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KELAS : D

REKAP MODUL PRAKTIKUM SISTEM BASIS DATA

MODUL 1

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 berkurang.
- 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 informasi yang disajikan tidak basi. Informasi dapat dikatakan bernilai bila manfaatnya lebih efektif dibandingkan dengan biaya mendapatkannya.
- 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 administrasinya.

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 menggunakan 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 field TANGGAL_LAHIR diatur tipe date/time yang berarti pada record dapat diisikan data berupa angka dan simbol.

MODUL 2

KEGIATAN PRAKTIKUM

1. Buatlah rancangan sebuah database untuk menangani data-data kuliah. Data-data yang akan ditanganinya adalah: data pribadi mengenai mahasiswa, data pribadi mengenai dosen, data mata kuliah dan data ruang kelas. Mahasiswa boleh mengambil lebih dari satu mata kuliah, dan satu mata kuliah boleh diambil oleh lebih dari satu mahasiswa sekaligus (joint account). Buatlah ER Diagram manual untuk kasus tersebut dari tahap 1 sampai tahap 4!

Jawab :

Langkah-langkah perancangan database :

1. Menentukan entities

- A. mahasiswa : menyimpan semua data pribadi semua mahasiswa
- B. dosen : menyimpan semua data pribadi semua dosen
- C. mata_kuliah : menyimpan informasi mengenai mata kuliah
- D. ruang_kelas : menyimpan informasi mengenai ruang kelas

2. Menentukan attributes

- A. mahasiswa

- nim : nomor induk yang dimiliki setiap mahasiswa (varchar(25)) PK
- nama_mahasiswa : nama lengkap mahasiswa (varchar(255))
- alamat_mahasiswa : alamat lengkap mahasiswa (varchar(25))

- B. dosen

- Nip : nomor induk pegawai yang dimiliki dosen (integer) PK
- nama_dosen : nama lengkap dosen (varchar(255))
- alamat_dosen : alamat lengkap dosen (varchar(20))

- C. mata_kuliah

- kode_mk : kode mata kuliah (varchar(10)) PK
- nama_mk : nama mata kuliah (varchar(255))

- D. ruang_kelas

- kode_ruang : kode setiap ruang kelas (varchar(255)) PK
- nama_ruang : nama lengkap ruang kelas (varchar(25))
- kapasitas_ruang : kapasitas setiap ruang kelas (integer)

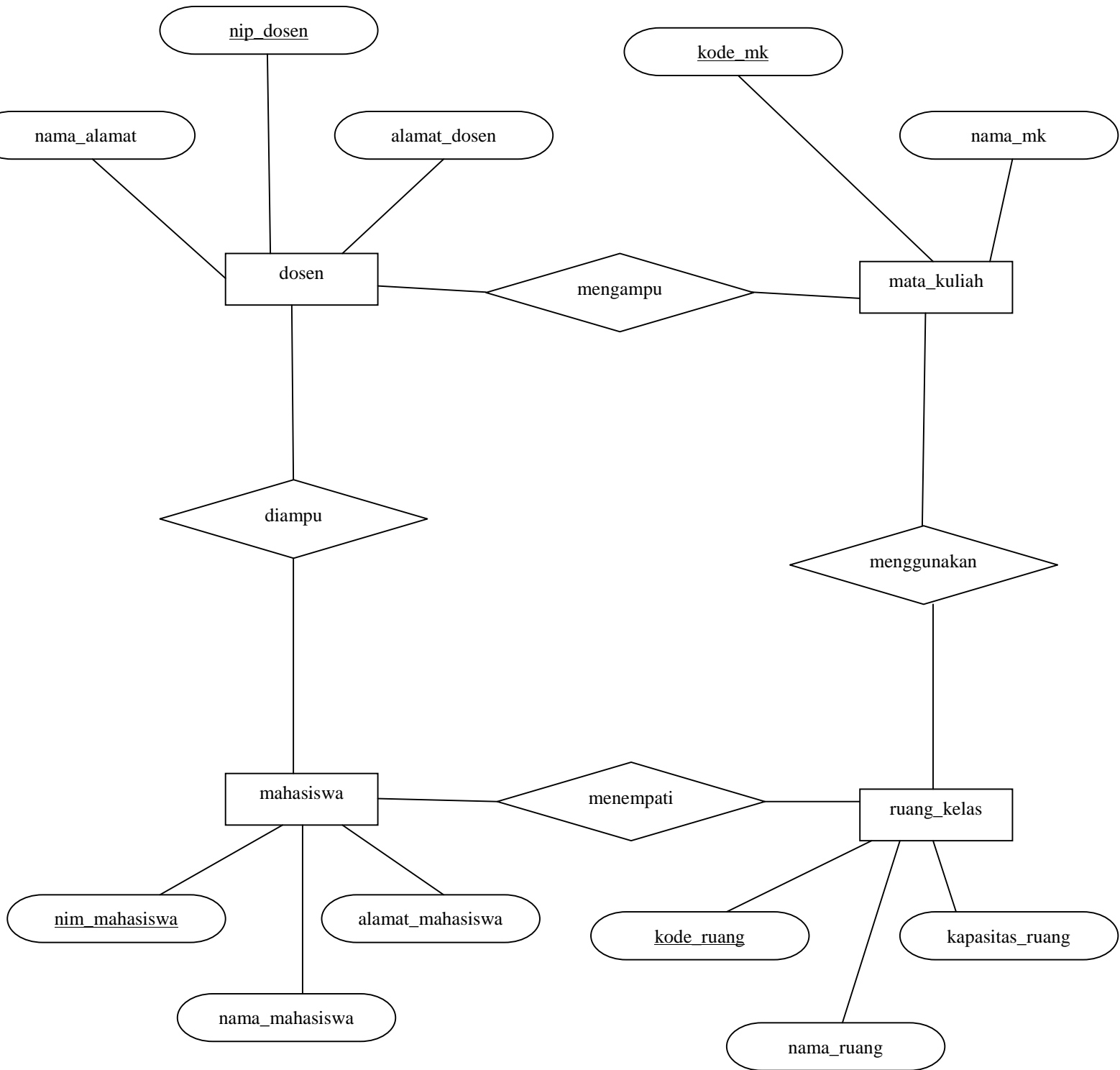
3. Menentukan relationship (hubungan) antar entitas

	Mahasiswa	Dosen	Mata_kuliah	Ruang_kelas
Mahasiswa	-	m:n	-	m:n
Dosen		-	m:n	-
Mata_kuliah			-	m:n
Ruang_kelas				-

Hubungan

- mahasiswa diampu dosen:
 - Tabel utama: Mahasiswa, Dosen
 - Tabel kedua: mahasiswa_has_dosen
 - Relationship: Many-to-many (m:n)
 - Attribute penghubung: nim_mahasiswa, nip_dosen
- dosen mengampu mata_kuliah:
 - Tabel utama: Dosen, Mata_kuliah
 - Tabel kedua: dosen_mk
 - Relationship: Many-to-many (m:n)
 - Attribute penghubung: nip_dosen, kode_mk
- mata_kuliah menggunakan ruang_kelas:
 - Tabel utama: Mata_kuliah, Ruang_kelas
 - Tabel kedua: mk_has_ruang
 - Relationship: Many-to-many (m:n)
 - Attribute penghubung: kode_mk, kode_ruang
- ruang_kelas ditempati mahasiswa:
 - Tabel utama: Ruang_kelas, Mahasiswa
 - Tabel kedua: ruang_has_mahasiswa
 - Relationship: Many-to-many (m:n)
 - Attribute penghubung: nim_mahasiswa, kode_ruang

4. Menggambar ER-Diagram



2. Ambil contoh sembarang database (harus berbeda untuk setiap mahasiswa).
Buatlah rancangan ER Diagram manual database tersebut dari tahap 1 sampai 4,
dengan ketentuan database minimal mengandung 4 buah entitas.

Jawab :

Langkah-langkah perancangan database :

1. Menentukan entities

- A. penumpang : menyimpan semua data pribadi penumpang
- B. kasir : menyimpan semua data pribadi kasir
- C. kereta_api : menyimpan informasi mengenai kereta api
- D. tiket_kereta : menyimpan informasi mengenai tiket kereta

2. Menentukan attributes

A. penumpang

- id_penumpang : nomor id penumpang (integer) PK
- nama_penumpang : nama lengkap penumpang (varchar(255))
- alamat_penumpang : alamat lengkap mahasiswa (varchar(25))

B. kasir

- id_kasir : nomor id kasir (integer) PK
- nama_kasir : nama lengkap kasir (varchar(255))
- alamat_kasir : alamat lengkap kasir (varchar(20))

C. kereta_api

- kode_kereta : kode kereta api (integer) PK
- nama_kereta : nama kereta api (varchar(255))

D. tiket_kereta

- kode_tiket : kode tiket kereta api (varchar(255)) PK
- jumlah_tiket : jumlah tiket kereta api (varchar(25))
- nomor_duduk : kapasitas setiap ruang kelas (integer)

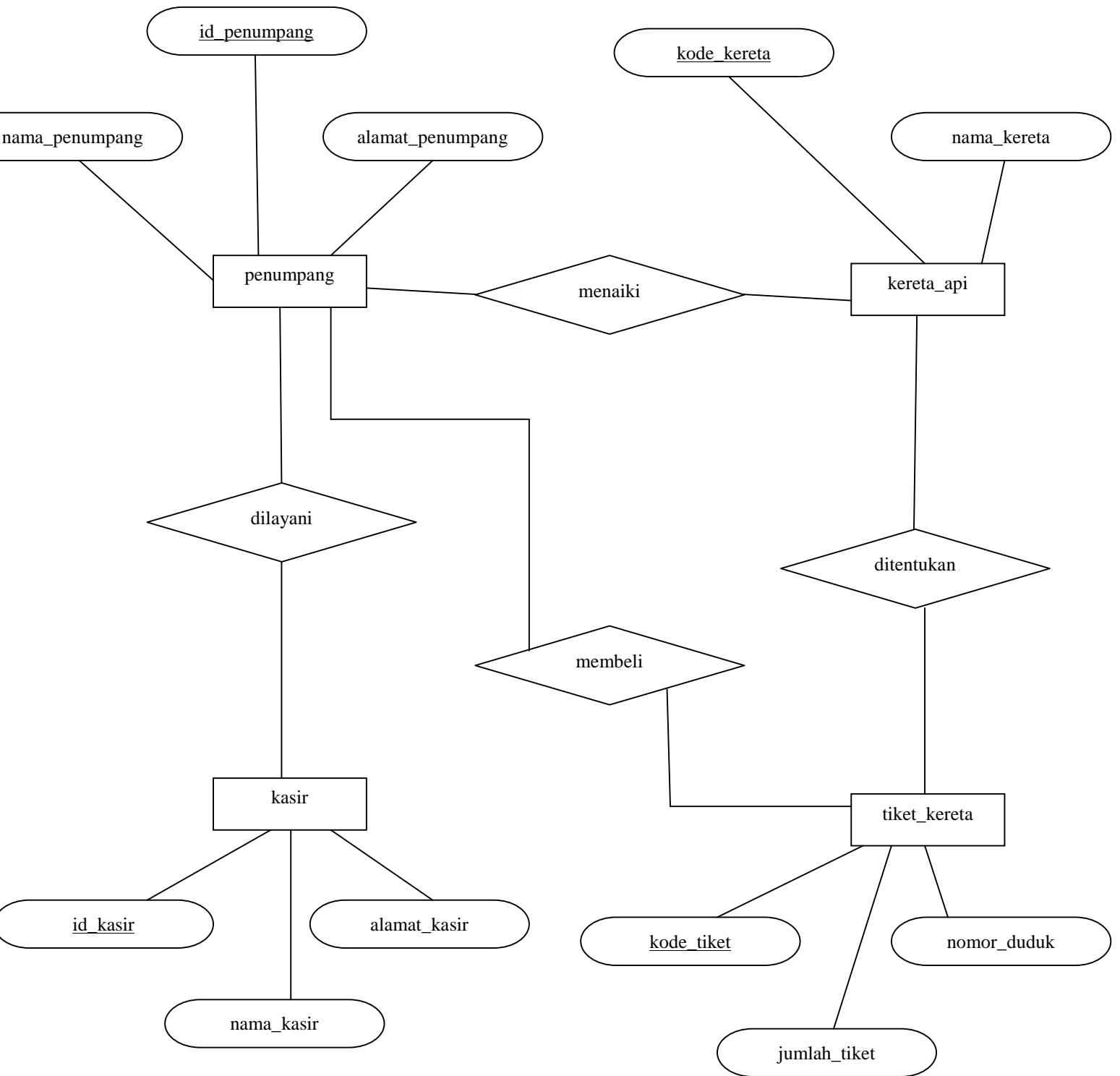
3. Menentukan relationship (hubungan) antar entitas

