [Kuliah]> CREATE TABLE Dosen(
    -> Nik_Dosen INTEGER PRIMARY KEY,
    -> Nama_Dosen VARCHAR(45)NOT NULL,
    -> Alamat_Dosen VARCHAR(200) NOT NULL
    -> );
Query OK, 0 rows affected (0.49 sec)

MariaDB [Kuliah]> CREATE TABLE Mahasiswa(
    -> id_Mahasiswa INTEGER PRIMARY KEY,
    -> Nama_Mahasiswa VARCHAR(45) NOT NULL,
    -> Nim_Mahasiswa VARCHAR(10) NOT NULL,
    -> Alamat_Mahasiswa VARCHAR(200) NOT NULL
    -> );
Query OK, 0 rows affected (0.39 sec)

MariaDB [Kuliah]> CREATE TABLE Mata_Kuliah(
    -> Kode_Mk INTEGER PRIMARY KEY,
    -> Nama_Mk VARCHAR(42) NOT NULL,
    -> Jumlah_sks INTEGER NOT NULL
    -> );
```

Select Command Prompt - mysql -u root -p

```
Query OK, 0 rows affected (0.49 sec)

MariaDB [Kuliah]> CREATE TABLE Mahasiswa(
    -> id_Mahasiswa INTEGER PRIMARY KEY,
    -> Nama_Mahasiswa VARCHAR(45) NOT NULL,
    -> Nim_Mahasiswa VARCHAR(10) NOT NULL,
    -> Alamat_Mahasiswa VARCHAR(200) NOT NULL
    -> );
Query OK, 0 rows affected (0.39 sec)

MariaDB [Kuliah]> CREATE TABLE Mata_Kuliah(
    -> Kode_Mk INTEGER PRIMARY KEY,
    -> Nama_Mk VARCHAR(42) NOT NULL,
    -> Jumlah_sks INTEGER NOT NULL
    -> );
Query OK, 0 rows affected (0.29 sec)

MariaDB [Kuliah]> CREATE TABLE Ruang_Kelas(
    -> Kode_Ruang INTEGER PRIMARY KEY,
    -> Nama_Ruang VARCHAR(45) NOT NULL,
    -> Kapasitas_Ruang INTEGER(45),
    -> Id_MahasiswaFK VARCHAR(20) REFERENCES Mahasiswa(id_Mahasiswa) ON DELETE CASCADE ON UPDATE CASCADE
    -> );
Query OK, 0 rows affected (0.30 sec)

MariaDB [Kuliah]> CREATE TABLE mahasiswa_has_dosen(
    -> id_MahasiswaFK INTEGER REFERENCES Mahasiswa(id_Mahasiswa) ON DELETE CASCADE ON UPDATE CASCADE,
    -> Nik_DosenFK INTEGER REFERENCES Dosen(Nik_Dosen) ON DELETE CASCADE ON UPDATE CASCADE
    -> );
Query OK, 0 rows affected (0.27 sec)

MariaDB [Kuliah]> CREATE TABLE Mahasiswa_MataKuliah(
    -> Id_MahasiswaFK INTEGER REFERENCES Mahasiswa(Id_Mahasiswa) ON DELETE CASCADE ON UPDATE CASCADE,
    -> Kode_MkFK INTEGER REFERENCES Mata_Kuliah(Kode_Mk) ON DELETE CASCADE ON UPDATE CASCADE
    -> );
Query OK, 0 rows affected (0.34 sec)

MariaDB [Kuliah]> CREATE TABLE Dosen_mengambil_MataKuliah(
    -> Nik_DosenFK INTEGER REFERENCES Dosen(Nik_Dosen) ON DELETE CASCADE ON UPDATE CASCADE,
    -> Kode_MkFK INTEGER REFERENCES Mata_Kuliah(Kode_Mk) ON DELETE CASCADE ON UPDATE CASCADE
    -> );
Query OK, 0 rows affected (0.31 sec)

MariaDB [Kuliah]> show tables;
```

```
    -> Kapasitas_Ruang INTEGER(45),
    -> Id_MahasiswaFK VARCHAR(20) REFERENCES Mahasiswa(id_Mahasiswa) ON DELETE CASCADE ON UPDATE CASCADE
    -> );
Query OK, 0 rows affected (0.30 sec)

MariaDB [Kuliah]> CREATE TABLE mahasiswa_has_dosen(
    -> id_MahasiswaFK INTEGER REFERENCES Mahasiswa(id_Mahasiswa) ON DELETE CASCADE ON UPDATE CASCADE,
    -> Nik_DosenFK INTEGER REFERENCES Dosen(Nik_Dosen) ON DELETE CASCADE ON UPDATE CASCADE
    -> );
Query OK, 0 rows affected (0.27 sec)

MariaDB [Kuliah]> CREATE TABLE Mahasiswa_MataKuliah(
    -> Id_MahasiswaFK INTEGER REFERENCES Mahasiswa(Id_Mahasiswa) ON DELETE CASCADE ON UPDATE CASCADE,
    -> Kode_MkFK INTEGER REFERENCES Mata_Kuliah(Kode_Mk) ON DELETE CASCADE ON UPDATE CASCADE
    -> );
Query OK, 0 rows affected (0.34 sec)

MariaDB [Kuliah]> CREATE TABLE Dosen_mengambil_MataKuliah(
    -> Nik_DosenFK INTEGER REFERENCES Dosen(Nik_Dosen) ON DELETE CASCADE ON UPDATE CASCADE,
    -> Kode_MkFK INTEGER REFERENCES Mata_Kuliah(Kode_Mk) ON DELETE CASCADE ON UPDATE CASCADE
    -> );
Query OK, 0 rows affected (0.31 sec)

MariaDB [Kuliah]> show tables;
+----------------------------+
| Tables_in_kuliah           |
+----------------------------+
| dosen                      |
| dosen_mengambil_matakuliah |
| mahasiswa                  |
| mahasiswa_has_dosen        |
| mahasiswa_matakuliah       |
| mata_kuliah                |
| ruang_kelas                |
+----------------------------+
7 rows in set (0.11 sec)

MariaDB [Kuliah]>
```

```
ERROR 1146 (42S02): Table 'kuliah.kuliah' doesn't exist
MariaDB [Kuliah]> describe Mahasiswa;
+------------------+--------------+------+-----+---------+-------+
| Field            | Type         | Null | Key | Default | Extra |
+------------------+--------------+------+-----+---------+-------+
| id_Mahasiswa     | int(11)      | NO   | PRI | NULL    |       |
| Nama_Mahasiswa   | varchar(45)  | NO   |     | NULL    |       |
| Nim_Mahasiswa    | varchar(10)  | NO   |     | NULL    |       |
| Alamat_Mahasiswa | varchar(200) | NO   |     | NULL    |       |
+------------------+--------------+------+-----+---------+-------+
4 rows in set (0.08 sec)

MariaDB [Kuliah]> describe Dosen;
+--------------+--------------+------+-----+---------+-------+
| Field        | Type         | Null | Key | Default | Extra |
+--------------+--------------+------+-----+---------+-------+
| Nik_Dosen    | int(11)      | NO   | PRI | NULL    |       |
| Nama_Dosen   | varchar(45)  | NO   |     | NULL    |       |
| Alamat_Dosen | varchar(200) | NO   |     | NULL    |       |
+--------------+--------------+------+-----+---------+-------+
3 rows in set (0.02 sec)

MariaDB [Kuliah]> describe Ruang_Kelas;
+-----------------+-------------+------+-----+---------+-------+
| Field           | Type        | Null | Key | Default | Extra |
+-----------------+-------------+------+-----+---------+-------+
| Kode_Ruang      | int(11)     | NO   | PRI | NULL    |       |
| Nama_Ruang      | varchar(45) | NO   |     | NULL    |       |
| Kapasitas_Ruang | int(45)     | YES  |     | NULL    |       |
| Id_MahasiswaFK  | varchar(20) | YES  |     | NULL    |       |
+-----------------+-------------+------+-----+---------+-------+
4 rows in set (0.01 sec)

MariaDB [Kuliah]> describe Mata_Kuliah;
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| Kode_Mk    | int(11)     | NO   | PRI | NULL    |       |
| Nama_Mk    | varchar(42) | NO   |     | NULL    |       |
| Jumlah_sks | int(11)     | NO   |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
3 rows in set (0.07 sec)

MariaDB [Kuliah]>
```

TUGAS 2 :

Command Prompt - mysql -u root -p

```
Microsoft Windows [Version 10.0.17134.648]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\ASUS>CD ..

C:\Users>cd\

C:\>cd C:\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 5
Server version: 10.1.38-MariaDB mariadb.org binary distribution

Copyright (c) 2000, 2017, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> create database RumahSakit;
Query OK, 1 row affected (0.00 sec)

MariaDB [(none)]> use RumahSakit;
Database changed
MariaDB [RumahSakit]> CREATE TABLE pasien(
    -> No_pasien INTEGER PRIMARY KEY,
    -> Nama_pasien VARCHAR(45) NOT NULL,
    -> Alamat_pasien VARCHAR(200) NOT NULL
    -> );
Query OK, 0 rows affected (0.22 sec)

MariaDB [RumahSakit]> CREATE TABLE Dokter(
    -> Id_dokter INTEGER PRIMARY KEY,
    -> No_pasienFK INTEGER REFERENCES pasien(No_pasien) ON DELETE CASCADE ON UPDATE CASCADE,
    -> Nama_dokter VARCHAR(45) NOT NULL,
    -> Spesialis_dokter VARCHAR(25) NOT NULL,
    -> Alamat_dokter VARCHAR(200) NOT NULL
    -> );
Query OK, 0 rows affected (0.18 sec)

MariaDB [RumahSakit]> CREATE TABLE Perawat(
    -> Id_perawat INTEGER PRIMARY KEY,
    -> Id_dokterFK INTEGER REFERENCES dokter(Id_dokter) ON DELETE CASCADE ON UPDATE CASCADE,
    -> No_pasienFK INTEGER REFERENCES pasien(No_pasien) ON DELETE CASCADE ON UPDATE CASCADE,
```

```
Query OK, 0 rows affected (0.22 sec)

MariaDB [RumahSakit]> CREATE TABLE Dokter(
    -> Id_dokter INTEGER PRIMARY KEY,
    -> No_pasienFK INTEGER REFERENCES pasien(No_pasien) ON DELETE CASCADE ON UPDATE CASCADE,
    -> Nama_dokter VARCHAR(45) NOT NULL,
    -> Spesialis_dokter VARCHAR(25) NOT NULL,
    -> Alamat_dokter VARCHAR(200) NOT NULL
    -> );
Query OK, 0 rows affected (0.18 sec)

MariaDB [RumahSakit]> CREATE TABLE Perawat(
    -> Id_perawat INTEGER PRIMARY KEY,
    -> Id_dokterFK INTEGER REFERENCES dokter(Id_dokter) ON DELETE CASCADE ON UPDATE CASCADE,
    -> No_pasienFK INTEGER REFERENCES pasien(No_pasien) ON DELETE CASCADE ON UPDATE CASCADE,
    -> Nama_perawat VARCHAR(45) NOT NULL,
    -> Alamat_perawat VARCHAR(200)
    -> );
Query OK, 0 rows affected (0.22 sec)