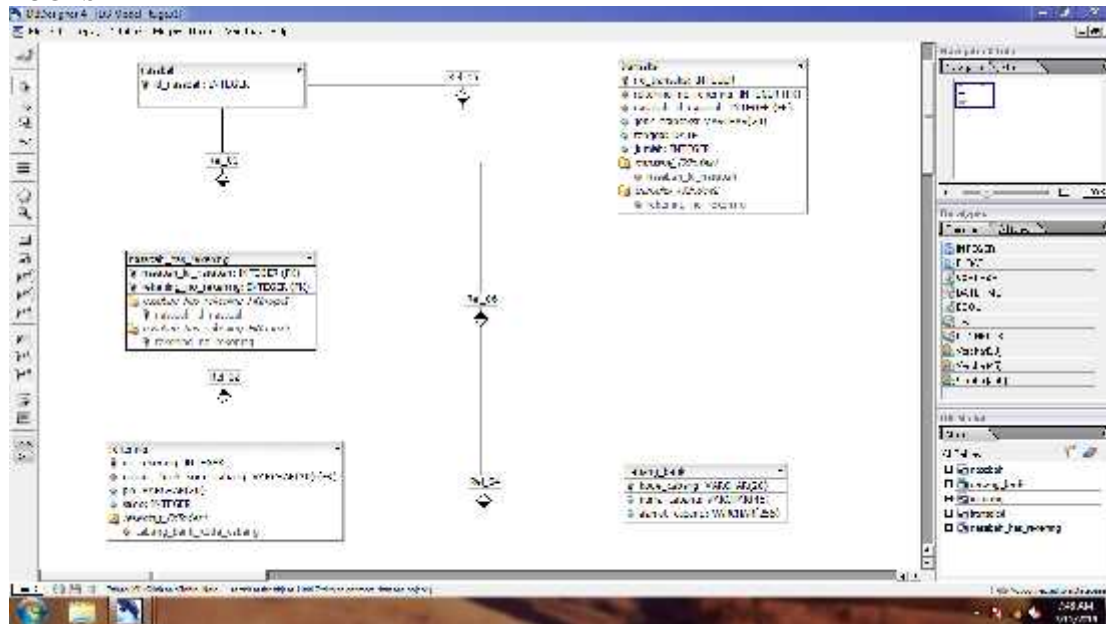
	penumpang	kasir	kereta_api	tiket_kereta
penumpang	-	m:n	m:n	m:n
kasir		-	-	-
kereta_api			-	m:n
tiket_kereta				-

Hubungan

- kasir melayani penumpang:
 - Tabel utama: kasir, penumpang
 - Tabel kedua: kasir_has_penumpang
 - Relationship: Many-to-many(m:n)
 - Attribute penghubung: id_penumpang, id_kasir
- penumpang menaiki kereta_api:
 - Tabel utama: penumpang, kereta_api
 - Tabel kedua: penumpang_has_kereta
 - Relationship: Many-to-many(m:n)
 - Attribute penghubung: id_penumpang, kode_kereta
- tiket_kereta dibeli penumpang:
 - Tabel utama: tiket_kereta, penumpang
 - Tabel kedua: penumpang_has_tiket
 - Relationship: Many-to-many(m:n)
 - Attribute penghubung: kode_tiket,
- kereta_api ditentukan tiket_kereta :
 - Tabel utama: kereta_api, tiket_kereta
 - Tabel kedua: kereta_has_tiket
 - Relationship: Many-to-many(m:n)
 - Attribute penghubung: kode_kereta, kode_tiket

4. Menggambar ER-Diagram





The screenshot shows a UML Use Case Diagram for a 'Library' system. The diagram is composed of several use case boxes, each containing a title and a list of requirements or actions. These use cases are interconnected by lines representing relationships.

Use Cases and their Requirements:

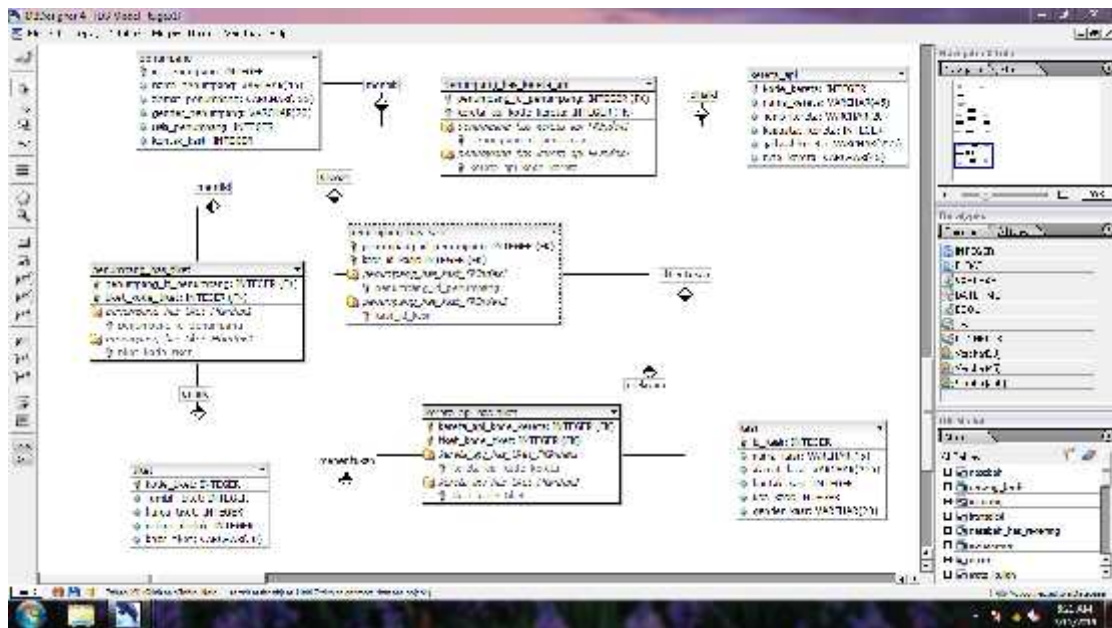
- Use Case 1: Borrowing a book**
 - 1. The user must be a member of the library.
 - 2. The user must have a valid ID card.
 - 3. The user must have a valid library card.
 - 4. The user must have a valid library card.
 - 5. The user must have a valid library card.
 - 6. The user must have a valid library card.
 - 7. The user must have a valid library card.
- Use Case 2: Returning a book**
 - 1. The user must be a member of the library.
 - 2. The user must have a valid ID card.
 - 3. The user must have a valid library card.
 - 4. The user must have a valid library card.
 - 5. The user must have a valid library card.
 - 6. The user must have a valid library card.
 - 7. The user must have a valid library card.
- Use Case 3: Searching for a book**
 - 1. The user must be a member of the library.
 - 2. The user must have a valid ID card.
 - 3. The user must have a valid library card.
 - 4. The user must have a valid library card.
 - 5. The user must have a valid library card.
 - 6. The user must have a valid library card.
 - 7. The user must have a valid library card.
- Use Case 4: Borrowing a book (continued)**
 - 1. The user must be a member of the library.
 - 2. The user must have a valid ID card.
 - 3. The user must have a valid library card.
 - 4. The user must have a valid library card.
 - 5. The user must have a valid library card.
 - 6. The user must have a valid library card.
 - 7. The user must have a valid library card.
- Use Case 5: Returning a book (continued)**
 - 1. The user must be a member of the library.
 - 2. The user must have a valid ID card.
 - 3. The user must have a valid library card.
 - 4. The user must have a valid library card.
 - 5. The user must have a valid library card.
 - 6. The user must have a valid library card.
 - 7. The user must have a valid library card.
- Use Case 6: Searching for a book (continued)**
 - 1. The user must be a member of the library.
 - 2. The user must have a valid ID card.
 - 3. The user must have a valid library card.
 - 4. The user must have a valid library card.
 - 5. The user must have a valid library card.
 - 6. The user must have a valid library card.
 - 7. The user must have a valid library card.

Relationships:

- Use Case 1 is connected to Use Case 2.
- Use Case 2 is connected to Use Case 3.
- Use Case 3 is connected to Use Case 4.
- Use Case 4 is connected to Use Case 5.
- Use Case 5 is connected to Use Case 6.

Actors and their associated Use Cases:

- Actor 1:** Connected to Use Case 1, 2, 3, 4, 5, and 6.
- Actor 2:** Connected to Use Case 1, 2, 3, 4, 5, and 6.
- Actor 3:** Connected to Use Case 1, 2, 3, 4, 5, and 6.
- Actor 4:** Connected to Use Case 1, 2, 3, 4, 5, and 6.
- Actor 5:** Connected to Use Case 1, 2, 3, 4, 5, and 6.
- Actor 6:** Connected to Use Case 1, 2, 3, 4, 5, and 6.
- Actor 7:** Connected to Use Case 1, 2, 3, 4, 5, and 6.
- Actor 8:** Connected to Use Case 1, 2, 3, 4, 5, and 6.
- Actor 9:** Connected to Use Case 1, 2, 3, 4, 5, and 6.
- Actor 10:** Connected to Use Case 1, 2, 3, 4, 5, and 6.
- Actor 11:** Connected to Use Case 1, 2, 3, 4, 5, and 6.
- Actor 12:** Connected to Use Case 1, 2, 3, 4, 5, and 6.
- Actor 13:** Connected to Use Case 1, 2, 3, 4, 5, and 6.
- Actor 14:** Connected to Use Case 1, 2, 3, 4, 5, and 6.
- Actor 15:** Connected to Use Case 1, 2, 3, 4, 5, and 6.
- Actor 16:** Connected to Use Case 1, 2, 3, 4, 5, and 6.
- Actor 17:** Connected to Use Case 1, 2, 3, 4, 5, and 6.
- Actor 18:** Connected to Use Case 1, 2, 3, 4, 5, and 6.
- Actor 19:** Connected to Use Case 1, 2, 3, 4, 5, and 6.
- Actor 20:** Connected to Use Case 1, 2, 3, 4, 5, and 6.

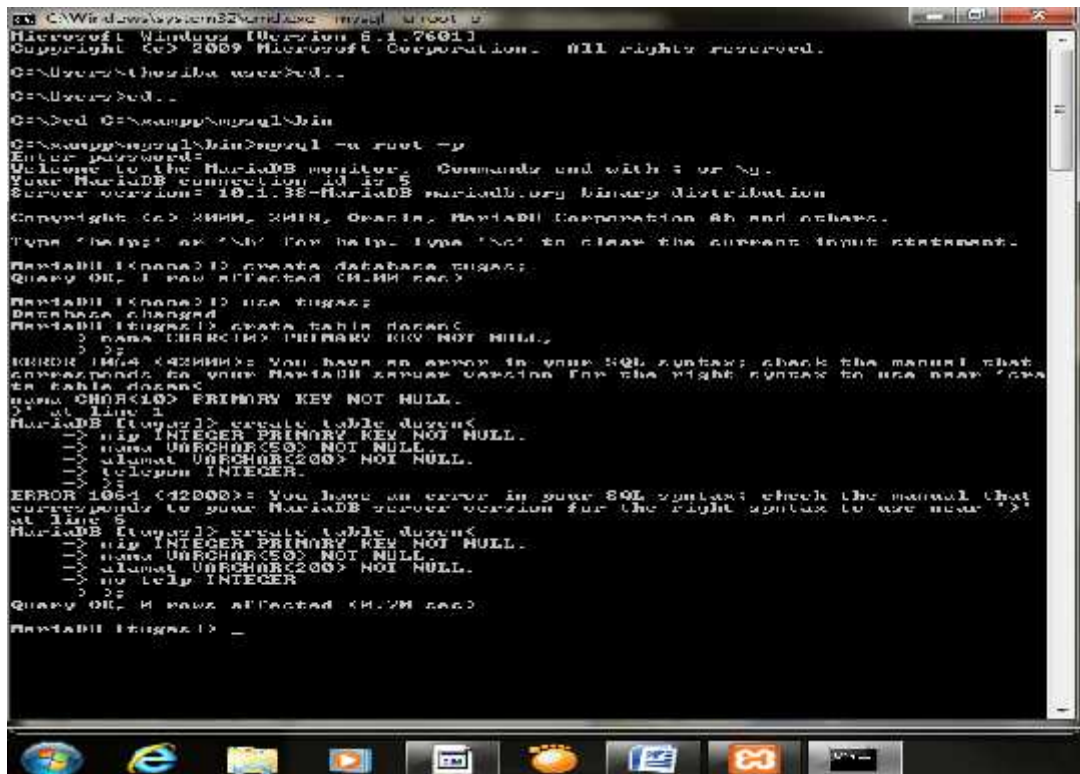


MODUL 4

KEGIATAN PRAKTIKUM

Tugas 1

Membuat database rancangan perkuliahan antara dosen dan mahasiswa menggunakan MySql dan Apache menggunakan command prompt.



```
C:\Windows\system32\cmd.exe: mysql >root >
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\therisa>mkdir ..
C:\Users\therisa>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, 2018, Oracle, MariaDB Corporation Ab and others.
Type 'help;' or '\h;' for help. Type '\q;' to quit the current input statement.

MariaDB [root]> create database tugas;
Query OK, 1 row affected (0.11M sec)

MariaDB [root]> use tugas;
Database changed
MariaDB [tugas]> create table dosen
> data character(20) primary key not null,
>
>
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that
corresponds to your MariaDB server version for the right syntax to use near 'crea
te table dosen
data character(20) primary key not null.
' at line 1
MariaDB [tugas]> create table dosen(
> id integer primary key not null,
> nama character(50) not null,
> alamat character(200) not null,
> telepon integer,
>
>
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that
corresponds to your MariaDB server version for the right syntax to use near ');'
at line 6
MariaDB [tugas]> create table dosen(
> id integer primary key not null,
> nama character(50) not null,
> alamat character(200) not null,
> id tele integer
>
>
Query OK, 0 rows affected (0.12M sec)
MariaDB [tugas]> _
```

```
corresponds to your MySQL server version for the right syntax to use near '?'
at line 6
MariaDB [lugan13]: create table duzen1(
  id1 INTEGER PRIMARY KEY NOT NULL,
  name VARCHAR(45) NOT NULL,
  alias VARCHAR(255) NOT NULL,
  no1 INTEGER
)
Query OK, 0 rows affected (0.17M sec)

MariaDB [lugan13]: create table ruangRelax1(
  id1 INTEGER PRIMARY KEY NOT NULL,
  name VARCHAR(45) NOT NULL
)
Query OK, 0 rows affected (0.46 sec)

MariaDB [lugan13]: create table mahasiswa1(
  id1 INTEGER PRIMARY KEY NOT NULL,
  name VARCHAR(45) NOT NULL,
  no1 INTEGER
)
Query OK, 0 rows affected (0.11 sec)

MariaDB [lugan13]: create table mahasiswa1(
  mahasiswa1_id1 INTEGER REFERENCES mahasiswa1(
  ON DELETE SET NULL ON UPDATE CASCADE,
  mahasiswa1_id1
)
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that
corresponds to your MySQL server version for the right syntax to use near '?'
at line 5
MariaDB [lugan13]: create table mahasiswa1(
  id1 INTEGER PRIMARY KEY NOT NULL,
  name VARCHAR(45) NOT NULL,
  no1 INTEGER
)
Query OK, 0 rows affected (0.25 sec)

MariaDB [lugan13]: create table mahasiswa_has_mahasiswa1(
  mahasiswa1_id1 INTEGER REFERENCES mahasiswa1(
  ON DELETE SET NULL ON UPDATE CASCADE,
  mahasiswa1_id1
)
Query OK, 0 rows affected (0.26 sec)

MariaDB [lugan13]: create table mahasiswa1_has_ruangRelax1(
  mahasiswa1_id1 INTEGER REFERENCES mahasiswa1(
  ON DELETE SET NULL ON UPDATE CASCADE,
  mahasiswa1_id1
)
Query OK, 0 rows affected (0.25 sec)

MariaDB [lugan13]: create table mahasiswa1_has_ruangRelax1(
  mahasiswa1_id1 INTEGER REFERENCES mahasiswa1(
  ON DELETE SET NULL ON UPDATE CASCADE,
  mahasiswa1_id1
)
Query OK, 0 rows affected (0.25 sec)

MariaDB [lugan13]: show tables;
+-----+
| Tables in lugan13 |
+-----+
| duzen1             |
| mahasiswa1         |
| mahasiswa1_has_mahasiswa1 |
| mahasiswa1_has_ruangRelax1 |
| mahasiswa1_has_ruangRelax1 |
+-----+
6 rows in set (0.12 sec)

MariaDB [lugan13]:
```

```
corresponds to your MySQL server version for the right syntax to use near '?'
at line 5
MariaDB [lugan13]: create table mahasiswa1(
  id1 INTEGER PRIMARY KEY NOT NULL,
  name VARCHAR(45) NOT NULL,
  no1 INTEGER
)
Query OK, 0 rows affected (0.21 sec)

MariaDB [lugan13]: create table mahasiswa1(
  id1 INTEGER PRIMARY KEY NOT NULL,
  name VARCHAR(45) NOT NULL,
  no1 INTEGER
)
Query OK, 0 rows affected (0.21 sec)

MariaDB [lugan13]: create table mahasiswa1(
  id1 INTEGER PRIMARY KEY NOT NULL,
  name VARCHAR(45) NOT NULL,
  no1 INTEGER
)
Query OK, 0 rows affected (0.21 sec)

MariaDB [lugan13]: create table mahasiswa1(
  id1 INTEGER PRIMARY KEY NOT NULL,
  name VARCHAR(45) NOT NULL,
  no1 INTEGER
)
Query OK, 0 rows affected (0.21 sec)

MariaDB [lugan13]: create table mahasiswa1(
  id1 INTEGER PRIMARY KEY NOT NULL,
  name VARCHAR(45) NOT NULL,
  no1 INTEGER
)
Query OK, 0 rows affected (0.21 sec)

MariaDB [lugan13]: show tables;
+-----+
| Tables in lugan13 |
+-----+
| duzen1             |
| mahasiswa1         |
| mahasiswa1_has_mahasiswa1 |
| mahasiswa1_has_ruangRelax1 |
| mahasiswa1_has_ruangRelax1 |
+-----+
6 rows in set (0.12 sec)

MariaDB [lugan13]:
```


Tugas 2

Membuat database rancangan stasiun menggunakan MySql dan Apache menggunakan command prompt.

```

C:\Windows\system32\cmd.exe  mysql u-root p

C:\mysql>mysql>show databases;
+-----+
| Database |
+-----+
| information |
| mysql |
| test |
+-----+

Welcome to the MySQL monitor. Commands end with \n or \g.
Your MySQL connection id is 2
Server version: 10.1.18-MariaDB mariadb.org binary distribution

Copyright (c) 2000, 2014, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\q' to quit the current input statement.

MariaDB [mysql]> create database stasiun;
Query OK, 1 row affected (0.00 sec)

MariaDB [mysql]> use stasiun;
Database changed
MariaDB [stasiun]> create table penumpang
  -> id penumpang INTEGER PRIMARY KEY NOT NULL,
  -> nama_penumpang VARCHAR(50) NOT NULL,
  -> alamat_penumpang VARCHAR(200) NOT NULL,
  -> telepon INTEGER
  -> ;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that
corresponds to your MariaDB server version for the right syntax to use near 'INT
EGER
;
at line 5
MariaDB [stasiun]> create table penumpang
  -> id penumpang INTEGER PRIMARY KEY NOT NULL,
  -> nama_penumpang VARCHAR(50) NOT NULL,
  -> alamat_penumpang VARCHAR(200) NOT NULL,
  -> telepon INTEGER
  -> ;
Query OK, 4 rows affected (0.01 sec)

MariaDB [stasiun]> describe penumpang;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that
corresponds to your MariaDB server version for the right syntax to use near 'des
cribe penumpang' at line 1
MariaDB [stasiun]> describe penumpang;
+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+
| id_penumpang | int(11) | NO | PRI | NULL | |
| nama_penumpang | varchar(50) | NO | | NULL | |
| alamat_penumpang | varchar(200) | NO | | NULL | |
| telepon | int(11) | YES | | NULL | |
+-----+
4 rows in set (0.09 sec)

MariaDB [stasiun]>

```

```

C:\Windows\system32\cmd.exe  mysql u-root p

  -> id penumpang INTEGER PRIMARY KEY NOT NULL,
  -> nama_penumpang VARCHAR(50) NOT NULL,
  -> alamat_penumpang VARCHAR(200) NOT NULL,
  -> telepon INTEGER
  -> ;
Query OK, 4 rows affected (0.01 sec)

MariaDB [stasiun]> describe penumpang;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that
corresponds to your MariaDB server version for the right syntax to use near 'des
cribe penumpang' at line 1
MariaDB [stasiun]> describe penumpang;
+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+
| id_penumpang | int(11) | NO | PRI | NULL | |
| nama_penumpang | varchar(50) | NO | | NULL | |
| alamat_penumpang | varchar(200) | NO | | NULL | |
| telepon | int(11) | YES | | NULL | |
+-----+
4 rows in set (0.09 sec)

MariaDB [stasiun]> create table karcis
  -> id karcis INTEGER PRIMARY KEY NOT NULL,
  -> nama_karcis VARCHAR(50) NOT NULL,
  -> alamat_karcis VARCHAR(200) NOT NULL,
  -> ;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that
corresponds to your MariaDB server version for the right syntax to use near '
;
at line 5
MariaDB [stasiun]> create table karcis
  -> id karcis INTEGER PRIMARY KEY NOT NULL,
  -> nama_karcis VARCHAR(50) NOT NULL,
  -> alamat_karcis VARCHAR(200) NOT NULL,
  -> ;
Query OK, 4 rows affected (0.02 sec)

MariaDB [stasiun]> describe karcis
  -> ;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that
corresponds to your MariaDB server version for the right syntax to use near 'des
cribe karcis' at line 1
MariaDB [stasiun]> describe karcis;
+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+
| id_karcis | int(11) | NO | PRI | NULL | |
| nama_karcis | varchar(50) | NO | | NULL | |
| alamat_karcis | varchar(200) | YES | | NULL | |
+-----+
4 rows in set (0.08 sec)

MariaDB [stasiun]>

```

```

C:\Windows\system32\cmd.exe mysql -u root -p
MariaDB [test]> describe kaset;
+-----+
ERROR 1064 (420000): You have an error in your SQL syntax; check the manual that
corresponds to your MariaDB server version for the right syntax to use near '?
' at line 1
MariaDB [test]> describe kaset;
+-----+
ERROR 1064 (420000): You have an error in your SQL syntax; check the manual that
corresponds to your MariaDB server version for the right syntax to use near '?
' at line 1
MariaDB [test]> create table kasetapik
+-----+
ERROR 1064 (420000): You have an error in your SQL syntax; check the manual that
corresponds to your MariaDB server version for the right syntax to use near '?
' at line 1
Query OK, 0 rows affected (0.25 sec)
MariaDB [test]> describe kasetapik;
+-----+
ERROR 1064 (420000): You have an error in your SQL syntax; check the manual that
corresponds to your MariaDB server version for the right syntax to use near '?
' at line 1
Query OK, 0 rows affected (0.32 sec)
MariaDB [test]> describe tiketkasetapik;
+-----+
ERROR 1064 (420000): You have an error in your SQL syntax; check the manual that
corresponds to your MariaDB server version for the right syntax to use near '?
' at line 1
Query OK, 0 rows affected (0.39 sec)
MariaDB [test]> describe tiketkasetapik;
+-----+
ERROR 1064 (420000): You have an error in your SQL syntax; check the manual that
corresponds to your MariaDB server version for the right syntax to use near '?
' at line 1
Query OK, 0 rows affected (0.46 sec)
MariaDB [test]>

```

```

C:\Windows\system32\cmd.exe mysql -u root -p
MariaDB [test]> create table penumpang_has_kaset
+-----+
ERROR 1064 (420000): You have an error in your SQL syntax; check the manual that
corresponds to your MariaDB server version for the right syntax to use near '?
' at line 1
MariaDB [test]> create table penumpang_has_kaset
+-----+
ERROR 1064 (420000): You have an error in your SQL syntax; check the manual that
corresponds to your MariaDB server version for the right syntax to use near '?
' at line 1
Query OK, 0 rows affected (0.27 sec)
MariaDB [test]> create table penumpang_has_kaset
+-----+
ERROR 1064 (420000): You have an error in your SQL syntax; check the manual that
corresponds to your MariaDB server version for the right syntax to use near '?
' at line 1
Query OK, 0 rows affected (0.41 sec)
MariaDB [test]> create table penumpang_has_kaset
+-----+
ERROR 1064 (420000): You have an error in your SQL syntax; check the manual that
corresponds to your MariaDB server version for the right syntax to use near '?
' at line 1
Query OK, 0 rows affected (0.55 sec)
MariaDB [test]> show tables;
+-----+
ERROR 1064 (420000): You have an error in your SQL syntax; check the manual that
corresponds to your MariaDB server version for the right syntax to use near '?
' at line 1
Query OK, 0 rows affected (0.69 sec)