MariaDB [RumahSakit]> CREATE TABLE apoteker(
    -> Id_apotek INTEGER PRIMARY KEY,
    -> Id_pasienFK INTEGER REFERENCES pasien(Id_pasien) ON DELETE CASCADE ON UPDATE CASCADE,
    -> Id_dokterFK INTEGER REFERENCES dokter(Id_dokter) ON DELETE CASCADE ON UPDATE CASCADE,
    -> Nama_apotek VARCHAR(25) NOT NULL,
    -> Stock_obat INTEGER NOT NULL,
    -> Alamat_apotek VARCHAR(100)
    -> );
Query OK, 0 rows affected (0.28 sec)

MariaDB [RumahSakit]> show tables;
+----------------------+
| Tables_in_rumahsakit |
+----------------------+
| apoteker             |
| dokter               |
| pasien               |
| perawat              |
+----------------------+
4 rows in set (0.00 sec)

MariaDB [RumahSakit]>
```

Command Prompt - mysql -u root -p

```
MariaDB [RumahSakit]> describe Dokter;
+------------------+--------------+------+-----+---------+-------+
| Field            | Type         | Null | Key | Default | Extra |
+------------------+--------------+------+-----+---------+-------+
| Id_dokter        | int(11)      | NO   | PRI | NULL    |       |
| No_pasienFK      | int(11)      | YES  |     | NULL    |       |
| Nama_dokter      | varchar(45)  | NO   |     | NULL    |       |
| Spesialis_dokter | varchar(25)  | NO   |     | NULL    |       |
| Alamat_dokter    | varchar(200) | NO   |     | NULL    |       |
+------------------+--------------+------+-----+---------+-------+
5 rows in set (0.01 sec)

MariaDB [RumahSakit]> describe pasien;
+---------------+--------------+------+-----+---------+-------+
| Field         | Type         | Null | Key | Default | Extra |
+---------------+--------------+------+-----+---------+-------+
| No_pasien     | int(11)      | NO   | PRI | NULL    |       |
| Nama_pasien   | varchar(45)  | NO   |     | NULL    |       |
| Alamat_pasien | varchar(200) | NO   |     | NULL    |       |
+---------------+--------------+------+-----+---------+-------+
3 rows in set (0.01 sec)

MariaDB [RumahSakit]> describe Apoteker;
+---------------+--------------+------+-----+---------+-------+
| Field         | Type         | Null | Key | Default | Extra |
+---------------+--------------+------+-----+---------+-------+
| Id_apotek     | int(11)      | NO   | PRI | NULL    |       |
| Id_pasienFK   | int(11)      | YES  |     | NULL    |       |
| Id_dokterFK   | int(11)      | YES  |     | NULL    |       |
| Nama_apotek   | varchar(25)  | NO   |     | NULL    |       |
| Stock_obat    | int(11)      | NO   |     | NULL    |       |
| Alamat_apotek | varchar(100) | YES  |     | NULL    |       |
+---------------+--------------+------+-----+---------+-------+
6 rows in set (0.01 sec)

MariaDB [RumahSakit]> describe Perawat;
+----------------+--------------+------+-----+---------+-------+
| Field          | Type         | Null | Key | Default | Extra |
+----------------+--------------+------+-----+---------+-------+
| Id_perawat     | int(11)      | NO   | PRI | NULL    |       |
| Id_dokterFK    | int(11)      | YES  |     | NULL    |       |
| No_pasienFK    | int(11)      | YES  |     | NULL    |       |
| Nama_perawat   | varchar(45)  | NO   |     | NULL    |       |
| Alamat_perawat | varchar(200) | YES  |     | NULL    |       |
```

MODUL 5

1. tabel nasabah

```
Microsoft Windows [Version 10.0.17134.648]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\ASUS>cd ..

C:\Users>cd\

C:\>cd C:\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 27
Server version: 10.1.38-MariaDB mariadb.org binary distribution

Copyright (c) 2000, 2017, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> use perbankan;
Database changed
```

```
MariaDB [perbankan]> insert into nasabah(id_nasabah, nama_nasabah, alamat_nasabah) value (1, 'Sutopo', ' Jl.Jendral Sudirman 12'),
    -> (2, 'Maryati', 'Jl. MT. Haryono 31'),
    -> (3, 'Suparman', 'Jl. Hasannudin 81'),
    -> (4, 'Kartika Padmasari', 'Jl. Manggis 15'),
    -> (5, 'Budi Eko Prayogo', 'Jl. Kantil 30'),
    -> (6, 'Satria Eka Jaya', 'Jl. Slamet Riyadi 45'),
    -> (7, 'Indri Hapsari', 'Jl. Sutoyo 5'),
    -> (8, 'Sari Murti', 'Jl. Pangandaran 11'),
    -> (9, 'Canka Lokananta', 'Jl. Tidar 86'),
    -> (10, 'Budi Martono', 'Jl. Merak 22');
Query OK, 10 rows affected (0.09 sec)
Records: 10  Duplicates: 0  Warnings: 0

MariaDB [perbankan]> select *from nasabah;
+------------+------------------+------------------------+
| id_nasabah | nama_nasabah     | alamat_nasabah         |
+------------+------------------+------------------------+
|          1 | Sutopo           |  Jl.Jendral Sudirman 12 |
|          2 | Maryati          | Jl. MT. Haryono 31     |
|          3 | Suparman         | Jl. Hasannudin 81      |
|          4 | Kartika Padmasari | Jl. Manggis 15         |
|          5 | Budi Eko Prayogo | Jl. Kantil 30          |
|          6 | Satria Eka Jaya  | Jl. Slamet Riyadi 45   |
|          7 | Indri Hapsari    | Jl. Sutoyo 5           |
|          8 | Sari Murti       | Jl. Pangandaran 11     |
|          9 | Canka Lokananta  | Jl. Tidar 86           |
|         10 | Budi Martono     | Jl. Merak 22           |
+------------+------------------+------------------------+
10 rows in set (0.00 sec)
```

2. Tabel cabang_bank

```
MariaDB [perbankan]> insert into cabang_bank(kode_cabang, nama_cabang, alamat_cabang) value ('BRUS', 'Bank Unit Surakarta', 'Jl. Slamet Riyadi 18'),
    -> ('BRUM', 'Bank Rut Unit Magelang', 'Jl. P. tendean 63'),
    -> ('BRUB', 'Bank Rut Unit Boyolali', 'Jl. Ahmad Yani 45'),
    -> ('BRUK', 'Bank Rut Unit Klaten', 'Jl. Suparman 23'),
    -> ('BRUY', 'Bank Rut Unit Yogyakarta', 'Jl. Anggrek 21'),
    -> ('BRUW', 'Bank Rut unit Wonogiri', 'Jl. Untung Suropati 12');
Query OK, 6 rows affected (0.06 sec)
Records: 6  Duplicates: 0  Warnings: 0

MariaDB [perbankan]> select *from cabang_bank;
+-------------+------------------------+-----------------------+
| kode_cabang | nama_cabang            | alamat_cabang         |
+-------------+------------------------+-----------------------+
| BRUB        | Bank Rut Unit Boyolali | Jl. Ahmad Yani 45     |
| BRUK        | Bank Rut Unit Klaten   | Jl. Suparman 23       |
| BRUM        | Bank Rut Unit Magelang | Jl. P. tendean 63     |
| BRUS        | Bank Unit Surakarta    | Jl. Slamet Riyadi 18  |
| BRUW        | Bank Rut unit Wonogiri | Jl. Untung Suropati 12 |
| BRUY        | Bank Rut Unit Yogyakarta | Jl. Anggrek 21        |
+-------------+------------------------+-----------------------+
6 rows in set (0.00 sec)
```

3. Table rekening

```
MariaDB [perbankan]> insert into rekening(no_rekening, kode_cabangFK, pin, saldo) value (101, 'BRUS', 1111, 500000),
    -> (102, 'BRUS', 2222, 3500000),
    -> (103, 'BRUS', 3333, 750000),
    -> (104, 'BRUM', 4444, 900000),
    -> (105, 'BRUM', 5555, 200000),
    -> (106, 'BRUS', 6666, 300000),
    -> (107, 'BRUS', 7777, 100000),
    -> (108, 'BRUB', 0000, 500000),
    -> (109, 'BRUB', 9999, 0),
    -> (110, 'BRUY', 1234, 550000),
    -> (111, 'BRUK', 4321, 150000),
    -> (112, 'BRUK', 0123, 300000),
    -> (113, 'BRUY', 8888, 255000);
Query OK, 13 rows affected (0.04 sec)
Records: 13  Duplicates: 0  Warnings: 0

MariaDB [perbankan]> select *from rekening;
+-------------+---------------+------+---------+
| no_rekening | kode_cabangFK | pin  | saldo   |
+-------------+---------------+------+---------+
|         101 | BRUS          | 1111 |  500000 |
|         102 | BRUS          | 2222 | 3500000 |
|         103 | BRUS          | 3333 |  750000 |
|         104 | BRUM          | 4444 |  900000 |
|         105 | BRUM          | 5555 |  200000 |
|         106 | BRUS          | 6666 |  300000 |
|         107 | BRUS          | 7777 |  100000 |
|         108 | BRUB          | 0    |  500000 |
|         109 | BRUB          | 9999 |       0 |
|         110 | BRUY          | 1234 |  550000 |
|         111 | BRUK          | 4321 |  150000 |
|         112 | BRUK          | 123  |  300000 |
|         113 | BRUY          | 8888 |  255000 |
+-------------+---------------+------+---------+
13 rows in set (0.00 sec)
```

4. nasabah_has_rekening_

```
MariaDB [perbankan]> insert into nasabah_has_rekening_(id_nasabahFK, no_rekeningFK) value (1, 104),
    -> (2, 103),
    -> (3, 105),
    -> (3, 106),
    -> (4, 101),
    -> (4, 107),
    -> (5, 102),
    -> (5, 107),
    -> (6, 109),
    -> (7, 109),
    -> (8, 111),
    -> (9, 110),
    -> (10, 113),
    -> (8, 112),
    -> (10, 108);
Query OK, 15 rows affected (0.09 sec)
Records: 15  Duplicates: 0  Warnings: 0

MariaDB [perbankan]> select *from nasabah_has_rekening_;
+--------------+---------------+
| id_nasabahFK | no_rekeningFK |
+--------------+---------------+
|            1 |           104 |
|            2 |           103 |
|            3 |           105 |
|            3 |           106 |
|            4 |           101 |
|            4 |           107 |
|            5 |           102 |
|            5 |           107 |
|            6 |           109 |
|            7 |           109 |
|            8 |           111 |
|            8 |           112 |
|            9 |           110 |
|           10 |           108 |
|           10 |           113 |
+--------------+---------------+
15 rows in set (0.05 sec)

MariaDB [perbankan]>
```

5. Table transaksi

```
MariaDB [perbankan]> insert into transaksi(no_transaksi, no_rekeningFK, id_nasabahFK, jenis_transaksi, tanggal, jumlah) value(1, 105, 3, 'debit', 2009-11-10, 50000),
    -> (2, 103, 2, 'debit', 2009-11-10, 40000),
    -> (3, 101, 4, 'kredit', 2009-11-12, 20000),
    -> (4, 106, 3, 'debit', 2009-11-13, 50000),
    -> (5, 107, 5, 'kredit', 2009-11-13, 30000),
    -> (6, 104, 1, 'kredit', 2009-11-15, 200000),
    -> (7, 110, 9, 'kredit', 2009-11-15, 150000),
    -> (8, 102, 5, 'debit', 2009-11-16, 20000),
    -> (9, 105, 3, 'kredit', 2009-11-18, 50000),
    -> (10, 107, 4, 'debit', 2009-11-19, 100000),
    -> (11, 103, 2, 'debit', 2009-11-10, 100000),
    -> (12, 104, 1, 'debit', 2009-11-19, 50000),
    -> (13, 107, 4, 'kredit', 2009-11-20, 200000),
    -> (14, 105, 3, 'debit', 2009-11-21, 40000),
    -> (15, 104, 1, 'kredit', 2009-11-22, 100000),
    -> (16, 101, 4, 'kredit', 2009-11-22, 20000),
    -> (17, 103, 2, 'debit', 2009-11-22, 50000),
    -> (18, 102, 5, 'debit', 2009-11-25, 50000),
    -> (19, 108, 10, 'debit', 2009-11-26, 100000),
    -> (20, 106, 3, 'kredit', 2009-11-27, 50000),
    -> (21, 103, 2, 'kredit', 2009-11-28, 200000),
    -> (22, 105, 3, 'kredit', 2009-11-28, 100000),
    -> (23, 102, 5, 'debit', 2009-11-30, 20000),
    -> (24, 104, 1, 'debit', 2009-12-1, 50000),
    -> (25, 103, 2, 'debit', 2009-12-2, 40000),
    -> (26, 101, 4, 'debit', 2009-12-4, 50000),
    -> (27, 103, 2, 'kredit', 2009-12-5, 100000),
    -> (28, 102, 5, 'kredit', 2009-12-5, 40000),
    -> (29, 109, 7, 'debit', 2009-12-5, 100000),
    -> (30, 110, 9, 'debit', 2009-12-6, 20000);
Query OK, 30 rows affected, 30 warnings (0.11 sec)
Records: 30  Duplicates: 0  Warnings: 30
```

```
MariaDB [perbankan]> select *from transaksi;
+--------------+--------------+---------------+-----------------+---------------------+--------+
| no_transaksi | id_nasabahFK | no_rekeningFK | jenis_transaksi | tanggal             | jumlah |
+--------------+--------------+---------------+-----------------+---------------------+--------+
|            1 |            3 |           105 | debit           | 0000-00-00 00:00:00 |  50000 |
|            2 |            2 |           103 | debit           | 0000-00-00 00:00:00 |  40000 |
|            3 |            4 |           101 | kredit          | 0000-00-00 00:00:00 |  20000 |
|            4 |            3 |           106 | debit           | 0000-00-00 00:00:00 |  50000 |
|            5 |            5 |           107 | kredit          | 0000-00-00 00:00:00 |  30000 |
|            6 |            1 |           104 | kredit          | 0000-00-00 00:00:00 | 200000 |
|            7 |            9 |           110 | kredit          | 0000-00-00 00:00:00 | 150000 |
|            8 |            5 |           102 | debit           | 0000-00-00 00:00:00 |  20000 |
|            9 |            3 |           105 | kredit          | 0000-00-00 00:00:00 |  50000 |
|           10 |            4 |           107 | debit           | 0000-00-00 00:00:00 | 100000 |
|           11 |            2 |           103 | debit           | 0000-00-00 00:00:00 | 100000 |
|           12 |            1 |           104 | debit           | 0000-00-00 00:00:00 |  50000 |
|           13 |            4 |           107 | kredit          | 0000-00-00 00:00:00 | 200000 |
|           14 |            3 |           105 | debit           | 0000-00-00 00:00:00 |  40000 |
|           15 |            1 |           104 | kredit          | 0000-00-00 00:00:00 | 100000 |
|           16 |            4 |           101 | kredit          | 0000-00-00 00:00:00 |  20000 |
|           17 |            2 |           103 | debit           | 0000-00-00 00:00:00 |  50000 |
|           18 |            5 |           102 | debit           | 0000-00-00 00:00:00 |  50000 |
|           19 |           10 |           108 | debit           | 0000-00-00 00:00:00 | 100000 |
|           20 |            3 |           106 | kredit          | 0000-00-00 00:00:00 |  50000 |
|           21 |            2 |           103 | kredit          | 0000-00-00 00:00:00 | 200000 |
|           22 |            3 |           105 | kredit          | 0000-00-00 00:00:00 | 100000 |
|           23 |            5 |           102 | debit           | 0000-00-00 00:00:00 |  20000 |
|           24 |            1 |           104 | debit           | 0000-00-00 00:00:00 |  50000 |
|           25 |            2 |           103 | debit           | 0000-00-00 00:00:00 |  40000 |
|           26 |            4 |           101 | debit           | 0000-00-00 00:00:00 |  50000 |
|           27 |            2 |           103 | kredit          | 0000-00-00 00:00:00 | 100000 |
|           28 |            5 |           102 | kredit          | 0000-00-00 00:00:00 |  40000 |
|           29 |            7 |           109 | debit           | 0000-00-00 00:00:00 | 100000 |
|           30 |            9 |           110 | debit           | 0000-00-00 00:00:00 |  20000 |
+--------------+--------------+---------------+-----------------+---------------------+--------+
30 rows in set (0.00 sec)

MariaDB [perbankan]>
```

6. a Nasabah dengan nama “Indri Hapsari” pindah alamat ke “Jalan Slamet Riyadi No.34”.

```
MariaDB [perbankan]> update nasabah set alamat_nasabah = 'Jalan Slamet Riyadi No. 34' where nama_nasabah = 'Indri Hapsari';
Query OK, 1 row affected (0.12 sec)
Rows matched: 1  Changed: 1  Warnings: 0

MariaDB [perbankan]> select *from nasabah;
+------------+------------------+---------------------------+
| id_nasabah | nama_nasabah     | alamat_nasabah            |
+------------+------------------+---------------------------+
|          1 | Sutopo           |  Jl.Jendral Sudirman 12   |
|          2 | Maryati          | Jl. MT. Haryono 31        |
|          3 | Suparman         | Jl. Hasannudin 81         |
|          4 | Kartika Padmasari | Jl. Manggis 15           |
|          5 | Budi Eko Prayogo | Jl. Kantil 30             |
|          6 | Satria Eka Jaya  | Jl. Slamet Riyadi 45      |
|          7 | Indri Hapsari    | Jalan Slamet Riyadi No. 34 |
|          8 | Sari Murti       | Jl. Pangandaran 11        |
|          9 | Canka Lokananta  | Jl. Tidar 86              |
|         10 | Budi Martono     | Jl. Merak 22              |
+------------+------------------+---------------------------+
10 rows in set (0.00 sec)
```

b. Cabang dengan kode “BRUW” pindah ke alamat “Jalan A. Yani No.23”.

```
MariaDB [perbankan]> update cabang_bank set alamat_cabang = 'Jalan A. Yani No.23' where kode_cabang ='BRUW';
Query OK, 1 row affected (0.08 sec)
Rows matched: 1  Changed: 1  Warnings: 0

MariaDB [perbankan]> select *from kode_cabang;
ERROR 1146 (42S02): Table 'perbankan.kode_cabang' doesn't exist
MariaDB [perbankan]> select *from cabang_bank;
+-------------+-------------------------+---------------------+
| kode_cabang | nama_cabang             | alamat_cabang       |
+-------------+-------------------------+---------------------+
| BRUB        | Bank Rut Unit Boyolali  | Jl. Ahmad Yani 45   |
| BRUK        | Bank Rut Unit Klaten    | Jl. Suparman 23     |
| BRUM        | Bank Rut Unit Magelang  | Jl. P. tendean 63   |
| BRUS        | Bank Unit Surakarta     | Jl. Slamet Riyadi 18 |
| BRUW        | Bank Rut unit Wonogiri  | Jalan A. Yani No.23 |
| BRUY        | Bank Rut Unit Yogyakarta | Jl. Anggrek 21      |
+-------------+-------------------------+---------------------+
6 rows in set (0.00 sec)
```

7.

a.Nasabah dengan Id “7”menutup rekeningnya

```
MariaDB [perbankan]> delete from nasabah where id_nasabah = '7' ;
Query OK, 1 row affected (0.10 sec)

MariaDB [perbankan]> select *from nasabah;
+------------+-------------------+-------------------------+
| id_nasabah | nama_nasabah      | alamat_nasabah          |
+------------+-------------------+-------------------------+
|          1 | Sutopo            |  Jl.Jendral Sudirman 12 |
|          2 | Maryati           | Jl. MT. Haryono 31      |
|          3 | Suparman          | Jl. Hasannudin 81       |
|          4 | Kartika Padmasari | Jl. Manggis 15          |
|          5 | Budi Eko Prayogo  | Jl. Kantil 30           |
|          6 | Satria Eka Jaya   | Jl. Slamet Riyadi 45    |
|          8 | Sari Murti        | Jl. Pangandaran 11      |
|          9 | Canka Lokananta   | Jl. Tidar 86            |
|         10 | Budi Martono      | Jl. Merak 22            |
+------------+-------------------+-------------------------+
9 rows in set (0.00 sec)
```

b. Cabang dengan nama_cabanf “Bank Rut Unit Magelang” menutup kantornya

```
MariaDB [perbankan]> delete from cabang_bank where nama_cabang = 'Bank Rut Unit Magelang';
Query OK, 1 row affected (0.10 sec)

MariaDB [perbankan]> select *from cabang_bank;
+-------------+-------------------------+---------------------+
| kode_cabang | nama_cabang             | alamat_cabang       |
+-------------+-------------------------+---------------------+
| BRUB        | Bank Rut Unit Boyolali  | Jl. Ahmad Yani 45   |
| BRUK        | Bank Rut Unit Klaten    | Jl. Suparman 23     |
| BRUS        | Bank Unit Surakarta     | Jl. Slamet Riyadi 18 |
| BRUW        | Bank Rut unit Wonogiri  | Jalan A. Yani No.23 |
| BRUY        | Bank Rut Unit Yogyakarta | Jl. Anggrek 21      |
+-------------+-------------------------+---------------------+
5 rows in set (0.00 sec)

MariaDB [perbankan]>
```

KEGIATAN :

```
Command Prompt - mysql  -u root -p
Microsoft Windows [Version 6.1.7600]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\Users\LABSI-8>cd..

C:\Users>cd..