```


MODUL 5

KEGIATAN PRAKTIKUM

```
C:\Windows\system32\cmd.exe - mysql -u root -p
MariaDB [perbankan1] > show tables;
+-----+
| Tables_in_perbankan1 |
+-----+
| cabang_bank          |
| nasabah              |
| nasabah_has_rekening |
| rekening             |
| transaksi            |
+-----+
5 rows in set (0.04 sec)

MariaDB [perbankan1] > describe nasabah;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id_nasabah     | int(11)       | NO   | PRI | NULL    |       |
| nama_nasabah   | varchar(100)  | NO   |     | NULL    |       |
| alamat_nasabah | varchar(255)  | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.01 sec)

MariaDB [perbankan1] > insert into nasabah(id_nasabah,nama_nasabah,alamat_nasabah)
value(001, 'Arifia', 'Jalan Kenari 02'),(002, 'Alifia', 'Jalan Bunga 03'),(003,
'Alikia', 'Jalan Edelwics 04'),(004, 'Azza', 'Jalan Mawar 05'),(005, 'Ezza', '
Jalan Markisa 06');
Query OK, 5 rows affected (0.10 sec)
Records: 5  Duplicates: 0  Warnings: 0

MariaDB [perbankan1] > select * from nasabah;
+-----+-----+-----+
| id_nasabah | nama_nasabah | alamat_nasabah |
+-----+-----+-----+
| 1          | Arifia       | Jalan Kenari 02 |
| 2          | Alifia       | Jalan Bunga 03  |
| 3          | Alikia       | Jalan Edelwics 04 |
| 4          | Azza         | Jalan Mawar 05  |
| 5          | Ezza         | Jalan Markisa 06 |
+-----+-----+-----+
5 rows in set (0.06 sec)

MariaDB [perbankan1] >
```

C:\Windows\system32\cmd.exe - mysql -u root -p

corresponds to your MariaDB server version for the right syntax to use near 'clr
' at line 1

MariaDB [perbankan1] > describe cabang_bank;

Field	Type	Null	Key	Default	Extra
kode_cabang	varchar(20)	NO	PRI	NULL	
nama_cabang	varchar(45)	NO	UNI	NULL	
alamat_cabang	varchar(255)	NO		NULL	

3 rows in set (0.01 sec)

MariaDB [perbankan1] > insert into cabang_bank(kode_cabang,nama_cabang,alamat_cabang) value('BIS', 'Bank Indah Solo', 'Jalan Beo 1'), ('BIY', 'Bank Indah Yogyakarta', 'Jalan Kenari 2'), ('BIW', 'Bank Indah Wonogiri', 'Jalan Merpati 3');

Query OK, 3 rows affected (0.34 sec)

Records: 3 Duplicates: 0 Warnings: 0

MariaDB [perbankan1] > insert into cabang_bank(kode_cabang,nama_cabang,alamat_cabang) value('BIK', 'Bank Indah Klaten', 'Jalan Beo 4'), ('BIM', 'Bank Indah Magelang', 'Jalan Kenari 5');

Query OK, 2 rows affected (0.12 sec)

Records: 2 Duplicates: 0 Warnings: 0

MariaDB [perbankan1] > select * from cabang_bank;

kode_cabang	nama_cabang	alamat_cabang
DIK	Bank Indah Klaten	Jalan Beo 4
BIM	Bank Indah Magelang	Jalan Kenari 5
BIS	Bank Indah Solo	Jalan Beo 1
BIW	Bank Indah Wonogiri	Jalan Merpati 3
BIY	Bank Indah Yogyakarta	Jalan Kenari 2

5 rows in set (0.00 sec)

MariaDB [perbankan1] >

C:\Windows\system32\cmd.exe - mysql -u root -p

MariaDB [perbankan1] > describe rekening;

Field	Type	Null	Key	Default	Extra
no_rekening	int(11)	NO	PRI	NULL	
kode_cabangFK	varchar(20)	YES		NULL	
pin	varchar(20)	NO		1234	
saldo	int(11)	NO		0	

4 rows in set (0.01 sec)

MariaDB [perbankan1] > insert into rekening(no_rekening,kode_cabangFK,pin,saldo)
values(121, 'BIK', '2222', 780000),(122, 'DIM', '3333', 720000),(123, 'DIW', '444
4', 770000),(124, 'BIS', '5555', 760000),(125, 'BIY', '6666', 750000);

Query OK, 5 rows affected (0.10 sec)

Records: 5 Duplicates: 0 Warnings: 0

MariaDB [perbankan1] > select * from rekening;

no_rekening	kode_cabangFK	pin	saldo
121	BIK	2222	780000
122	DIM	3333	720000
123	DIW	4444	770000
124	BIS	5555	760000
125	BIY	6666	750000

5 rows in set (0.00 sec)

MariaDB [perbankan1] >

```
C:\Windows\system32\cmd.exe - mysql -u root -p

+-----+
| no_transaksi | bigint(20) unsigned | NO | PRI | NULL | auto_
increment |
| id_nasabahFK | int(11) | YES | | NULL |
| no_rekeningFK | int(11) | YES | | NULL |
| jenis_transaksi | varchar(20) | NO | | debit |
| tanggal | datetime | NO | | CURRENT_TIMESTAMP |
| jumlah | int(11) | NO | | NULL |
+-----+
6 rows in set (0.01 sec)

MariaDB [perbankan1] > insert into transaksi(no_transaksi,id_nasabahFK,no_rekeningFK,jenis_transaksi,tanggal,jumlah) value(111, 1, 121, 'debit', 2019-04-01, 78000);
Query OK, 1 row affected, 1 warning (0.13 sec)

MariaDB [perbankan1] > insert into transaksi(no_transaksi,id_nasabahFK,no_rekeningFK,jenis_transaksi,tanggal,jumlah) value(222, 2, 121, 'debit', 2019-04-02, 77000);
(333, 3, 122, 'kredit', 2019-04-03, 76000);
Query OK, 2 rows affected, 2 warnings (0.10 sec)
Records: 2 Duplicates: 0 Warnings: 2

MariaDB [perbankan1] > insert into transaksi(no_transaksi,id_nasabahFK,no_rekeningFK,jenis_transaksi,tanggal,jumlah) value(444, 4, 123, 'kredit', 2019-04-04, 75000);
(555, 4, 124, 'debit', 2019-04-03, 73000);
Query OK, 2 rows affected, 2 warnings (0.04 sec)
Records: 2 Duplicates: 0 Warnings: 2

MariaDB [perbankan1] > select * from transaksi;
+-----+
| no_transaksi | id_nasabahFK | no_rekeningFK | jenis_transaksi | tanggal |
+-----+
| no_transaksi | jumlah |
+-----+
| 111 | 1 | 121 | debit | 2019-04-01 00:00:00 |
| 222 | 2 | 121 | debit | 2019-04-02 00:00:00 |
| 333 | 3 | 122 | kredit | 2019-04-03 00:00:00 |
| 444 | 4 | 123 | kredit | 2019-04-04 00:00:00 |
| 555 | 4 | 124 | debit | 2019-04-03 00:00:00 |
| 73000 |
+-----+
5 rows in set (0.02 sec)

MariaDB [perbankan1] >
```



```

C:\Windows\system32\cmd.exe - mysql -u root -p
Query OK, 2 rows affected, 2 warnings (0.10 sec)
Records: 2 Duplicates: 0 Warnings: 2

MariaDB [perbankan1] > insert into transaksi(no_transaksi,id_nasabahFK,no_rekeningFK,jenis_transaksi,tanggal,jumlah) value(444, 4, 123, 'kredit', 2019-04-04, 75000), (555, 4, 124, 'debit', 2019-04-03, 73000);
Query OK, 2 rows affected, 2 warnings (0.04 sec)
Records: 2 Duplicates: 0 Warnings: 2

MariaDB [perbankan1] > select * from transaksi;
+-----+-----+-----+-----+-----+
| no_transaksi | id_nasabahFK | no_rekeningFK | jenis_transaksi | tanggal |
| jumlah      |
+-----+-----+-----+-----+-----+
| 111         | 1            | 121           | debit           | 0000-00-00 00:00:00 |
| 222         | 2            | 121           | debit           | 0000-00-00 00:00:00 |
| 333         | 3            | 122           | kredit          | 0000-00-00 00:00:00 |
| 444         | 4            | 123           | kredit          | 0000-00-00 00:00:00 |
| 555         | 4            | 124           | debit           | 0000-00-00 00:00:00 |
+-----+-----+-----+-----+-----+
5 rows in set (0.02 sec)

MariaDB [perbankan1] > describe nasabah_has_rekening;
+-----+-----+-----+-----+-----+-----+
| Field          | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id_nasabahFK   | int(11)   | NO   | PRI | NULL    |       |
| no_rekeningFK  | int(11)   | NO   | PRI | NULL    |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.01 sec)

MariaDB [perbankan1] > insert into nasabah_has_rekening(id_nasabahFK,no_rekeningFK) value(1, 121), (2, 122), (2, 123), (3, 124), (4, 125);
Query OK, 5 rows affected (0.09 sec)
Records: 5 Duplicates: 0 Warnings: 0

MariaDB [perbankan1] > select * from nasabah_has_rekening;
+-----+-----+
| id_nasabahFK | no_rekeningFK |
+-----+-----+
| 1            | 121           |
| 2            | 122           |
| 2            | 123           |
| 3            | 124           |
| 4            | 125           |
+-----+-----+
5 rows in set (0.00 sec)

MariaDB [perbankan1] >

```

C:\Windows\system32\cmd.exe - mysql -u root -p

MariaDB [perbankan1] > select * from nasabah_has_rekening;

id_nasabahFK	no_rekeningFK
1	121
2	122
2	123
3	124
4	125

5 rows in set (0.00 sec)

MariaDB [perbankan1] > describe nasabah;

Field	Type	Null	Key	Default	Extra
id_nasabah	int(11)	NO	PR	NULL	
nama_nasabah	varchar(100)	NO		NULL	
alamat_nasabah	varchar(255)	NO		NULL	

3 rows in set (0.01 sec)

MariaDB [perbankan1] > select * from nasabah;

id_nasabah	nama_nasabah	alamat_nasabah
1	Arifia	Jalan Kenari 02
2	Alifia	Jalan Bunga 03
3	Alikia	Jalan Edelweis 04
4	Azza	Jalan Mawar 05
5	Ezza	Jalan Markisa 06

5 rows in set (0.00 sec)

MariaDB [perbankan1] > update nasabah set nama_nasabah='Zahra' where id_nasabah=1;

Query OK, 1 row affected (0.16 sec)

Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [perbankan1] > update nasabah set nama_nasabah='Ulyy' where id_nasabah=2;

Query OK, 1 row affected (0.04 sec)

Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [perbankan1] > select * from nasabah;

id_nasabah	nama_nasabah	alamat_nasabah
1	Zahra	Jalan Kenari 02
2	Ulyy	Jalan Bunga 03
3	Alikia	Jalan Edelweis 04
4	Azza	Jalan Mawar 05
5	Ezza	Jalan Markisa 06

5 rows in set (0.00 sec)