C:\>cd C:/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 3
Server version: 10.1.37-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)]> create database perbankan;
Query OK, 1 row affected (0.00 sec)

MariaDB [(none)]> use perbankan;
Database changed
MariaDB [perbankan]> CREATE TABLE nasabah(
    -> id_nasabah INTEGER PRIMARY KEY,
    -> nama_nasabah VARCHAR(45) NOT NULL,
    -> alamat_nasabah VARCHAR(255) NOT NULL
    -> );
Query OK, 0 rows affected (0.21 sec)

MariaDB [perbankan]> CREATE TABLE cabang_bank(
    -> kode_cabang VARCHAR(20) PRIMARY KEY,
    -> nama_cabang VARCHAR(45) UNIQUE NOT NULL,
    -> alamat_cabang VARCHAR(255) NOT NULL
    -> );
Query OK, 0 rows affected (0.92 sec)

MariaDB [perbankan]> CREATE TABLE rekening(
    -> no_rekening INTEGER PRIMARY KEY,
    -> kode_cabangFK VARCHAR(20) REFERENCES cabang_bank(kode_cabang) ON DELETE C
ASCADE ON UPDATE CASCADE,
    -> pin VARCHAR(20) DEFAULT'1234' NOT NULL,
    -> saldo INTEGER DEFAULT 0 NOT NULL
    -> );
Query OK, 0 rows affected (0.43 sec)

MariaDB [perbankan]> CREATE TABLE transaksi(
    -> no_transaksi SERIAL PRIMARY KEY,
    -> id_nasabahFK INTEGER REFERENCES nasabah(id_nasabah) ON DELETE SET NULL ON
 UPDATE CASCADE,
    -> no_rekeningFK INTEGER REFERENCES rekening(no_rekening) ON DELETE SET NULL
 ON UPDATE CASCADE,
    ->
```

MODUL 6

Langkah – langkah praktikum :

1.

```
Command Prompt - mysql  -u root -p
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\Users\LABSI-08>cd ..

C:\Users>C:/xampp/mysql/bin
'C:/xampp/mysql/bin' is not recognized as an internal or external command,
operable program or batch file.

C:\Users>C:\xampp\mysql\bin
'C:\xampp\mysql\bin' is not recognized as an internal or external command,
operable program or batch file.

C:\Users>cd\

C:\>C:\xampp\mysql\bin
'C:\xampp\mysql\bin' is not recognized as an internal or external command,
operable program or batch file.

C:\>cd C:\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 120
Server version: 10.1.37-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)]> use perbankan
Database changed
MariaDB [perbankan]> SELECT nama_cabang, alamat_cabang FROM cabang
    -> ;
ERROR 1146 (42S02): Table 'perbankan.cabang' doesn't exist
MariaDB [perbankan]> SELECT nama_cabang, alamat_cabang FROM cabang_bank ORDER BY
 nama_cabang ;
+-------------------------+-------------------------+
| nama_cabang             | alamat_cabang           |
+-------------------------+-------------------------+
| Bank Rut Unit Boyolali  | jl. Ahmad yani 45       |
| Bank Rut Unit Klaten    | jl. Suparman 23         |
| Bank Rut Unit Magelang  | jl. P.Tendean 63        |
| Bank Rut Unit Surakarta | jl. Slamet Riyadi 18    |
| Bank Rut Unit Wonogiri  | jl. Untung Sutropati 12 |
| Bank Rut Unit Yogyakarta | jl. Anggrek 21         |
+-------------------------+-------------------------+
6 rows in set (0.00 sec)
```

2.

```
MariaDB [perbankan]> SELECT no_rekening, pin, saldo FROM rekening ORDER BY saldo
 DESC;
+-------------+------+--------+
| no_rekening | pin  | saldo  |
+-------------+------+--------+
|         104 | 4444 | 900000 |
|         103 | 3333 | 750000 |
|         110 | 1234 | 550000 |
|         101 | 1111 | 500000 |
|         108 | 0000 | 500000 |
|         102 | 2222 | 350000 |
|         112 | 0123 | 300000 |
|         106 | 6666 | 300000 |
|         113 | 8888 | 255000 |
|         105 | 5555 | 200000 |
|         111 | 4321 | 150000 |
|         107 | 7777 | 100000 |
|         109 | 9999 |      0 |
+-------------+------+--------+
13 rows in set (0.00 sec)
```

TUGAS

1. Tampilkan nama nasabah dan alamat nasabah diurutkan berdasarkan nama nasabah :

```
MariaDB [perbankan]> SELECT nama_nasabah, alamat_nasabah FROM nasabah ORDER BY n
ama_nasabah ;
+-------------------+-------------------------+
| nama_nasabah      | alamat_nasabah          |
+-------------------+-------------------------+
| Anggit            | Solo                    |
| Budi Eko Prayogo  | Jl. Kantil 30           |
| Budi Murtono      | Jl. Merak 22            |
| Canka Lokananta   | Jl. Tidar 86            |
| Indri Hapsari     | Jl. Sutoyo 5            |
| Joko Ndo Kondo    | Jl. Bareng jadian kagak |
| Jon Koplo         | Jl. Angin Besar 12      |
| Kartika Padmasari | Jl. Manggis 15          |
| Maryati           | Jl. MT. Haryono 31      |
| Maryati           | Jl. MT Haryono 31       |
| Sari Murti        | Jl. Pangandaran 11      |
| Satria Eka Jaya   | Jl. Slamet Riyadi 45    |
| Suparman          | Jl. Hasanudin 81        |
| Sutopo            | Jl. Jendral Sudirman    |
| Sutopo            | Jl. Jendral Sudirman 12 |
+-------------------+-------------------------+
15 rows in set (0.00 sec)
```

2. Tampilkan jenis transaksi dan jumlah transaksi dimana jenis transaksi nya adalah kredit :

```
MariaDB [perbankan]> SELECT jenis_transaksi, jumlah FROM transaksi WHERE jenis_t
ransaksi = 'kredit';
+-----------------+--------+
| jenis_transaksi | jumlah |
+-----------------+--------+
| kredit          |  20000 |
| kredit          |  30000 |
| kredit          | 200000 |
| kredit          | 150000 |
| kredit          |  50000 |
| kredit          | 200000 |
| kredit          | 100000 |
| kredit          |  20000 |
| kredit          |  50000 |
| kredit          | 200000 |
| kredit          | 100000 |
| kredit          | 100000 |
| kredit          | 200000 |
| kredit          |  50000 |
| kredit          | 250000 |
| kredit          | 130000 |
| kredit          | 357000 |
| kredit          |  50000 |
| kredit          |  50000 |
| kredit          | 520000 |
| kredit          |  50000 |
| kredit          |  50000 |
| kredit          |  50000 |
+-----------------+--------+
23 rows in set (0.00 sec)
```

3. Tampilkan jenis transaksi dan jumlah transaksi yang melakukan transaksi pada tanggal 21 November 2009 dan diurutkan berdasarkan jumlah transaksi:

```
MariaDB [perbankan]> SELECT jenis_transaksi, jumlah FROM transaksi WHERE tanggal
 = ' 2009-11-21';
+-----------------+--------+
| jenis_transaksi | jumlah |
+-----------------+--------+
| debit           |  40000 |
+-----------------+--------+
1 row in set (0.00 sec)
```

4. Tampilkan nama nasabah, jenis transaksi dan jumlah transaksi dimana jumlah transaksi = Rp 20.000 :

```
MariaDB [perbankan]> SELECT nama_nasabah, jenis_transaksi, jumlah FROM nasabah,
transaksi WHERE nasabah.id_nasabah = transaksi.id_nasabahFK and jumlah = 20000;
+-------------------+-----------------+--------+
| nama_nasabah      | jenis_transaksi | jumlah |
+-------------------+-----------------+--------+
| Kartika Padmasari | kredit          |  20000 |
| Budi Eko Prayogo  | debit           |  20000 |
| Kartika Padmasari | kredit          |  20000 |
| Budi Eko Prayogo  | debit           |  20000 |
| Canka Lokananta   | debit           |  20000 |
+-------------------+-----------------+--------+
5 rows in set (0.00 sec)

MariaDB [perbankan]>
```

5. Tampilkan nama nasabah dan alamat nasabah dimana nasabah diawali dengan kata ‘Su’ :

```
MariaDB [perbankan]> SELECT nama_nasabah, alamat_nasabah FROM nasabah WHERE nama
_nasabah ='Su%' ;
Empty set (0.00 sec)

MariaDB [perbankan]> SELECT nama_nasabah, alamat_nasabah FROM nasabah WHERE nama
_nasabah LIKE 'Su%' ;
+--------------+------------------------+
| nama_nasabah | alamat_nasabah         |
+--------------+------------------------+
| Sutopo       | Jl. Jendral Sudirman 12 |
| Suparman     | Jl. Hasanudin 81        |
| Sutopo       | Jl. Jendral Sudirman    |
+--------------+------------------------+
3 rows in set (0.00 sec)
```

MODUL 7

LATIHAN

1. Tampilkan nama bank dan alamat bank untuk semua cabang bank dan diurutkan berdasarkan nama bank

2. tampilkan nomor rekening,pin, dan jumlah saldo untuk semua rekening dan diurutkan berdasarkan jumlah saldo dari yang paling besar ke yang paling kecil.

```
Setting environment for using XAMPP for Windows.
LABSI-15@LABSI-15-PC c:\xampp
# mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 2
Server version: 10.1.37-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)]> use perbankan;
ERROR 1049 (42000): Unknown database 'perbankan'
MariaDB [(none)]> use perbankan;
Database changed
MariaDB [perbankan]> SELECT nama_cabang, alamat_cabang FROM cabang_bank ORDER BY
 nama_cabang;
+--------------------------+------------------------+
| nama_cabang              | alamat_cabang          |
+--------------------------+------------------------+
| Bank Rut Unit Boyolali   | Jl. Ahmad yani 45      |
| Bank Rut Unit Klaten     | Jl. Suparman 23        |
| Bank Rut Unit Magelang   |  Jl. P. Tendean 63     |
| Bank Rut Unit Surakarta  | Jl. Slamet riyadi 18   |
| Bank Rut Unit Wonogiri   | Jl. Untung Suropati 12 |
| Bank Rut Unit Yogyakarta |  Jl. Anggrek 21        |
+--------------------------+------------------------+
6 rows in set (0.00 sec)

MariaDB [perbankan]> SELECT no_rekening, pin, saldo FROM rekening ORDER BY saldo
 DESC;
+-------------+------+--------+
| no_rekening | pin  | saldo  |
+-------------+------+--------+
|         104 | 4444 | 900000 |
|         103 | 3333 | 750000 |
|         110 | 1234 | 550000 |
|         101 | 1111 | 500000 |
|         108 | 0000 | 500000 |
|         102 | 2222 | 350000 |
|         112 | 0123 | 300000 |
|         106 | 6666 | 300000 |
|         113 | 8888 | 255000 |
|         105 | 5555 | 200000 |
|         111 | 4321 | 150000 |
|         107 | 7777 | 100000 |
|         109 | 9999 |      0 |
+-------------+------+--------+
13 rows in set (0.00 sec)
```

3. Tampilkan nomer rekening, nama nasabah dan alamat nasabah dari semua nasabah yang memiliki rekening dan diurutkan berdasarkan nama nasabah dengan kode berikut.

```
MariaDB [perbankan]> SELECT rekening.no_rekening, nasabah.nama_nasabah, rekening
.saldo FROM rekening, nasabah,nasabah_has_rekening WHERE nasabah.id_nasabah = na
sabah_has_rekening.id_nasabah AND rekening.no_rekening = nasabah_has_rekening.no
_rekening ORDER BY nasabah.nama_nasabah;
+-------------+-------------------+--------+
| no_rekening | nama_nasabah      | saldo  |
+-------------+-------------------+--------+
|         102 | Budi Eko Prayogo  | 350000 |
|         107 | Budi Eko Prayogo  | 100000 |
|         108 | Budi Murtono      | 500000 |
|         113 | Budi Murtono      | 255000 |
|         110 | Canka Locananta   | 550000 |
|         109 | Indri Hapsari     |      0 |
|         101 | Kartika Padmasari | 500000 |
|         106 | Kartika Padmasari | 300000 |
|         103 | Maryati           | 750000 |
|         111 | Sari Murti        | 150000 |
|         112 | Sari Murti        | 300000 |
|         109 | Satria Eka Jaya   |      0 |
|         105 | Suparman          | 200000 |
|         104 | Sutopo            | 900000 |
+-------------+-------------------+--------+
14 rows in set (0.00 sec)
```

4. Tampilkan nomer rekening, nama nasabah, dan jumlah saldo untuk semua rekening yang dimiliki oleh nasabah dan diurutkan berdasarkan nama nasabah.

```
MariaDB [perbankan]> SELECT rekening.no_rekening, nasabah.nama_nasabah, nasabah.
alamat_nasabah FROM rekening, nasabah, nasabah_has_rekening WHERE nasabah.id_nas
abah = nasabah_has_rekening.id_nasabah AND rekening.no_rekening = nasabah_has_re
kening.no_rekening ORDER BY nasabah.nama_nasabah;
+-------------+-------------------+-------------------------+
| no_rekening | nama_nasabah      | alamat_nasabah          |
+-------------+-------------------+-------------------------+
|         102 | Budi Eko Prayogo  | Jl. Kanti 30            |
|         107 | Budi Eko Prayogo  | Jl. Kanti 30            |
|         108 | Budi Murtono      | Jl. Merak 22            |
|         113 | Budi Murtono      | Jl. Merak 22            |
|         110 | Canka Locananta   | jl. Tidar 86            |
|         109 | Indri Hapsari     | Jl. Sutoyo              |
|         101 | Kartika Padmasari | Jl. Manggis 15          |
|         106 | Kartika Padmasari | Jl. Manggis 15          |
|         103 | Maryati           | Jl. MT Haryono 31       |
|         111 | Sari Murti        | Jl. Pangandaran         |
|         112 | Sari Murti        | Jl. Pangandaran         |
|         109 | Satria Eka Jaya   | Jl. Slamet Riyadi 45    |
|         105 | Suparman          | Jl. Hasanudin 81        |
|         104 | Sutopo            | Jl. Jendral Sudirman 12 |
+-------------+-------------------+-------------------------+
14 rows in set (0.00 sec)
```

TUGAS

1. Tampilkan nama nasabah,alamat nasabah, jenis transaksi dan jumlah dimana jenis transaksinya adalah kredit dan diurutkan berdasarkan nama nasabah.

```
MariaDB [perbankan]> SELECT nama_nasabah, alamat_nasabah, jenis_transaksi, jumla
h from nasabah, transaksi WHERE nasabah.id_nasabah=transaksi.id_nasabah AND tran
saksi.jenis_transaksi = 'kredit' ORDER BY nasabah.nama_nasabah;
+-------------------+-------------------------+-----------------+--------+
| nama_nasabah      | alamat_nasabah          | jenis_transaksi | jumlah |
+-------------------+-------------------------+-----------------+--------+
| Budi Eko Prayogo  | Jl. Kanti 30            | kredit          |  30000 |
| Canka Locananta   | jl. Tidar 86            | kredit          | 150000 |
| Kartika Padmasari | Jl. Manggis 15          | kredit          |  20000 |
| Suparman          | Jl. Hasanudin 81        | kredit          |  50000 |
| Sutopo            | Jl. Jendral Sudirman 12 | kredit          | 200000 |
+-------------------+-------------------------+-----------------+--------+
5 rows in set (0.00 sec)
```

2. Tampilkan nomor rekening, nama nasabah, jenis transaksi dan jumlah transaksi yang melakukan transaksi pada tanggal 21 november 2009 dan diurukan berdasarkan nama nasabah.

```
MariaDB [perbankan]> SELECT no_rekening, nama_nasabah, jenis_transaksi,jumlah FR
OM nasabah,transaksi  WHERE nasabah.id_nasabah = transaksi.id_nasabah AND transa
ksi.tanggal = '2009-11-15' ORDER BY nasabah.nama_nasabah;
+-------------+-----------------+-----------------+--------+
| no_rekening | nama_nasabah    | jenis_transaksi | jumlah |
+-------------+-----------------+-----------------+--------+
|         110 | Canka Locananta | kredit          | 150000 |
|         104 | Sutopo          | kredit          | 200000 |
+-------------+-----------------+-----------------+--------+
2 rows in set (0.00 sec)
```

3. Tampilkan nomer rekening, nama nasabah, jenis transaksi dan jumlah transaksi dimana jumlah transaksi = Rp. 20.000

```
MariaDB [perbankan]> SELECT no_rekening, nama_nasabah, jenis_transaksi, jumlah F
ROM nasabah, transaksi WHERE nasabah.id_nasabah = transaksi.id_nasabah AND trans
aksi.jumlah='20000';
+-------------+-------------------+-----------------+--------+
| no_rekening | nama_nasabah      | jenis_transaksi | jumlah |
+-------------+-------------------+-----------------+--------+
|         101 | Kartika Padmasari | kredit          |  20000 |
|         102 | Budi Eko Prayogo  | debit           |  20000 |
+-------------+-------------------+-----------------+--------+
2 rows in set (0.00 sec)
```

4. Tampilkan nomor rekening, nama nasabah dan alamat nasabah dimana nama nasabah diawali dengan kata 'Su'

```
MariaDB [perbankan]> SELECT no_rekening, nama_nasabah, alamat_nasabah FROM nasab
ah, transaksi WHERE nasabah.id_nasabah = transaksi.id_nasabah AND nama_nasabah l
ike 'Su%';
+-------------+--------------+-------------------------+
| no_rekening | nama_nasabah | alamat_nasabah          |
+-------------+--------------+-------------------------+
|         105 | Suparman     | Jl. Hasanudin 81        |
|         106 | Suparman     | Jl. Hasanudin 81        |
|         104 | Sutopo       | Jl. Jendral Sudirman 12 |
|         105 | Suparman     | Jl. Hasanudin 81        |
+-------------+--------------+-------------------------+
4 rows in set (0.00 sec)
```

5. Tampilkan nomor rekening dengan alias ‘Nomor Rekening’, nama nasabah dengan alias ‘Nama Nasabah’, jumlah transaksi dengan alias ‚Jumlah Transaksi’ dimana jenis transaksinya adalah debit! Urutkan berdasarkan nama nasabah.

```
MariaDB [perbankan]> SELECT nasabah_has_rekening.no_rekening AS 'NOMOR REKENING'
, nasabah.nama_nasabah AS 'NAMA NASABAH', transaksi.jumlah AS 'JUMLAH TRANSAKSI'
 FROM nasabah_has_rekening, transaksi, nasabah WHERE nasabah.id_nasabah = nasaba
h_has_rekening.id_nasabah AND nasabah_has_rekening.id_nasabah = transaksi.id_nas
abah AND transaksi.jenis_transaksi = 'debit' ORDER BY nasabah.nama_nasabah;
+----------------+-------------------+------------------+
| NOMOR REKENING | NAMA NASABAH      | JUMLAH TRANSAKSI |
+----------------+-------------------+------------------+
|            102 | Budi Eko Prayogo  |            20000 |
|            107 | Budi Eko Prayogo  |            20000 |
|            101 | Kartika Padmasari |           100000 |
|            106 | Kartika Padmasari |           100000 |
|            103 | Maryati           |            40000 |
|            103 | Maryati           |           100000 |
|            105 | Suparman          |            50000 |
|            105 | Suparman          |            50000 |
+----------------+-------------------+------------------+
8 rows in set (0.00 sec)
```

MODUL 8

Kegiatan Prakikum

1. Tampilkan tanggal transaksi,jenis transaksi, dan jumlah transaksi untuk semua transaksi yang di lakukan oleh sutopo dan Canka Lokananta dan diurutkan berdasarkan tanggal transaksi dengan kode berikut :

```
MariaDB [(none)]> use perbankan;
Database changed
MariaDB [perbankan]> select transaksi.tanggal, transaksi.jenis_transaksi, trans
ksi.jumlah FROM nasabah, transaksi where nasabah.id_nasabah = transaksi.id_nasa
ahFK AND nasabah.nama_nasabah IN ('Sutopo','Canka Lokananta') ORDER BY transaks
.tanggal;
+---------------------+-----------------+--------+
| tanggal             | jenis_transaksi | jumlah |
+---------------------+-----------------+--------+
| 2009-11-15 00:00:00 | kredit          | 150000 |
| 2009-11-15 00:00:00 | kredit          | 200000 |
| 2009-11-19 00:00:00 | debit           |  50000 |
| 2009-11-22 00:00:00 | kredit          | 100000 |
| 2009-12-01 00:00:00 | debit           |  50000 |
| 2009-12-06 00:00:00 | debit           |  20000 |
+---------------------+-----------------+--------+
6 rows in set (0.00 sec)
```

2. Tampilkan tanggal transaksi , nama nasabah, jenis ransaksi dan jumlah transaksI untuk semua transaksi yang terjadi dari 15 November sampai 20 November dan di urutkan berdasarkan tanggal transaksi dan nama nasabah dengan kode berikut :

```
MariaDB [perbankan]> select transaksi.tanggal, nasabah.nama_nasabah, transaksi.
enis_transaksi, transaksi.jumlah FROM nasabah, transaksi where transaksi.tangga
 BETWEEN '2009-11-15' AND '2009-11-20' AND nasabah.id_nasabah = transaksi.id_na
abahFK ORDER BY transaksi.tanggal, nasabah.nama_nasabah;
+---------------------+-------------------+-----------------+--------+
| tanggal             | nama_nasabah      | jenis_transaksi | jumlah |
+---------------------+-------------------+-----------------+--------+
| 2009-11-15 00:00:00 | Canka Lokananta   | kredit          | 150000 |
| 2009-11-15 00:00:00 | Sutopo            | kredit          | 200000 |
| 2009-11-16 00:00:00 | Budi Eko Prayogo  | debit           |  20000 |
| 2009-11-18 00:00:00 | Suparman          | kredit          |  50000 |
| 2009-11-19 00:00:00 | Kartika Padmasari | debit           | 100000 |
| 2009-11-19 00:00:00 | Maryati           | debit           | 100000 |
| 2009-11-19 00:00:00 | Sutopo            | debit           |  50000 |
| 2009-11-20 00:00:00 | Kartika Padmasari | kredit          | 200000 |
+---------------------+-------------------+-----------------+--------+
8 rows in set (0.00 sec)
```

3. Tampilkan jenis transaksi dan total jumlah transaksi 9dalam rupiah) untuk tiap jenis transaksi dan diurutkan berdasarkan jenis transaksi dengan kode berikut :