MariaDB [perbankan1] >

```

C:\Windows\system32\cmd.exe - mysql -u root -p
MariaDB [perbankan1] > update nasabah set nama_nasabah='Ulyy' where id_nasabah=2;
Query OK, 1 row affected (0.04 sec)
Rows matched: 1  Changed: 1  Warnings: 0

MariaDB [perbankan1] > select * from nasabah;
+----+-----+-----+
| id_nasabah | nama_nasabah | alamat_nasabah |
+----+-----+-----+
| 1          | Zahra        | Jalan Kenari 02 |
| 2          | Ulyy         | Jalan Bunga 03  |
| 3          | Alikia       | Jalan Edelweis 04 |
| 4          | Azza        | Jalan Mawar 05  |
| 5          | Ezza        | Jalan Markisa 06 |
+----+-----+-----+
5 rows in set (0.00 sec)

MariaDB [perbankan1] > desc rekening;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| no_rekening    | int(11)       | NO   | PRI | NULL    |       |
| kode_cabangFK  | varchar(20)   | YES  |     | NULL    |       |
| pin            | varchar(20)   | NO   |     | 1234    |       |
| saldo          | int(11)       | NO   |     | 0       |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.01 sec)

MariaDB [perbankan1] > select * from rekening;
+-----+-----+-----+-----+
| no_rekening | kode_cabangFK | pin  | saldo |
+-----+-----+-----+-----+
| 121         | BIK           | 2222 | 780000 |
| 122         | BIM           | 3333 | 790000 |
| 123         | BIW           | 4444 | 770000 |
| 124         | BIS           | 5555 | 760000 |
| 125         | BIY           | 6666 | 750000 |
+-----+-----+-----+-----+
5 rows in set (0.00 sec)

MariaDB [perbankan1] > delete from rekening where no_rekening=121;
Query OK, 1 row affected (0.06 sec)

MariaDB [perbankan1] > delete from rekening where no_rekening=122;
Query OK, 1 row affected (0.23 sec)

MariaDB [perbankan1] > select * from rekening;
+-----+-----+-----+-----+
| no_rekening | kode_cabangFK | pin  | saldo |
+-----+-----+-----+-----+
| 123         | BIW           | 4444 | 770000 |
| 124         | BIS           | 5555 | 760000 |
| 125         | BIY           | 6666 | 750000 |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)

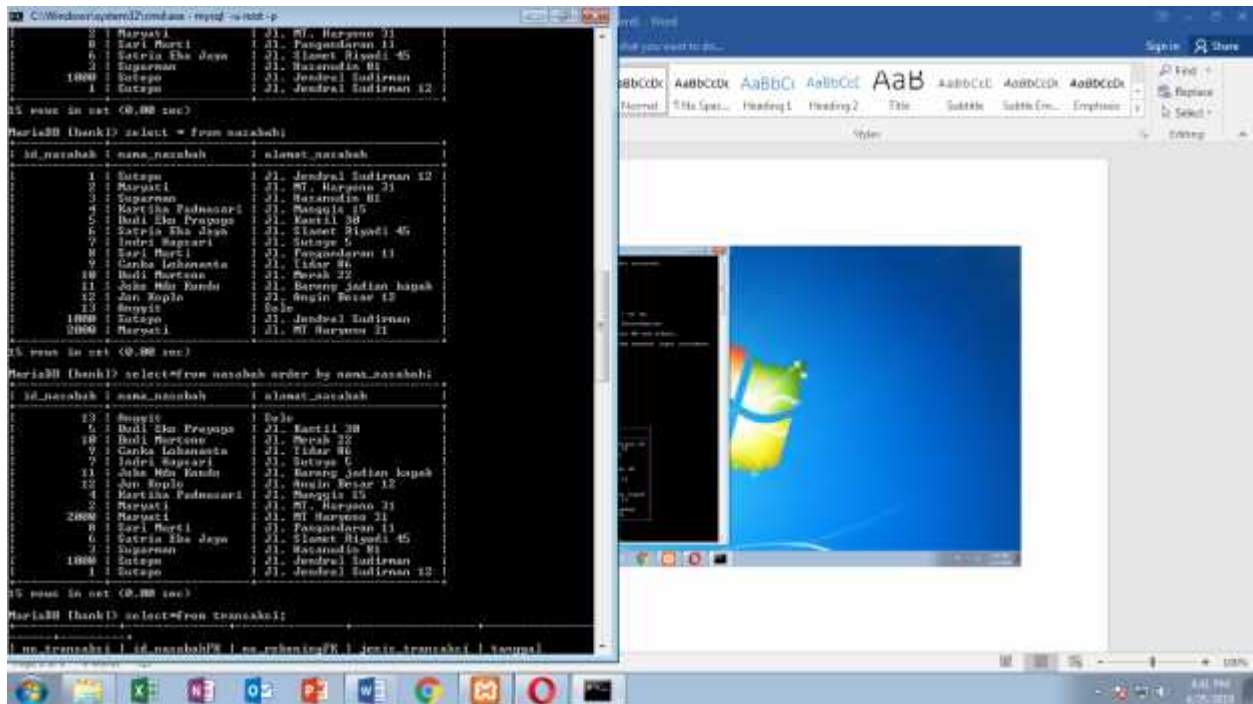
MariaDB [perbankan1] >

```

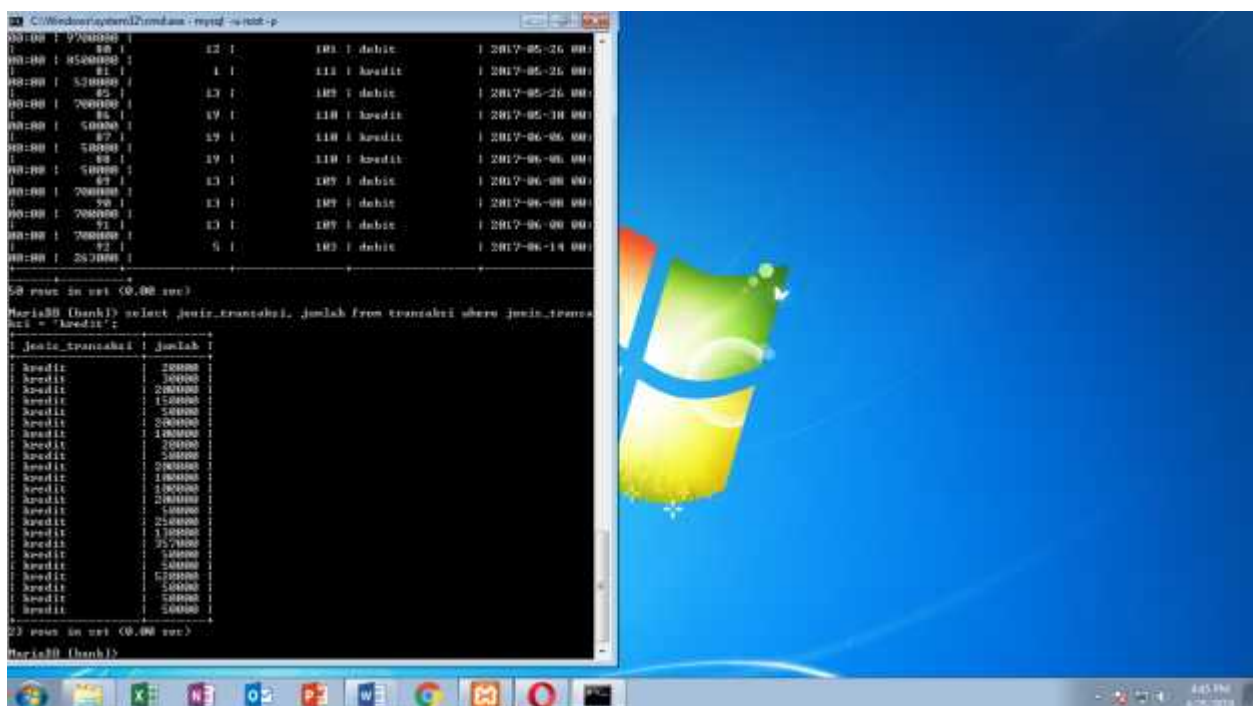
MODUL 6

Tugas Praktikum

1.



2.



3.

MySQL Command Prompt Window Output:

```

C:\Windows\system32\cmd.exe: mysql -u root -p
00:00 | 100000 | 9 | 110 | debit | 2017-05-24 00:00:00
00:00 | 200000 | 19 | 110 | kredit | 2017-05-24 00:00:00
00:00 | 500000 | 10 | 111 | kredit | 2017-05-24 00:00:00
00:00 | 2500000 | 6 | 106 | debit | 2017-05-24 00:00:00
00:00 | 1500000 | 9 | 102 | kredit | 2017-05-24 00:00:00
00:00 | 1000000 | 8 | 101 | kredit | 2017-05-24 00:00:00
00:00 | 2500000 | 2 | 110 | debit | 2017-05-24 00:00:00
00:00 | 5000000 | 5 | 110 | debit | 2017-05-24 00:00:00
00:00 | 260000 | 19 | 110 | kredit | 2017-05-24 00:00:00
00:00 | 500000 | 19 | 110 | kredit | 2017-05-24 00:00:00
00:00 | 500000 | 12 | 101 | debit | 2017-05-26 00:00:00
00:00 | 7000000 | 12 | 101 | debit | 2017-05-26 00:00:00
00:00 | 8500000 | 1 | 111 | kredit | 2017-05-26 00:00:00
00:00 | 5200000 | 13 | 109 | debit | 2017-05-26 00:00:00
00:00 | 7000000 | 19 | 110 | kredit | 2017-05-30 00:00:00
00:00 | 5000000 | 19 | 110 | kredit | 2017-06-06 00:00:00
00:00 | 5000000 | 19 | 110 | kredit | 2017-06-06 00:00:00
00:00 | 5000000 | 13 | 109 | debit | 2017-06-06 00:00:00
00:00 | 7000000 | 13 | 109 | debit | 2017-06-06 00:00:00
00:00 | 7000000 | 13 | 109 | debit | 2017-06-06 00:00:00
00:00 | 7000000 | 5 | 102 | debit | 2017-06-14 00:00:00
00:00 | 2000000 |

50 rows in set (0.00 sec)

MariaDB [bank]> select jenis_transaksi, jumlah from transaksi where tanggal = '2017-11-21' order by jumlah;
+-----+-----+
| jenis_transaksi | jumlah |
+-----+-----+
| debit          | 600000 |
+-----+-----+
1 row in set (0.00 sec)

MariaDB [bank]>

```

4.

MySQL Command Prompt Window Output:

```

C:\Windows\system32\cmd.exe: mysql -u root -p
00:00 | 500000 | 10 | 111 | kredit | 2017-05-24 00:00:00
00:00 | 2500000 | 6 | 106 | debit | 2017-05-24 00:00:00
00:00 | 1500000 | 9 | 102 | kredit | 2017-05-24 00:00:00
00:00 | 1300000 | 8 | 101 | kredit | 2017-05-24 00:00:00
00:00 | 3500000 | 2 | 110 | debit | 2017-05-24 00:00:00
00:00 | 5000000 | 5 | 110 | debit | 2017-05-24 00:00:00
00:00 | 260000 | 19 | 110 | kredit | 2017-05-24 00:00:00
00:00 | 500000 | 12 | 101 | debit | 2017-05-26 00:00:00
00:00 | 7000000 | 12 | 101 | debit | 2017-05-26 00:00:00
00:00 | 8500000 | 1 | 111 | kredit | 2017-05-26 00:00:00
00:00 | 5200000 | 13 | 109 | debit | 2017-05-26 00:00:00
00:00 | 7000000 | 19 | 110 | kredit | 2017-05-30 00:00:00
00:00 | 5000000 | 19 | 110 | kredit | 2017-06-06 00:00:00
00:00 | 5000000 | 19 | 110 | kredit | 2017-06-06 00:00:00
00:00 | 5000000 | 13 | 109 | debit | 2017-06-06 00:00:00
00:00 | 7000000 | 13 | 109 | debit | 2017-06-06 00:00:00
00:00 | 7000000 | 5 | 102 | debit | 2017-06-14 00:00:00
00:00 | 2000000 |

50 rows in set (0.00 sec)

MariaDB [bank]> select nama_nasabah, jenis_transaksi, jumlah from nasabah, transaksi where nasabah.id_nasabah = transaksi.id_nasabah and jumlah = 200000;
+-----+-----+-----+
| nama_nasabah | jenis_transaksi | jumlah |
+-----+-----+-----+
| Kartika Purnamasari | kredit          | 200000 |
| Budi Fau Prayogo    | debit          | 200000 |
| Kartika Purnamasari | kredit          | 200000 |
| Budi Fau Prayogo    | debit          | 200000 |
| Gocha Lukmananta    | debit          | 200000 |
+-----+-----+-----+
5 rows in set (0.00 sec)

MariaDB [bank]>

```

5.

The screenshot shows a Windows XP desktop with a blue background and a large, colorful, abstract graphic on the right. A command prompt window is open on the left, displaying the results of a SQL query and the execution of a new query.

The command prompt window title is "C:\Windows\system32\cmd.exe - type: console". The output shows a list of transactions with columns for name, address, and amount. The transactions are listed in a table format.