```
MariaDB [perbankan]> select transaksi.jenis_transaksi AS "Jenis Transaksi", SUM
jumlah) AS "Jumlah(Rp)" FROM transaksi GROUP BY transaksi.jenis_transaksi ORDER
BY transaksi.jenis_transaksi;
+-----------------+------------+
| Jenis Transaksi | Jumlah(Rp) |
+-----------------+------------+
| debit           |    2080000 |
| kredit          |    2400000 |
+-----------------+------------+
2 rows in set (0.00 sec)
```

4. Tampilkan jenis transaksi , jumlah transaksi yang terbesar serta yang terkecil untuk tiap jenis transaksi dan diurutkan berdasarkan jenis transaksi :

```
MariaDB [perbankan]> select jenis_transaksi AS "Jenis Transaksi", MAX(jumlah) AS
"Transaksi Terbesar", MIN(jumlah) AS "Transaksi Terkecil" FROM transaksi GROUP B
Y transaksi.jenis_transaksi ORDER BY transaksi.jenis_transaksi;
+-----------------+--------------------+--------------------+
| Jenis Transaksi | Transaksi Terbesar | Transaksi Terkecil |
+-----------------+--------------------+--------------------+
| debit           |             200000 |              20000 |
| kredit          |             200000 |              20000 |
+-----------------+--------------------+--------------------+
2 rows in set (0.00 sec)
```

5. Tampilkan jenis transaksi, total jumlah transaksi(dalam rupiah), dan banyaknya transaksi yang tercatat untuk tiap jeis transaksi yang terjadi sebelum bulan Desember 2009 dan diurutkan berdasarkan jenis transaksi

```
MariaDB [perbankan]> select jenis_transaksi AS "Jenis Transaksi", SUM(jumlah) AS
 "Jumlah (Rp)", COUNT(jumlah) AS "Jumlah Transaksi" FROM transaksi where tanggal
 between '2009-11-1' AND '2009-11-30' GROUP BY transaksi.jenis_transaksi ORDER B
Y transaksi.jenis_transaksi;
+-----------------+-------------+------------------+
| Jenis Transaksi | Jumlah (Rp) | Jumlah Transaksi |
+-----------------+-------------+------------------+
| debit           |      670000 |               12 |
| kredit          |     1120000 |               11 |
+-----------------+-------------+------------------+
2 rows in set (0.00 sec)

MariaDB [perbankan]>
```

TUGAS!

1. Tampilkan jenis transaksi, jumlah transaksi dalam Rp dan total transaksi untuk nasabah yang bernama akhiran ‘Kartika Padmasari’ untuk masing – masing jenis transaksi

```
MariaDB [perbankan]> select jenis_transaksi, jumlah as'Rp', count(jumlah) from t
ransaski, nasabah where transaksi.id_nasabahFK = nasabah.id_nasabah and nama_nas
abah = 'Kartika Padmasari' group by jenis_transaksi;
ERROR 1146 (42S02): Table 'perbankan.transaski' doesn't exist
MariaDB [perbankan]> select jenis_transaksi, jumlah as'Rp', count(jumlah) from t
ransaksi, nasabah where transaksi.id_nasabahFK = nasabah.id_nasabah and nama_nas
abah = 'Kartika Padmasari' group by jenis_transaksi;
+-----------------+--------+---------------+
| jenis_transaksi | Rp     | count(jumlah) |
+-----------------+--------+---------------+
| debit           | 100000 |             2 |
| kredit          |  20000 |             3 |
+-----------------+--------+---------------+
2 rows in set (0.00 sec)
```

2. Berapa total saldo yang dimiliki Maryati

```
MariaDB [perbankan]> select sum(saldo) from rekening, nasabah, nasabah_has_reken
ing where nasabah.id_nasabah = nasabah_has_rekening.id_nasabahFK and rekening.no
_rekening = nasabah_has_rekening.no_rekeningFK and nasabah.nama_nasabah ='Maryat
i';
+------------+
| sum(saldo) |
+------------+
|     750000 |
+------------+
1 row in set (0.00 sec)

MariaDB [perbankan]>
```

3. Tampilkan Jumlah transaksi yang ditangani oleh masing masing cabang bank

```
MariaDB [perbankan]> select count(jumlah), nama_cabang from transaksi, cabang_ba
nk, rekening where transaksi.no_rekeningFK = rekening.no_rekening and rekening.k
ode_cabangFK = cabang_bank.kode_cabang group by kode_cabang;
+---------------+-----------------------------+
| count(jumlah) | nama_cabang                 |
+---------------+-----------------------------+
|             2 | Bank Rut Unit Boyolali      |
|             3 | Bank Rut Unit Balikpapan    |
|             2 | Bank Rut Unit Berau         |
|             1 | Bank Rut Unit Kartasura     |
|             3 | Bank Rut Unit Karanganyar   |
|             8 | Bank Rut Unit Magelang      |
|             1 | Bank Rut Unit Pontianak     |
|            18 | Bank Rut Unit Surakarta     |
|             2 | Bank Rut Unit Samarinda     |
|             2 | Bank Rut Unit Sukoharjo     |
|             4 | Bank Rut Unit Tarakan       |
|             1 | Bank Rut Unit Tanjung Selor |
|             3 | Bank Rut Unit Yogyakarta    |
+---------------+-----------------------------+
13 rows in set (0.00 sec)

MariaDB [perbankan]>
```

4. Tampilkan nama nasabah dan jumlah salso yang memiliki saldo antar Rp. 500.000 sampai Rp. 2.000.000

```
MariaDB [perbankan]> select nasabah.nama_nasabah as "nama nasabah" , rekening.sa
ldo as "jumlah saldo" from nasabah , rekening, transaksi where transaksi.no_reke
ningfk=rekening.no_rekening and
    -> transaksi.id_nasabahfk=nasabah.id_nasabah and rekening.saldo between '500
000' and '2000000';
+-------------------+--------------+
| nama nasabah      | jumlah saldo |
+-------------------+--------------+
| Maryati           |       750000 |
| Kartika Padmasari |       500000 |
| Sutopo            |       900000 |
| Canka Lokananta   |       550000 |
| Maryati           |       750000 |
| Sutopo            |       900000 |
| Sutopo            |       900000 |
| Kartika Padmasari |       500000 |
| Maryati           |       750000 |
| Budi Murtono      |       500000 |
| Maryati           |       750000 |
| Sutopo            |       900000 |
| Maryati           |       750000 |
| Kartika Padmasari |       500000 |
| Maryati           |       750000 |
| Canka Lokananta   |       550000 |
| Indri Hapsari     |       750000 |
| Sari Murti        |       500000 |
| Maryati           |       550000 |
| Budi Eko Prayogo  |       550000 |
| Jon Koplo         |       500000 |
| Jon Koplo         |       500000 |
| Budi Eko Prayogo  |       750000 |
+-------------------+--------------+
23 rows in set (0.00 sec)
```

5. Tampilkan nama nasabah, tanggal transaksi dan jumlah transaksi dalam Rp dimana jumlah transaksi di atas Rp 100.000 dan urutkan jumlah transaksi dari yang beasar ke yang kecil!

MODUL 9

1. Buatlah user masing-masing dengan nama anda

```
C:\xampp\mysql\bin>mysql -u root
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 6
Server version: 10.1.37-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)]> use mysql;
Database changed
MariaDB [mysql]> GRANT SELECT on perbankan.cabang_bank to Ati@localhost;
Query OK, 0 rows affected (0.00 sec)

MariaDB [mysql]> exit;
Bye

C:\xampp\mysql\bin>mysql -u Ati -p
Enter password: *****
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 7
Server version: 10.1.37-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.
```

```
C:\xampp\mysql\bin>mysql -u root
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 6
Server version: 10.1.37-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)]> use mysql;
Database changed
MariaDB [mysql]> GRANT SELECT on perbankan.cabang_bank to Ati@localhost;
Query OK, 0 rows affected (0.00 sec)

MariaDB [mysql]> exit;
Bye

C:\xampp\mysql\bin>mysql -u Ati -p
Enter password: *****
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 7
Server version: 10.1.37-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)]> select nama_nasabah FROM nasabah;
ERROR 1046 (3D000): No database selected
MariaDB [(none)]> insert into nasabah(id_nasabah, nama_nasabah, alamat_nasabah)
values(1,'Sutopo','Jl. Jendral Sudirman 12');
ERROR 1046 (3D000): No database selected
MariaDB [(none)]> use perbankan ;
Database changed
MariaDB [perbankan]> select nama_nasabah FROM nasabah;
ERROR 1142 (42000): SELECT command denied to user 'Ati'@'localhost' for table 'n
asabah'
MariaDB [perbankan]> insert into nasabah(id_nasabah, nama_nasabah, alamat_nasaba
h) values(3,'Somat','Jl. Jendral Manggis 02');
ERROR 1062 (23000): Duplicate entry '3' for key 'PRIMARY'
MariaDB [perbankan]> insert into nasabah(id_nasabah, nama_nasabah, alamat_nasaba
h) values(27,'Somat','Jl. Jendral Manggis 02');
Query OK, 1 row affected (0.07 sec)

MariaDB [perbankan]> insert into cabang_bank(kode_cabang, nama_cabang, alamat_ca
bang) values (BRAY,' Bank Unit Sragen', 'Jl. elang emas No 28');
ERROR 1142 (42000): INSERT command denied to user 'Ati'@'localhost' for table 'c
abang_bank'
MariaDB [perbankan]>
```

```
MariaDB [perbankan]> insert into nasabah(id_nasabah, nama_nasabah, alamat_nasaba
h) values(27,'Somat','Jl. Jendral Manggis 02');
Query OK, 1 row affected (0.07 sec)
```

MODUL 10

1. Ambil salah satu mata kuliah. Tampilkan data mahasiswa yang tidak mengambil mata kuliah tersebut.

```
MariaDB [(none)]> use perkuliahan3
Database changed
MariaDB [perkuliahan3]> select mhs.nim,mhs.nama from mahasiswa mhs, link
_mahasiswa_matkul lmm, matkul mk where mhs.nim =lmm.nim and mk.kode_matk
ul = lmm.kode_matkul and mhs.nim not in (select mhs.nim from mahasiswa m
hs, link_mahasiswa_matkul lmm, matkul mk where mhs.nim = lmm.nim.kode_ma
tkul = lmm.kode_matkul and mk.kode_matkul ='TIF003') group by mhs.nim;
ERROR 1054 (42S22): Unknown column 'lmm.nim.kode_matkul' in 'where claus
e'
MariaDB [perkuliahan3]> select mhs.nim,mhs.nama from mahasiswa mhs, link
_mahasiswa_matkul lmm, matkul mk where mhs.nim =lmm.nim and mk.kode_matk
ul = lmm.kode_matkul and mhs.nim not in (select mhs.nim from mahasiswa m
hs, link_mahasiswa_matkul lmm, matkul mk where mhs.nim = lmm.nim and mk.
kode_matkul = lmm.kode_matkul and mk.kode_matkul = 'TIF003') group by mh
s.nim;
+------------+-------------------------+
| nim        | nama                    |
+------------+-------------------------+
| L200150118 | Rina Kurniasari         |
| L200150125 | Indra Bayu Candra Gupta |
+------------+-------------------------+
2 rows in set (0.00 sec)
```

2. Menampilkan daftar mahasiswa yang mengambil semua mata kuliah yang diampu oleh salah satu dosen.

```
MariaDB [perkuliahan3]> select mhs.nim, mhs.nama from mahasiswa mhs, mat
kul mk, link_mahasiswa_matkul lmm where mhs.nim = lmm.nim and mk.kode_ma
tkul = lmm.kode_matkul and mk.kode_matkul in (select kode_matkul from ma
tkul where kode_dosen = 'D004') group by mhs.nim having count(mk.kode_ma
tkul) = (select count(kode_matkul) from matkul where kode_dosen ='D004')
;
+------------+-----------------------------+
| nim        | nama                        |
+------------+-----------------------------+
| L200150088 | Khofa Prayoga               |
| L200150099 | Purwantinah                 |
| L200150117 | Widiyarti Endang Saputri    |
| L200150123 | Danindya Puput Muliana Putri |
| L200150128 | Sulthana Dzakira Drajat     |
| L200150129 | Fendy                       |
| L200150144 | Sam'an Alghozy              |
| L200150146 | Fakhrur Razi                |
| L200154001 | Khilyatin Ulin Fitri        |
+------------+-----------------------------+
9 rows in set (0.00 sec)

MariaDB [perkuliahan3]>
```

3. Melakukan update , karena salah satu matkul(A) dihilanghkan, seluruh mahasiswa yang mengambil mata kuliah tersebut dipindahkan untuk mengambil mata kuliah lain(B).

```
MariaDB [perkuliahan3]> update link_mahasiswa_matkul
    -> set kode_matkul = (select kode_matkul from matkul where nama_matk
ul like 'Metode Penelitian & Publikasi Ilmiah')
    -> where kode_matkul = (select kode_matkul from matkul where nama_ma
tkul like 'Sistem Digital');
Query OK, 12 rows affected (0.09 sec)
Rows matched: 12  Changed: 12  Warnings: 0

MariaDB [perkuliahan3]>
```

MODUL 11

1. Install connectore mysql sesuai versi python

```
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\Users\LABSI-08>cd C:
C:\Users\LABSI-08

C:\Users\LABSI-08>cd C:/

C:\>cd C:\Python34\Scripts

C:\Python34\Scripts>pip install mysql-connector-python
Collecting mysql-connector-python
  Downloading https://files.pythonhosted.org/packages/c5/40/c7ec860ad658870296c1
a40afebce8e148997f6759d44307c7b6faa2b130/mysql_connector_python-8.0.16-py2.py3-n
one-any.whl (341kB)
    100% |################################| 344kB 525kB/s
Collecting protobuf>=3.0.0 (from mysql-connector-python)
  Downloading https://files.pythonhosted.org/packages/8f/5a/077f2811869284d8e15f
cc88818922e19cf205a3529f21210f3a1b47dc74/protobuf-3.8.0-py2.py3-none-any.whl (42
7kB)
    100% |################################| 430kB 553kB/s
Requirement already satisfied (use --upgrade to upgrade): setuptools in c:\pytho
n34\lib\site-packages (from protobuf>=3.0.0->mysql-connector-python)
Collecting six>=1.9 (from protobuf>=3.0.0->mysql-connector-python)
  Downloading https://files.pythonhosted.org/packages/73/fb/00a976f728d0d1fecfe8
98238ce23f502a721c0ac0ecfedb80e0d88c64e9/six-1.12.0-py2.py3-none-any.whl
Installing collected packages: six, protobuf, mysql-connector-python
Successfully installed mysql-connector-python-8.0.16 protobuf-3.8.0 six-1.12.0
You are using pip version 7.1.2, however version 19.1.1 is available.
You should consider upgrading via the 'python -m pip install --upgrade pip' comm
and.
```

2. Cek import mysql.connector

```
Python 3.4.4 Shell
File  Edit  Shell  Debug  Options  Window  Help
Python 3.4.4 (v3.4.4:737efcadf5a6, Dec 20 2015, 20:20:57) [MSC v.1600 64 bit (AM
D64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>> import mysql.connector
>>> |
```

3. Tulis code pada shell python

modul10.py - C:/Users/LABSI-08/Pictures/modul10.py (3.4.4)

File Edit Format Run Options Window Help

```
from datetime import date, datetime, timedelta
import mysql.connector

cnx = mysql.connector.connect(user='root',database='perbankan')
cursor = cnx.cursor()
tanggal = datetime.now().date()
update_transaksi = ("update transaksi\
                    set jumlah ='20000'\
                    where no_transaksi = 35")
cursor.execute(update_transaksi)

cnx.commit()
cursor.close()
cnx.close()


##from datetime import date, datetime, timedelta
##import mysql.connector
##
##cnx = mysql.connector.connect(user='root',database='perbankan')
##cursor = cnx.cursor()
##tanggal = datetime.now().date()
##delete_transaksi = ('delete from transaksi\
##                    where no_transaksi = 52')
##cursor.execute(delete_transaksi)
##
##cnx.commit()
##cursor.close()
##cnx.close()
```

4. Masuk ke cmd

```
C:\Python34\Scripts>cd C:/xampp/mysql/bin

C:\xampp\mysql\bin>mysql -u root
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 32
Server version: 10.1.37-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)]> use perbankan
Database changed
MariaDB [perbankan]> select * from transaksi;
+--------------+--------------+---------------+-----------------+--------------
------+---------+
| no_transaksi | id_nasabahFK | no_rekeningFK | jenis_transaksi | tanggal
      | jumlah  |
+--------------+--------------+---------------+-----------------+--------------
------+---------+
|           32 |            3 |           105 | debit           | 2009-11-10 00:
00:00 |   50000 |
|           33 |            2 |           103 | debit           | 2009-11-10 00:
00:00 |   40000 |
|           34 |            4 |           101 | kredit          | 2009-11-12 00:
00:00 |   20000 |
|           35 |            3 |           106 | debit           | 2009-11-13 00:
00:00 |   50000 |
|           36 |            5 |           107 | kredit          | 2009-11-13 00:
00:00 |   30000 |
|           37 |            1 |           104 | kredit          | 2009-11-15 00:
00:00 |  200000 |
|           38 |            9 |           110 | kredit          | 2009-11-15 00:
00:00 |  150000 |
|           39 |            5 |           102 | debit           | 2009-11-16 00:
00:00 |   20000 |
|           40 |            3 |           105 | kredit          | 2009-11-18 00:
00:00 |   50000 |
|           41 |            4 |           107 | debit           | 2009-11-19 00:
00:00 |  100000 |
|           42 |            2 |           103 | debit           | 2009-11-19 00:
00:00 |  100000 |
|           43 |            1 |           104 | debit           | 2009-11-19 00:
00:00 |   50000 |
|           44 |            4 |           107 | kredit          | 2009-11-20 00:
00:00 |  200000 |
|           45 |            3 |           105 | debit           | 2009-11-21 00:
00:00 |   40000 |
|           46 |            1 |           104 | kredit          | 2009-11-22 00:
00:00 |  100000 |
|           47 |            4 |           101 | kredit          | 2009-11-22 00:
00:00 |   20000 |
```

TUGAS

1.

Insert transaksi

modul10.py - G:\titip ati ya pritttt\modul10.py (2.7.14)

File Edit Format Run Options Window Help

```
from datetime import date, datetime, timedelta
import mysql.connector

##cnx = mysql.connector.connect(user='root',database='perbankan')
##cursor = cnx.cursor()
##tanggal = datetime.now().date()
##update_transaksi = ("update transaksi\
##                    set jumlah ='20000'\
##                    where no_transaksi = 35")
##cursor.execute(update_transaksi)
##
##cnx.commit()
##cursor.close()
##cnx.close()



##from datetime import date, datetime, timedelta
##import mysql.connector

con = mysql.connector.connect(user='root',database='perbankan')
cursor = con.cursor()
tanggal = datetime.now().date()
tambah_transaksi = ('INSERT INTO transaksi VALUES (%s, %s, %s, %s, %s, %s)')


data_transaksi = ('','26','150','kredit',tanggal, '70000')
cursor.execute(tambah_transaksi, data_transaksi)

con.commit()
cursor.close()
con.close()
```

Python 2.7.14 Shell

File Edit Shell Debug Options Window Help

```
Python 2.7.14 (v2.7.14:84471935ed, Sep 16 2017
, 20:19:30) [MSC v.1500 32 bit (Intel)] on win
32
Type "copyright", "credits" or "license()" for
more information.
>>>
================ RESTART: G:\titip ati ya prit
ttt\modul10.py ================
>>>
```

Update nasabah

File Edit Format Run Options Window Help

```
from datetime import date, datetime, timedelta
import mysql.connector

cnx = mysql.connector.connect(user='root',database='perbankan')
cursor = cnx.cursor()
tanggal = datetime.now().date()
update_transaksi = ("update nasabah\
                    set nama_nasabah ='anggi'\
                    where id_nasabah = 2")
cursor.execute(update_transaksi)

cnx.commit()
cursor.close()
cnx.close()


##from datetime import date, datetime, timedelta
##import mysql.connector
##
##cnx = mysql.connector.connect(user='root',database='perbankan')
##cursor = cnx.cursor()
##tanggal = datetime.now().date()
##delete_transaksi = ('delete from transaksi\
##                    where no_transaksi = 52')
##cursor.execute(delete_transaksi)
##
##cnx.commit()
##cursor.close()
##cnx.close()
```

Hasil

+ Options

				id_nasabah	nama_nasabah	alamat_nasabah
Edit	Copy	Delete		1	Sutopo	Jl. Jendral Sudirman 12
Edit	Copy	Delete		2	anggi	Jl. MT. Haryono 31
Edit	Copy	Delete		3	Suparman	Jl. Hasanudin 81
Edit	Copy	Delete		4	Kartika Padmasari	Jl. Manggis 15
Edit	Copy	Delete		5	Budi Eko Prayogo	Jl. Kantil 30
Edit	Copy	Delete		6	Satria Eka Jaya	Jl. Slamet Riyadi 45
Edit	Copy	Delete		7	Indri Hapsari	Jl. Sutoyo 5
Edit	Copy	Delete		8	Sari Murti	Jl. Pangandaran 11
Edit	Copy	Delete		9	Canka Lokananta	Jl. Tidar 86
Edit	Copy	Delete		10	Budi Murtono	Jl. Merak 22
Edit	Copy	Delete		11	Joko Ndo Kondo	Jl. Bareng jadian kagak
Edit	Copy	Delete		12	Jon Koplo	Jl. Angin Besar 12
				13	Anggit	Solo

=perbankan&table=nasabah_has_rek...

Update transaksi

modul10.py - G:\titip ati ya pritttt\modul10.py (2.7.14)

File Edit Format Run Options Window Help

```
from datetime import date, datetime, timedelta
import mysql.connector

cnx = mysql.connector.connect(user='root',database='perbankan')
cursor = cnx.cursor()
tanggal = datetime.now().date()
update_transaksi = ("update transaksi\
                    set jumlah ='20000'\
                    where no_transaksi = 35")
cursor.execute(update_transaksi)

cnx.commit()
cursor.close()
cnx.close()