The SQL query executed is: `select nama_nasabah, alamat_nasabah from nasabah where nama_nasabah = 'Suci';`

The output of the query is:

nama_nasabah	alamat_nasabah
Sutopo	Jl. Jenderal Sudirman 12
Suparman	Jl. Hasanudin 81
Sutopo	Jl. Jenderal Sudirman

The command prompt window also shows the execution of a new query: `select nama_nasabah, alamat_nasabah from nasabah where nama_nasabah like 'Suci';`

The output of the new query is:

nama_nasabah	alamat_nasabah
Sutopo	Jl. Jenderal Sudirman 12
Suparman	Jl. Hasanudin 81
Sutopo	Jl. Jenderal Sudirman

MODUL 7

KEGIATAN PRAKTIKUM

Membuat direktori C:\Xampp\mysql\bin lalu langsung menggunakan database perbankan yang sudah ada di PhpMyAdmin

The screenshot shows a Windows desktop with two applications open. On the left is a terminal window with the following commands and output:

```
C:\Windows\system32\cmd.exe
C:\Users\LAB01-17>cd C:\xampp\mysql\bin
C:\xampp\mysql\bin>mysql -u root
Enter password:
Welcome to the MariaDB monitor. Commands end with ; or \g.
Your MariaDB connection id is 16
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)]> show tables;
+-----+
| Tables_in_perbankan |
+-----+
| rekening_bank       |
| nasabah             |
| rekening_bank_rekening |
| rekening            |
| transaksi            |
+-----+
3 rows in set (0.00 sec)

MariaDB [(perbankan)]> describe nasabah;
+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+
| id_nasabah | int(11) | NO | PRI | NULL | |
| nama_nasabah | varchar(45) | NO | | NULL | |
| alamat_nasabah | varchar(255) | NO | | NULL | |
+-----+
3 rows in set (0.00 sec)

MariaDB [(perbankan)]> select * from nasabah;
+-----+
| id_nasabah | nama_nasabah | alamat_nasabah |
+-----+
| 1 | Sutopo | Jl. Jenderal Sudirman 12 |
| 2 | Maryani | Jl. RI Harjosari 21 |
| 3 | Suparman | Jl. Basanadila 81 |
| 4 | Kartika Padmasari | Jl. Sasagila 15 |
| 5 | Badi Eka Prasaja | Jl. Kastili 28 |
| 6 | Estria Eka Jaya | Jl. Elanet Riyadi 45 |
| 7 | Triandana | Jl. Sutopo 5 |
| 8 | Sari Nurli | Jl. Pongadipon 11 |
| 9 | Genta Lohannata | Jl. Tidar 86 |
| 10 | Badi Martono | Jl. Perak 22 |
+-----+
10 rows in set (0.00 sec)
```

On the right is a web browser showing the 'Table' view of the 'nasabah' table in the 'perbankan' database. The table has 10 rows of data, including columns for 'id_nasabah', 'nama_nasabah', and 'alamat_nasabah'.

The screenshot shows a Windows desktop with two applications open. On the left is a terminal window with the following commands and output:

```
C:\Windows\system32\cmd.exe
C:\Users\LAB01-17>cd C:\xampp\mysql\bin
C:\xampp\mysql\bin>mysql -u root
Enter password:
Welcome to the MariaDB monitor. Commands end with ; or \g.
Your MariaDB connection id is 16
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)]> show tables;
+-----+
| Tables_in_perbankan |
+-----+
| rekening_bank       |
| nasabah             |
| rekening_bank_rekening |
| rekening            |
| transaksi            |
+-----+
3 rows in set (0.00 sec)

MariaDB [(perbankan)]> describe transaksi;
+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+
| no_transaksi | bigint(20) unsigned | NO | PRI | NULL | |
| increment | int(11) | NO | | NULL | |
| id_nasabahPK | int(11) | YES | | NULL | |
| no_rekeningFK | int(11) | YES | | NULL | |
| jenis_transaksi | varchar(20) | NO | | NULL | |
| tanggal | datetime | NO | | CURRENT_TIMESTAMP | |
| jumlah | int(11) | NO | | NULL | |
+-----+
7 rows in set (0.00 sec)
```

On the right is a web browser showing the 'Table' view of the 'transaksi' table in the 'perbankan' database. The table has 7 rows of data, including columns for 'no_transaksi', 'increment', 'id_nasabahPK', 'no_rekeningFK', 'jenis_transaksi', 'tanggal', and 'jumlah'.

TUGAS

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

The screenshot shows a MySQL command prompt window with the following SQL query and its results:

```

MariaDB [perbankan]> select nasabah.nama_nasabah, nasabah.alamat_nasabah, transaksi.jenis_transaksi, transaksi.jumlah FROM nasabah, transaksi WHERE nasabah.id_nasabah = transaksi.id_nasabah AND jenis_transaksi = 'kredit' ORDER BY nama_nasabah;

```

nama_nasabah	alamat_nasabah	jenis_transaksi	jumlah
Budi Eko Prasetyo	Jl. Rantili 30	kredit	200000
Budi Eko Prasetyo	Jl. Rantili 30	kredit	200000
Budi Martono	Jl. Rerak 22	kredit	1200000
Cenka Lekananta	Jl. Tidar 86	kredit	1500000
Sumedjo	Jl. Rki Balak 22	kredit	75000
Sumedjo	Jl. Rki Balak 22	kredit	50000
Kartika Fadmasari	Jl. Rongga 15	kredit	300000
Kartika Fadmasari	Jl. Rongga 15	kredit	20000
Kartika Fadmasari	Jl. Rongga 15	kredit	20000
Maryati	Jl. RT Haryono 21	kredit	100000
Maryati	Jl. RT Haryono 21	kredit	300000
Fendao Mangi	Jl. Iwan Suci 20	kredit	80000
Fendao Mangi	Jl. Iwan Suci 20	kredit	50000
Puput	Jl. RMD 10	kredit	125000
Puput	Jl. RMD 10	kredit	125000
Puput	Jl. RMD 10	kredit	150000
Puput	Jl. RMD 10	kredit	20000
Putri	Jl. Diponegoro 19	kredit	20000
Putri	Jl. Diponegoro 19	kredit	175000
Suparman	Jl. Basanudin 81	kredit	50000
Suparman	Jl. Basanudin 81	kredit	50000
Suparman	Jl. Basanudin 81	kredit	100000
Suparman	Jl. Basanudin 81	kredit	200000
Sutopo	Jl. Dendrol Sudirman 12	kredit	100000
Sutopo	Jl. Dendrol Sudirman 12	kredit	100000

The web browser window shows the same data in a table format, with columns for account number, name, address, transaction type, and amount.

2. Menampilkan nomor rekening, nama nasabah, jenis transaksi dan jumlah transaksi yang melakukan pada tanggal 21 November 2009 dan diurutkan berdasarkan nama nasabah.

The screenshot shows a MySQL command prompt window with the following SQL query and its results:

```

MariaDB [perbankan]> select rekening.no_rekening, nasabah.nama_nasabah, transaksi.jenis_transaksi, transaksi.jumlah FROM rekening, nasabah, transaksi WHERE rekening.no_rekening = transaksi.no_rekening AND nasabah.id_nasabah = rekening.id_nasabah AND transaksi.id_nasabah = rekening.id_nasabah AND tanggal = '21 November 2009' ORDER BY nama_nasabah;

```

no_rekening	nama_nasabah	jenis_transaksi	jumlah
105	Suparman	debit	40000

The web browser window shows the same data in a table format, with columns for account number, name, address, transaction type, and amount.

- [illegible]

- [illegible]

5. Menampilkan nomor rekening dengan alias 'Nomor Rekening', nama nasabah dengan alias 'Nama Nasabah', jumlah transaksi dengan alias 'Jumlah Transaksi' dimana jenis transaksinya adalah debit dan diurutkan berdasarkan nama nasabah.

The screenshot shows a SQL query being executed in a command prompt window. The query is as follows:

```
Marich0 [perbanhan0] select no_rekening as 'Nomor Rekening', nama_nasabah as 'Nama Nasabah', jumlah as 'Jumlah Transaksi' from rekening, nasabah, transaksi where no_rekening=no_rekeningFK and nasabah.id_nasabah=transaksi.id_nasabahFK and jenis_transaksi = 'debit' order by nama_nasabah
```

The result of the query is displayed in a table with three columns: Nomor Rekening, Nama Nasabah, and Jumlah Transaksi. The data is sorted by the name of the customer (Nama Nasabah).

Nomor Rekening	Nama Nasabah	Jumlah Transaksi
115	Bening	100000
102	Budi Eko Prasetyo	20000
102	Budi Eko Prasetyo	20000
102	Budi Eko Prasetyo	20000
106	Budi Hartono	100000
119	Budi Hartono	100000
110	Cahya Lokasanta	20000
123	Danindya	200000
123	Danindya	200000
107	Eratika Padmasari	100000
101	Eratika Padmasari	50000
118	Ekatulistyawana	100000
118	Ekatulistyawana	150000
118	Ekatulistyawana	200000
103	Harveti	40000
103	Harveti	50000
103	Harveti	40000
103	Harveti	100000
117	Meliana	50000
119	Meliana	50000
106	Suparman	50000
105	Suparman	40000
105	Suparman	20000
104	Supriya	50000
104	Supriya	50000
109	Triandhya	100000

The screenshot also shows a web browser window with the URL `http://nama_nasabah` and a search bar.

MODUL 8

TUGAS PRAKTIKUM

1. Tampilkan jenis transaksi, jumlah transaksi dalam RP dan total transaksi untuk nasabah yang berakhiran 'Kartika Padmasari' untuk masing-masing jenis transaksi!

```
C:\Windows\system32\cmd.exe - mode: windows
C:\>mysql -u root (C:\DB\mysql)

mysql> use bank;
mysql> select jenis_transaksi, jumlah_transaksi, total_transaksi from transaksi where nasabah_id = 'Kartika Padmasari';
+-----+-----+-----+
| jenis_transaksi | jumlah_transaksi | total_transaksi |
+-----+-----+-----+
| debit           | 100000           | 100000          |
| kredit          | 100000           | 100000          |
+-----+-----+-----+
mysql>
```

2. Berapa jumlah transaksi yang ditangani oleh masing-masing cabang bank?

```
C:\Windows\system32\cmd.exe - mode: windows
C:\>mysql -u root (C:\DB\mysql)

mysql> use bank;
mysql> select cabang_bank, jumlah_transaksi from transaksi;
+-----+-----+
| cabang_bank | jumlah_transaksi |
+-----+-----+
| 1           | 100000           |
| 2           | 100000           |
+-----+-----+
mysql>
```

3. Tampilkan jumlah transaksi yang ditangani oleh masing-masing cabang bank!

```
C:\Windows\system32\cmd.exe - mode: windows
C:\>mysql -u root (C:\DB\mysql)

mysql> use bank;
mysql> select cabang_bank, jumlah_transaksi from transaksi;
+-----+-----+
| cabang_bank | jumlah_transaksi |
+-----+-----+
| 1           | 100000           |
| 2           | 100000           |
+-----+-----+
mysql>
```

4. Tampilkan nama nasabah dan jumlah saldo yang memiliki saldo antara Rp 500.000 sampai Rp 2.000.000!

```
C:\Windows\system32\cmd.exe - mode: windows
C:\>mysql -u root (C:\DB\mysql)

mysql> use bank;
mysql> select nama_nasabah, saldo from rekening where saldo > 500000 and saldo < 2000000;
+-----+-----+
| nama_nasabah | saldo            |
+-----+-----+
| Kartika Padmasari | 100000          |
| Kartika Padmasari | 100000          |
+-----+-----+
mysql>
```

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

```

Pari> DE (narabah) SELECT narabah.nama_narahab DE 'Nama Narabah', transaksi.ta
nggal AS 'Tanggal Transaksi', SUM(transaksi.jumlah) AS 'JumlahRp' FROM narabah
, transaksi WHERE narabah.id_narahab = transaksi.id_narahab AND transaksi.jum
lah > 100000 group by narabah.nama_narahab, transaksi.tanggal, transaksi.jumlah O
RDER BY jumlah DESC;
+-----+-----+-----+
| Nama Narabah | Tanggal Transaksi | JumlahRp |
+-----+-----+-----+
| Sri Ropie | 2017-05-26 00:00:00 | 1780000 |
| Sri Ropie | 2017-05-26 00:00:00 | 1500000 |
| Sugi | 2017-05-26 00:00:00 | 780000 |
| Sugi | 2017-05-26 00:00:00 | 780000 |
| Wiryo | 2017-05-24 00:00:00 | 570000 |
| Sugi | 2017-05-26 00:00:00 | 520000 |
| Ezi Ruti | 2017-05-24 00:00:00 | 357000 |
| Budi Eko Prasopu | 2017-05-24 00:00:00 | 257000 |
| Sri Ruti | 2017-05-24 00:00:00 | 250000 |
| Sugi | 2017-11-20 00:00:00 | 200000 |
| Sugi | 2017-11-20 00:00:00 | 200000 |
| Budi Eko Prasopu | 2017-12-05 00:00:00 | 200000 |
| Kartika Padmasari | 2017-11-20 00:00:00 | 200000 |
| Larko Lokanayana | 2017-11-15 00:00:00 | 150000 |
| Sugi Ruti | 2017-05-24 00:00:00 | 130000 |
| Sri Ruti | 2017-05-24 00:00:00 | 120000 |
+-----+-----+-----+
16 rows in set (0.00 sec)

```


MODUL 9

TUGAS PRAKTIKUM

1. Membuat user baru sesuai nama masing-masing.

```
C:\Windows\system32\cmd.exe /c powershell -c "
Microsoft Windows [Version 6.0.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\ADMIN~1>cd ..
C:\Users\Admin>cd ..
C:\>cd c:/windows/system32/win
c:/windows/system32/win>ipconfig /all
Information: The WinPcap function...
WinPcap version: 4.0.0
Driver version: 10.1.37-RunCDB...
Copyright (c) 2008, 2010, Oracle, WinPcap Corporation db and others.

Type 'help' or '?' for help. Type '?n' to place the network input statement.
WinPcap (v4.0.0) create user 'marcelofisla@E' local host by '1999':
Group ID: 0, group associated 0.00 sec"
```

2. Beri privilege untuk user tersebut dengan ketentuan :
 - a. Dapat melakukan INSERT, UPDATE dan DELETE pada tabel nasabah

```

MariaDB [(none)]> use mysql;
Database changed
MariaDB [mysql]> grant insert, update, delete on perhankan.mawadah to murularifia8@localhost;
Query OK, 0 rows affected (0.00 sec)

```

- b. Hanya dapat melakukan SELECT pada tabel cabang_bank

```
Query OK, 0 rows affected (0.00 sec)

MariaDB [mysql]> grant select on perbankan.cabang_bank to nurularifia$@localhost;
Query OK, 0 rows affected (0.00 sec)
```

3. Lakukan kasus berikut dengan login sebagai user yang dibuat dan screenshoot hasilnya.
 - a. Lakukan perintah SELECT pada tabel nasabah

```

MariaDB [perbankan]> select * from nasabah;
ERROR 1142 (42000): SELECT command denied to user 'nurularifias'@'localhost' for table 'nasabah'

```

- b. Lakukan perintah INSERT pada tabel nasabah

```
MariaDB [perbankan]> insert into nasabah values(456, 'arifia', 'Jalan Merbauke');
Query OK, 1 row affected (0.04 sec)
```

- c. Lakukan perintah INSERT pada tabel cabang_bank

```

MariaDB [perbankan]> insert into cabang_bank values('BBUW', 'Bank Unit Wonogiri', 'Jalan Merrauke');
ERROR 1142 (42000): INSERT command denied to user 'nurularifias@localhost' for table 'cabang_bank'

```

MODUL 10

KEGIATAN PRAKTIKUM

1. Menampilkan detail data nasabah yang pernah melakukan transaksi kredit dengan menggunakan syntax subquery.

```
MariaDB [(none)]> use perbankang;
Database changed
MariaDB [(perbankang)]> SELECT * FROM nasabah where nasabah.id_nasabah IN (select DISTINCT
-> transaksi.id_nasabahFK from transaksi where jenis_transaksi='kredit');
+-----+-----+-----+
| id_nasabah | nama_nasabah | alamat_nasabah |
+-----+-----+-----+
| 1          | Sutopo       | Jl. Jenderal Sudirman 13 |
| 2          | Maryati     | Jl. MT Haryono 11       |
| 3          | Suparman    | Jl. Hasanudin 81        |
| 4          | Kartika Padmasari | Jl. Mangrove 1h        |
| 5          | Budi Eko Prasetyo | Jl. Kantil 30          |
| 6          | Canka Lukmanenta | Jl. Tidar 06           |
| 7          | Budi Hartono  | Jl. Merak 22            |
| 8          | Danindaya    | Jl. GKI Malak 22        |
| 9          | Dugut        | Jl. AMD 13             |
| 10         | Putri        | Jl. Diponegoro 12       |
| 11         | Paudan Wungu | Jl. Iman Bujur 20       |
+-----+-----+-----+
11 rows in set (0.20 sec)
```

2. Menampilkan detail data nasabah yang tidak pernah melakukan segala jenis transaksi dengan menggunakan syntax subquery.

```
MariaDB [(perbankang)]> SELECT * FROM nasabah where nasabah.id_nasabah NOT IN
-> (select DISTINCT transaksi.id_nasabahFK from transaksi);
+-----+-----+-----+
| id_nasabah | nama_nasabah | alamat_nasabah |
+-----+-----+-----+
| 6          | Satria Eka Jaya | Jl. Slamet Riyadi 45    |
| 8          | Sari Murti     | Jl. Pangandayan 11     |
| 18         | Andara        | Jl. Pertama 26         |
| 19         | Rangga        | Jl. Kedua 80           |
| 20         | Cinta         | Jl. Ketiga 24          |
| 21         | Ajeng         | Kalimantan           |
| 31         | Mama          | Magetan              |
| 35         | Kori          | Solo                  |
| 44         | Saya          | Sarangan              |
| 45         | Suny          | Bojonegoro            |
| 110        | Fitri         | Ngawi                 |
+-----+-----+-----+
11 rows in set (0.00 sec)
```

3. Menampilkan cabang bank yang memiliki nilai rata-rata saldo paling besar untuk seluruh rekening dalam cabang bank menggunakan syntax subquery.

```
MariaDB [(perbankang)]> SELECT cabang_bank.kode_cabang, cabang_bank.nama_cabang,
-> AVG(rekening.saldo) as rata2 from cabang_bank, rekening where
-> cabang_bank.kode_cabang=rekening.kode_cabangFK group by
-> cabang_bank.kode_cabang having rata2 >= ALL (select AVG(saldo)
-> FROM rekening group by kode_cabangFK);
+-----+-----+-----+
| kode_cabang | nama_cabang | rata2 |
+-----+-----+-----+
| BRUB       | Bank Rut Unit Boyolali | 2500000.0000 |
+-----+-----+-----+
1 row in set (0.18 sec)
```

- Menampilkan data transaksi yang melibatkan jumlah uang lebih besar dari rata-rata keseluruhan transaksi yang pernah dilakukan menggunakan syntax subquery

```
MariaDB [penbankan1] > SELECT * FROM transaksi where jumlah > (SELECT AVG(jumlah) FROM
-> transaksi);
```

id_transaksi	id_mahasiswa	id_rekening	jenis_transaksi	tanggal	jumlah
1	1	1	debit	2020-01-01	1000000000
2	1	1	debit	2020-01-01	1000000000
3	1	1	debit	2020-01-01	1000000000
4	1	1	debit	2020-01-01	1000000000
5	1	1	debit	2020-01-01	1000000000
6	1	1	debit	2020-01-01	1000000000
7	1	1	debit	2020-01-01	1000000000
8	1	1	debit	2020-01-01	1000000000
9	1	1	debit	2020-01-01	1000000000
10	1	1	debit	2020-01-01	1000000000
11	1	1	debit	2020-01-01	1000000000
12	1	1	debit	2020-01-01	1000000000
13	1	1	debit	2020-01-01	1000000000
14	1	1	debit	2020-01-01	1000000000
15	1	1	debit	2020-01-01	1000000000
16	1	1	debit	2020-01-01	1000000000
17	1	1	debit	2020-01-01	1000000000
18	1	1	debit	2020-01-01	1000000000
19	1	1	debit	2020-01-01	1000000000
20	1	1	debit	2020-01-01	1000000000
21	1	1	debit	2020-01-01	1000000000
22	1	1	debit	2020-01-01	1000000000
23	1	1	debit	2020-01-01	1000000000
24	1	1	debit	2020-01-01	1000000000
25	1	1	debit	2020-01-01	1000000000
26	1	1	debit	2020-01-01	1000000000
27	1	1	debit	2020-01-01	1000000000
28	1	1	debit	2020-01-01	1000000000
29	1	1	debit	2020-01-01	1000000000
30	1	1	debit	2020-01-01	1000000000

```
24 rows in set (0.00 sec)
MariaDB [penbankan1] >
```

TUGAS PRAKTIKUM

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

```
MariaDB [modul_10] > SELECT mahasiswa.nim FROM mahasiswa, matkul, link_mahasiswa_matkul
-> where mahasiswa.nim = link_mahasiswa_matkul.nim and matkul.kode_matkul
-> = link_mahasiswa_matkul.kode_matkul and mahasiswa.nim not in (select
-> link_mahasiswa_matkul.nim from link_mahasiswa_matkul where kode_matkul
-> = 'TIF001') group by mahasiswa.nim;
```

nim
L200150135

```
1 row in set (0.01 sec)
```

```
MariaDB [modul_10] > select * from link_mahasiswa_matkul where kode_matkul = 'TIF001';
```

nim	kode_matkul	nilai
L200150088	TIF001	70
L200150088	TIF001	70
L200150099	TIF001	70
L200150117	TIF001	70
L200150113	TIF001	70
L200150117	TIF001	70
L200150113	TIF001	70
L200150123	TIF001	70
L200150123	TIF001	70
L200150123	TIF001	70
L200150123	TIF001	70
L200150144	TIF001	70
L200150146	TIF001	70
L200154001	TIF001	70

```
14 rows in set (0.00 sec)
```

- 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 satu dosen.

```
MariaDB [modul_10] > select mahasiswa.nim, mahasiswa.nama from mahasiswa,
-> link_mahasiswa_matkul, matkul where mahasiswa.nim =
-> link_mahasiswa_matkul.nim and matkul.kode_matkul =
-> link_mahasiswa_matkul.kode_matkul and matkul.kode_matkul in (select
-> kode_matkul from matkul where kode_dosen = 'D004') group by
-> mahasiswa.nim, mahasiswa.nama having count(matkul.kode_matkul) =
-> (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)
```

3. Karena satu mata kuliah (A) dihilangkan, seluruh mahasiswa yang mengambil mata kuliah tersebut dipindahkan untuk mengambil mata kuliah lain (B). Lakukan update data menggunakan syntax subquery.

```
MariaDB [modul_10] > update link_mahasiswa_matkul AS lmm1 SET lmm1.kode_matkul
-> = 'TIF010' WHERE lmm1.nim IN (select DISTINCT mahasiswa.nim FROM
-> mahasiswa WHERE lmm1.kode_matkul = 'TIF009');
Query OK, 0 rows affected (0.00 sec)
Rows matched: 0 Changed: 0 Warnings: 0

MariaDB [modul_10] > _
```


MODUL 11

KEGIATAN PRAKTIKUM

1. Install connectore mysql sesuai versi python

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

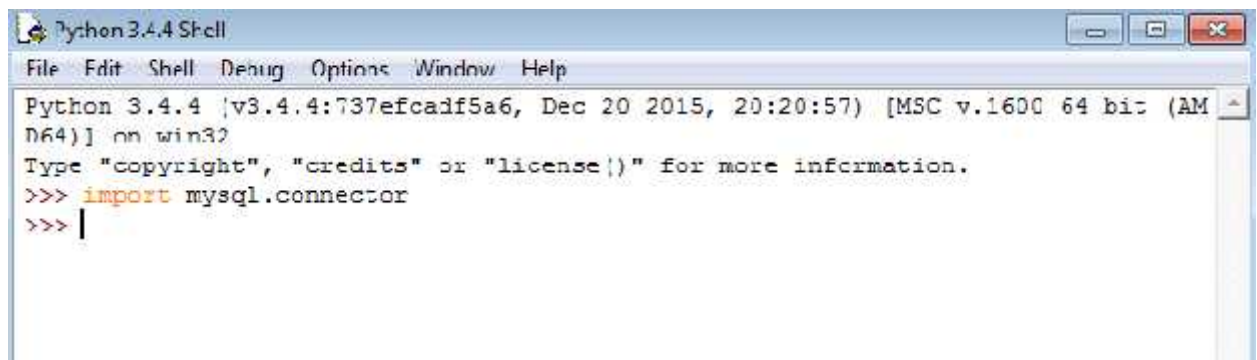
C:\Users\LAESI-08>cd C:
C:\Users\LAESI-08>