##from datetime import date, datetime, timedelta
##import mysql.connector

##con = mysql.connector.connect(user='root',database='perbankan')
##cursor = con.cursor()
##tanggal = datetime.now().date()
##tambah_transaksi = ('INSERT INTO transaksi VALUES (%s, %s, %s, %s, %s, %s)
##
##
##data_transaksi = ('','26','150','kredit',tanggal, '70000')
##cursor.execute(tambah_transaksi, data_transaksi)
##
##con.commit()
##cursor.close()
##con.close()
```

Hasil

sebelum

Options

	no_transaksi	id_nasabahFK	no_rekeningFK	jenis_transaksi	tanggal	jumlah
Edit Copy Delete	32	3	105	debit	2009-11-10 00:00:00	50000
Edit Copy Delete	33	2	103	debit	2009-11-10 00:00:00	40000
Edit Copy Delete	34	4	101	kredit	2009-11-12 00:00:00	20000
Edit Copy Delete	35	3	106	debit	2009-11-13 00:00:00	50000
Edit Copy Delete	36	5	107	kredit	2009-11-13 00:00:00	30000
Edit Copy Delete	37	1	104	kredit	2009-11-15 00:00:00	200000
Edit Copy Delete	38	9	110	kredit	2009-11-15 00:00:00	150000
Edit Copy Delete	39	5	102	debit	2009-11-16 00:00:00	20000
Edit Copy Delete	40	3	105	kredit	2009-11-18 00:00:00	50000
Edit Copy Delete	41	4	107	debit	2009-11-19 00:00:00	100000
Edit Copy Delete	42	2	103	debit	2009-11-19 00:00:00	100000
Edit Copy Delete	43	1	104	debit	2009-11-19 00:00:00	50000
Edit Copy Delete	44	4	107	kredit	2009-11-20 00:00:00	200000
Edit Copy Delete	45	3	105	debit	2009-11-21 00:00:00	40000
Edit Copy Delete	46	1	104	kredit	2009-11-22 00:00:00	100000
Edit Copy Delete	47	4	101	kredit	2009-11-22 00:00:00	20000

Console

Setelah

Browse | Structure | SQL | Search | Insert | Export | Import | Privileges | Operations | Tra

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

Options

	no_transaksi	id_nasabahFK	no_rekeningFK	jenis_transaksi	tanggal	jumlah
Edit Copy Delete	32	3	105	debit	2009-11-10 00:00:00	50000
Edit Copy Delete	33	2	103	debit	2009-11-10 00:00:00	40000
Edit Copy Delete	34	4	101	kredit	2009-11-12 00:00:00	20000
Edit Copy Delete	35	3	106	debit	2009-11-13 00:00:00	20000
Edit Copy Delete	36	5	107	kredit	2009-11-13 00:00:00	30000
Edit Copy Delete	37	1	104	kredit	2009-11-15 00:00:00	200000
Edit Copy Delete	38	9	110	kredit	2009-11-15 00:00:00	150000
Edit Copy Delete	39	5	102	debit	2009-11-16 00:00:00	20000
Edit Copy Delete	40	3	105	kredit	2009-11-18 00:00:00	50000
Edit Copy Delete	41	4	107	debit	2009-11-19 00:00:00	100000
Edit Copy Delete	42	2	103	debit	2009-11-19 00:00:00	100000
Edit Copy Delete	43	1	104	debit	2009-11-19 00:00:00	50000
Edit Copy Delete	44	4	107	kredit	2009-11-20 00:00:00	200000
Edit Copy Delete	45	3	105	debit	2009-11-21 00:00:00	40000

delete transaksi

modul10.py - C:/Users/LABSI-08/Pictures/modul10.py (3.4.4)

File Edit Format Run Options Window Help

```
from datetime import date, datetime, timedelta
import mysql.connector

##cnx = mysql.connector.connect(user='root',database='perbankan')
##cursor = cnx.cursor()
##tanggal = datetime.now().date()
##update_transaksi = ("update transaksi\
##                    set jumlah ='20000'\
##                    where no_transaksi = 35")
##cursor.execute(update_transaksi)
##
##cnx.commit()
##cursor.close()
##cnx.close()


from datetime import date, datetime, timedelta
import mysql.connector

cnx = mysql.connector.connect(user='root',database='perbankan')
cursor = cnx.cursor()
tanggal = datetime.now().date()
delete_transaksi = ('delete from transaksi\
                    where no_transaksi = 32')
cursor.execute(delete_transaksi)

cnx.commit()
cursor.close()
cnx.close()
```

Hasil

			no_transaksi	id_nasabahFK	no_rekeningFK	jenis_transaksi	ta
Edit	Copy	Delete	33	2	103	debit	20
Edit	Copy	Delete	34	4	101	kredit	20
Edit	Copy	Delete	35	3	106	debit	20
Edit	Copy	Delete	36	5	107	kredit	20
Edit	Copy	Delete	37	1	104	kredit	20
Edit	Copy	Delete	38	9	110	kredit	20
Edit	Copy	Delete	39	5	102	debit	20
Edit	Copy	Delete	40	3	105	kredit	20
Edit	Copy	Delete	41	4	107	debit	20
Edit	Copy	Delete	42	2	103	debit	20
Edit	Copy	Delete	43	1	104	debit	20
Edit	Copy	Delete	44	4	107	kredit	20
Edit	Copy	Delete	45	3	105	debit	20
Edit	Copy	Delete	46	1	104	kredit	20
Edit	Copy	Delete	47	4	101	kredit	20
Edit	Copy	Delete	48	2	103	debit	20

Console

2. Buatlah kode program python untuk mendapat

a. Data Nasabah

nasabah1.py - G:/titip ati ya pritttt/nasabah1.py (2.7.14)

File Edit Format Run Options Window Help

```
from datetime import date, datetime, timedelta
import mysql.connector

con = mysql.connector.connect(user='root', database='perbankan')
cursor =con.cursor()

query = ("select * FROM nasabah")
cursor.execute(query)
for ( id_nasabah, nama_nasabah, alamat_nasabah) in cursor:
    print("ID nasabah :{} , Nama: {} ,alamat:{}".format(
        id_nasabah,nama_nasabah,alamat_nasabah))

cursor.close()
con.close()
```

Python 2.7.14 Shell

File Edit Shell Debug Options Window Help

```
Python 2.7.14 (v2.7.14:84471935ed, Sep 16 2017, 20:19:30) [MSC v.1500 32 bit (In
tel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
================ RESTART: G:/titip ati ya pritttt/nasabah1.py ================
ID nasabah :1 , Nama: Sutopo ,alamat: Jl.Jendral Sudirman 12
ID nasabah :2 , Nama: Maryati ,alamat:Jl. MT. Haryono 31
ID nasabah :3 , Nama: Suparman ,alamat:Jl. Hasannudin 81
ID nasabah :4 , Nama: Kartika Padmasari ,alamat:Jl. Manggis 15
ID nasabah :5 , Nama: Budi Eko Prayogo ,alamat:Jl. Kantil 30
ID nasabah :6 , Nama: Satria Eka Jaya ,alamat:Jl. Slamet Riyadi 45
ID nasabah :8 , Nama: Sari Murti ,alamat:Jl. Pangandaran 11
ID nasabah :9 , Nama: Canka Lokananta ,alamat:Jl. Tidar 86
ID nasabah :10 , Nama: Budi Martono ,alamat:Jl. Merak 22
>>>
```

b. Data nasabah yang melakukan transaksi antara bulan oktober sampai desember

File Edit Format Run Options Window Help

```python
from datetime import date, datetime, timedelta
import mysql.connector

cnx = mysql.connector.connect(user='root', database='perbankan')
cursor =cnx.cursor()

query = ("select nasabah.id_nasabah, nasabah.nama_nasabah, transaksi.tanggal FROM nasabah,transaksi ")
cursor.execute(query)
for( id_nasabah, nama_nasabah, tanggal) in cursor:
    print("ID nasabah:{} , nama: {}, tanggal:{}".format(
        id_nasabah, nama_nasabah, tanggal))
cursor.close()
cnx.close()
```

```
===== RESTART: D:\semester4\praktikum basis data\sbd modul11\nasabah2.py =====
ID nasabah :3 ,Nama: Suparman ,tanggal:2009-11-10 00:00:00
ID nasabah :2 ,Nama: Maryati ,tanggal:2009-11-10 00:00:00
ID nasabah :4 ,Nama: Kartika Padmasari ,tanggal:2009-11-12 00:00:00
ID nasabah :3 ,Nama: Suparman ,tanggal:2009-11-13 00:00:00
ID nasabah :5 ,Nama: Budi Eko Prayogo ,tanggal:2009-11-13 00:00:00
ID nasabah :1 ,Nama: Sutopo ,tanggal:2009-11-15 00:00:00
ID nasabah :9 ,Nama: Canka Lokananta ,tanggal:2009-11-15 00:00:00
ID nasabah :5 ,Nama: Budi Eko Prayogo ,tanggal:2009-11-16 00:00:00
ID nasabah :3 ,Nama: Suparman ,tanggal:2009-11-18 00:00:00
ID nasabah :4 ,Nama: Kartika Padmasari ,tanggal:2009-11-19 00:00:00
ID nasabah :2 ,Nama: Maryati ,tanggal:2009-11-19 00:00:00
ID nasabah :1 ,Nama: Sutopo ,tanggal:2009-11-19 00:00:00
ID nasabah :4 ,Nama: Kartika Padmasari ,tanggal:2009-11-20 00:00:00
ID nasabah :3 ,Nama: Suparman ,tanggal:2009-11-21 00:00:00
ID nasabah :1 ,Nama: Sutopo ,tanggal:2009-11-22 00:00:00
ID nasabah :4 ,Nama: Kartika Padmasari ,tanggal:2009-11-22 00:00:00
ID nasabah :2 ,Nama: Maryati ,tanggal:2009-11-22 00:00:00
ID nasabah :5 ,Nama: Budi Eko Prayogo ,tanggal:2009-11-25 00:00:00
ID nasabah :10 ,Nama: Budi Murtono ,tanggal:2009-11-26 00:00:00
ID nasabah :3 ,Nama: Suparman ,tanggal:2009-11-27 00:00:00
ID nasabah :2 ,Nama: Maryati ,tanggal:2009-11-28 00:00:00
ID nasabah :3 ,Nama: Suparman ,tanggal:2009-11-28 00:00:00
ID nasabah :5 ,Nama: Budi Eko Prayogo ,tanggal:2009-11-30 00:00:00
ID nasabah :1 ,Nama: Sutopo ,tanggal:2009-12-01 00:00:00
ID nasabah :2 ,Nama: Maryati ,tanggal:2009-12-02 00:00:00
ID nasabah :4 ,Nama: Kartika Padmasari ,tanggal:2009-12-04 00:00:00
ID nasabah :2 ,Nama: Maryati ,tanggal:2009-12-05 00:00:00
ID nasabah :5 ,Nama: Budi Eko Prayogo ,tanggal:2009-12-05 00:00:00
ID nasabah :7 ,Nama: Indri Hapsari ,tanggal:2009-12-05 00:00:00
```