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

C:\>cd C:\Python34\Scripts

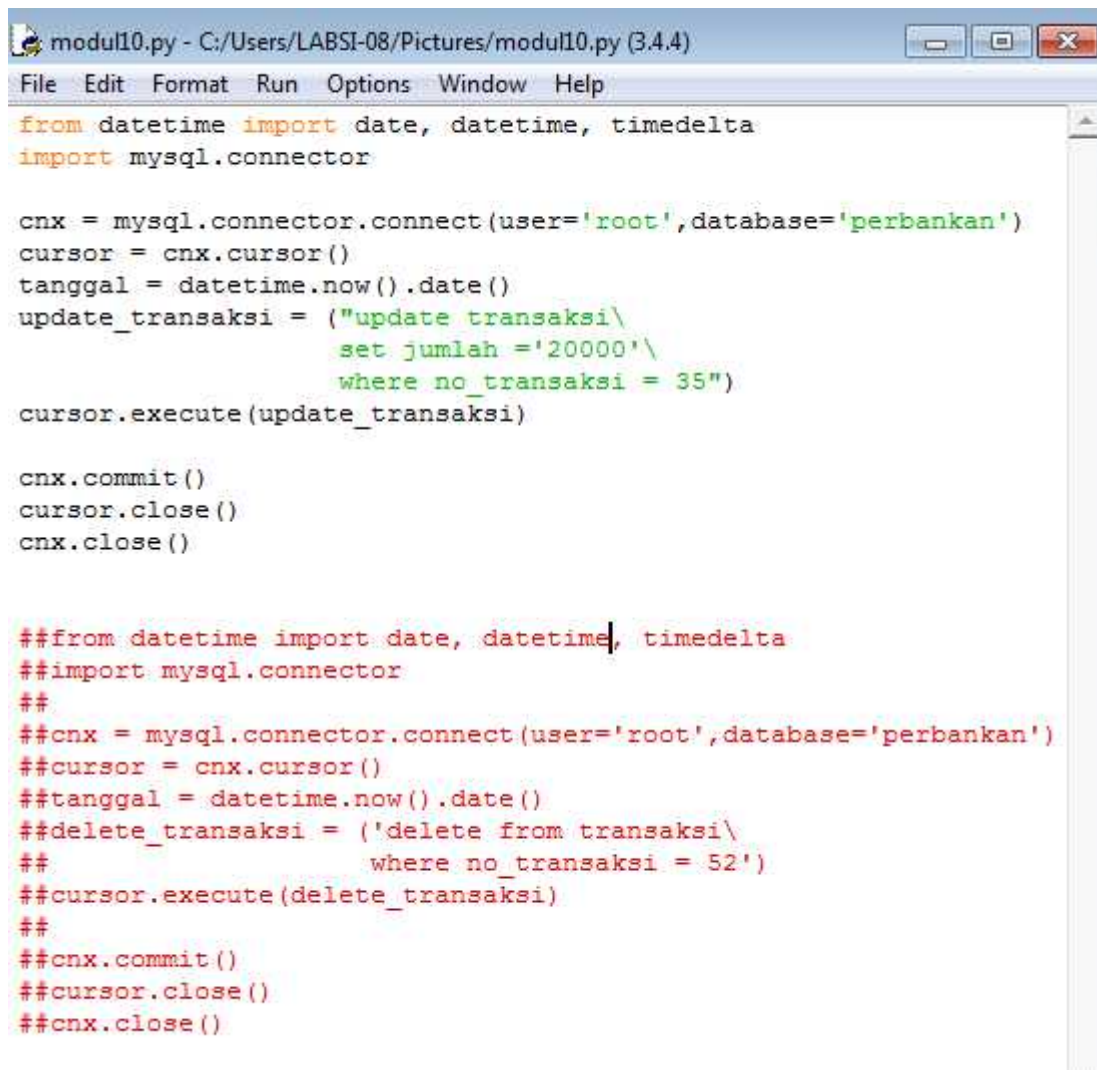
C:\Python34\Scripts>pip install mysql-connector-python
Collecting mysql-connector-python
  Downloading https://files.pythonhosted.org/packages/c5/40/c7ec860ad658870296c1a40afebce8e148997f6759d44307c7b6faa2b130/mysql_connector_python-8.0.16-py2.py3-none-any.whl (341kB)
    100% |#####| 344kB 525kB/s
Collecting protobuf>=3.0.0 (from mysql-connector-python)
  Downloading https://files.pythonhosted.org/packages/8f/5a/077f2811869284d8e15fcc88818922e19cf205a3529f21210f3a1b47dc74/protobuf-3.8.0-py2.py3-none-any.whl (427kB)
    100% |#####| 430kB 553kB/s
Requirement already satisfied (use --upgrade to upgrade): setuptools in c:\python34\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/00a976f728d0d1fecfe898238ce23f502a721c0ac0ecfedb80e0d88c64e9/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' command.
```

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 (AMD64)] 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 Command Prompt

```

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 |
|-----|-----|-----|-----|-----|
| 32 | 3 | 105 | debit | 2009-11-10 00:00:00 |
| 33 | 2 | 103 | debit | 2009-11-10 00:00:00 |
| 34 | 4 | 101 | kredit | 2009-11-12 00:00:00 |
| 35 | 3 | 106 | debit | 2009-11-13 00:00:00 |
| 36 | 5 | 107 | kredit | 2009-11-13 00:00:00 |
| 37 | 1 | 104 | kredit | 2009-11-15 00:00:00 |
| 38 | 9 | 110 | kredit | 2009-11-15 00:00:00 |
| 39 | 5 | 102 | debit | 2009-11-16 00:00:00 |
| 40 | 3 | 105 | kredit | 2009-11-18 00:00:00 |
| 41 | 4 | 107 | debit | 2009-11-19 00:00:00 |
| 42 | 2 | 103 | debit | 2009-11-19 00:00:00 |
| 43 | 1 | 104 | debit | 2009-11-19 00:00:00 |
| 44 | 4 | 107 | kredit | 2009-11-20 00:00:00 |
| 45 | 3 | 105 | debit | 2009-11-21 00:00:00 |
| 46 | 1 | 104 | kredit | 2009-11-22 00:00:00 |
| 47 | 4 | 101 | kredit | 2009-11-22 00:00:00 |

```

TUGAS

1. Insert transaksi

```
modul3.py - G:\ipn\isa\praktikum\modul3.py (L7,14)
Hit Enter untuk Kun Options #Windows Help
from datetime import date, datetime, timedelta
import mysql.connector

#nama = mysql.connector.cursor(cursor = ('root','datakuhan','perlambakan'))
#cursor = con.cursor()
fftanggal = datetime.now().date()
ffupdate_transaksi = ('update_transaksi')
#         qty_jumlah = '10000'
#         where_no_transaksi = '00'
ffupdate.execute(update_transaksi)
#
#con.commit()
ffcursor.close()
ffnama.close()

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

con = mysql.connector.cursor(cursor = ('root','datakuhan','perlambakan'))
cursor = con.cursor()
tanggal = datetime.now().date()
jumlah_transaksi = ('INSERT INTO TRANSAKSI VALUES (%s, %s, %s, %s, %s, %s)')

data_transaksi = ('', '00', '100', 'Kredit', tanggal, '10000')
insert_con_data = (jumlah_transaksi, data_transaksi)

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



```

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
<input type="checkbox"/>				1	Sutopo	Jl. Jendral Sudirman 12
<input type="checkbox"/>				2	anggi	Jl. MT Haryono 31
<input type="checkbox"/>				3	Suparman	Jl. Hasanudin 81
<input type="checkbox"/>				4	Kartika Padmasari	Jl. Manggis 17
<input type="checkbox"/>				5	Budi Eko Prayogo	Jl. Kanti 30
<input type="checkbox"/>				6	Satna Hka Jaya	Jl. Slamet Riyadi 45
<input type="checkbox"/>				7	Indri Hapsari	Jl. Sutoyo 5
<input type="checkbox"/>				8	Sari Murti	Jl. Pangandaran 11
<input type="checkbox"/>				9	Canka Lukmanita	Jl. Tidar 86
<input type="checkbox"/>				10	Budi Murtono	Jl. Merak 22
<input type="checkbox"/>				11	Joko Ndo Kondo	Jl. Bareng jadian kagak
<input type="checkbox"/>				12	Jon Koplo	Jl. Angin Besar 12
perbankan&table=nasabah has rekam				13	Anggil	Solo

- Update transaksi

```

modul10.py - G:\paliya\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

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

















































```

- Hasil :

a. Sebelum

Options		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

b. Setelah

Database: bank							
Browse Structure SQL Search Insert Export Import Privileges Operations Tools							
1		Show all		Number of rows: 20		Filter rows: Search this table	
				Sort by key: None			
Options		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	20000
  		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

- Delete transaksi

```
modul10.py - C:/Users/LAESI-06/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)

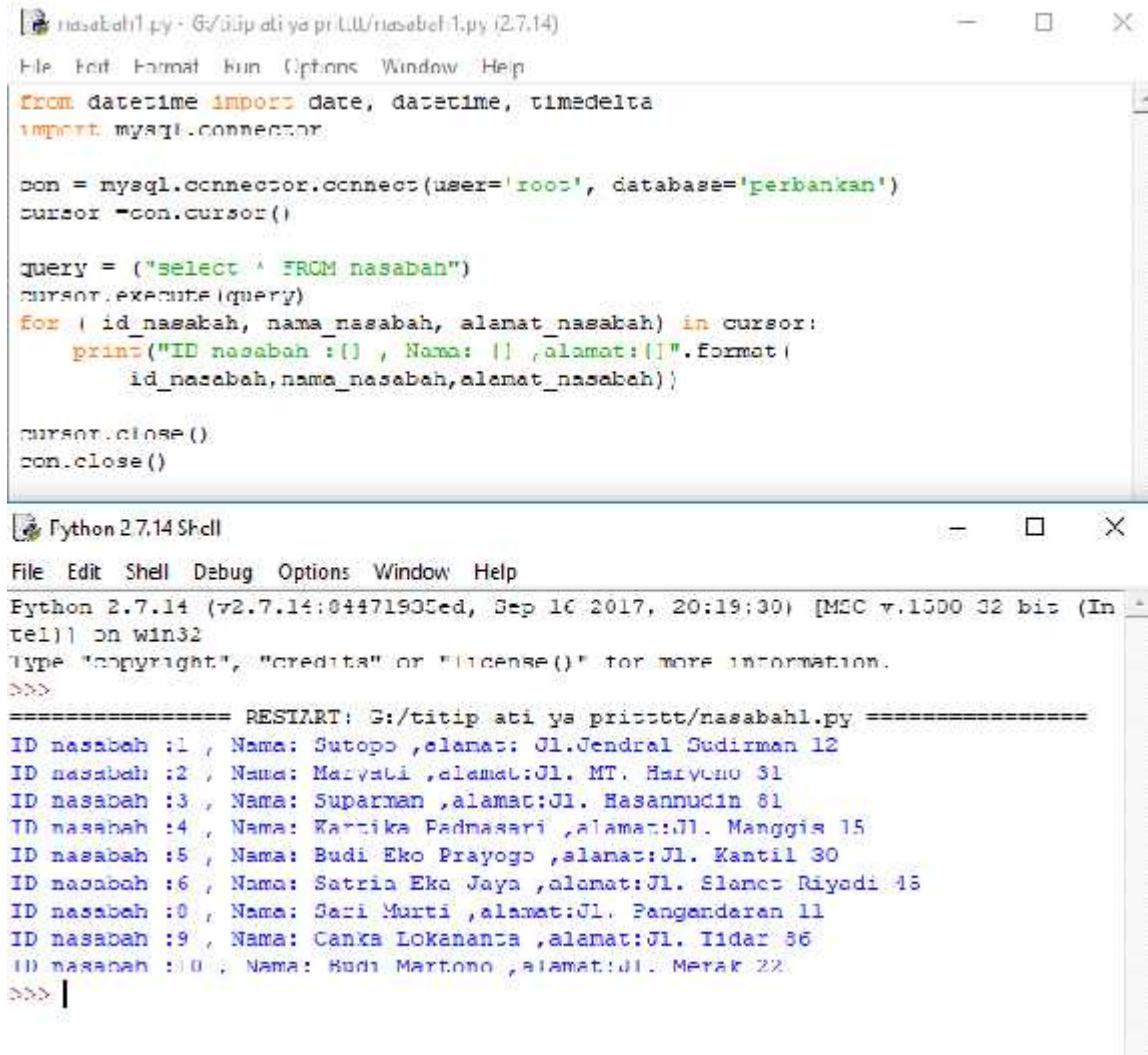
cnx.commit()
cursor.close()
cnx.close()
```

Hasil

	no_transaksi	id_nasabah	no_rekening	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	6	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

2. Buatlah kode program python untuk mendapat

a. Data Nasabah



The image shows two windows from a Windows operating system. The top window is a Python script editor titled 'nasabah1.py'. It contains a Python script that connects to a MySQL database named 'perbankan' using the 'root' user. The script executes a SQL query to select all data from a table named 'nasabah' and prints the results. The bottom window is a Python 2.7.14 Shell titled 'Python 2.7.14 Shell'. It shows the execution of the script, which outputs 10 rows of data, each containing an ID, a name, and an address.

```
nasabah1.py - G:/titip ati ya pri/LUL/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 (v2.7.14:84471905ed, Sep 16 2017, 20:19:30) [MSC v.1500 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: G:/titip ati ya pri/LUL/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. Hasanudin 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 Eko 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: Rudi Martono ,alamat:Jl. Merak 22
>>>
```

- b. Data nasabah yang melakukan transaksi antara Bulan Oktober sampai Desember

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()

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\nasabah1.py =====

```
ID nasabah :3 ,Nama: Superman ,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: Superman ,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: Superman ,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: Superman ,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 Murtoto ,tanggal:2009-11-26 00:00:00
ID nasabah :3 ,Nama: Superman ,tanggal:2009-11-27 00:00:00
ID nasabah :2 ,Nama: Maryati ,tanggal:2009-11-28 00:00:00
ID nasabah :3 ,Nama: Superman ,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:2009-12-06 00:00:00
```