

TUGAS MODUL 4 SISTEM BASIS DATA

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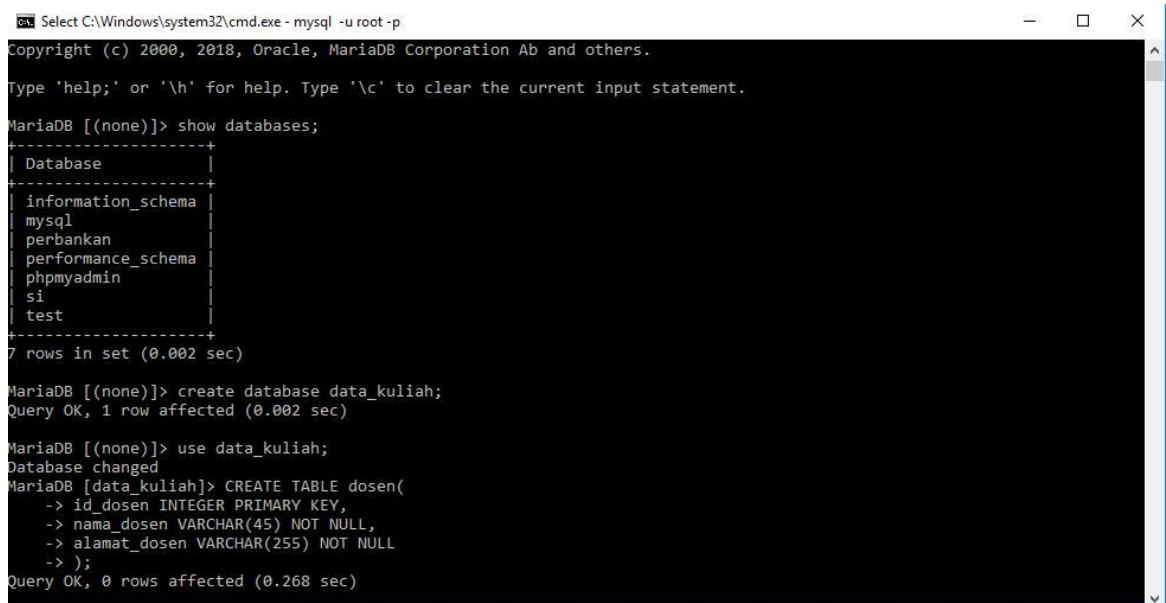
NIM : L200180155

Kelas : F

Implementasikan hasil rancangan database yang menangani data kuliah pada tugas modul 2 kedalam program mysql.

1. Membuat table dosen dengan script berikut. CREATE TABLE dosen

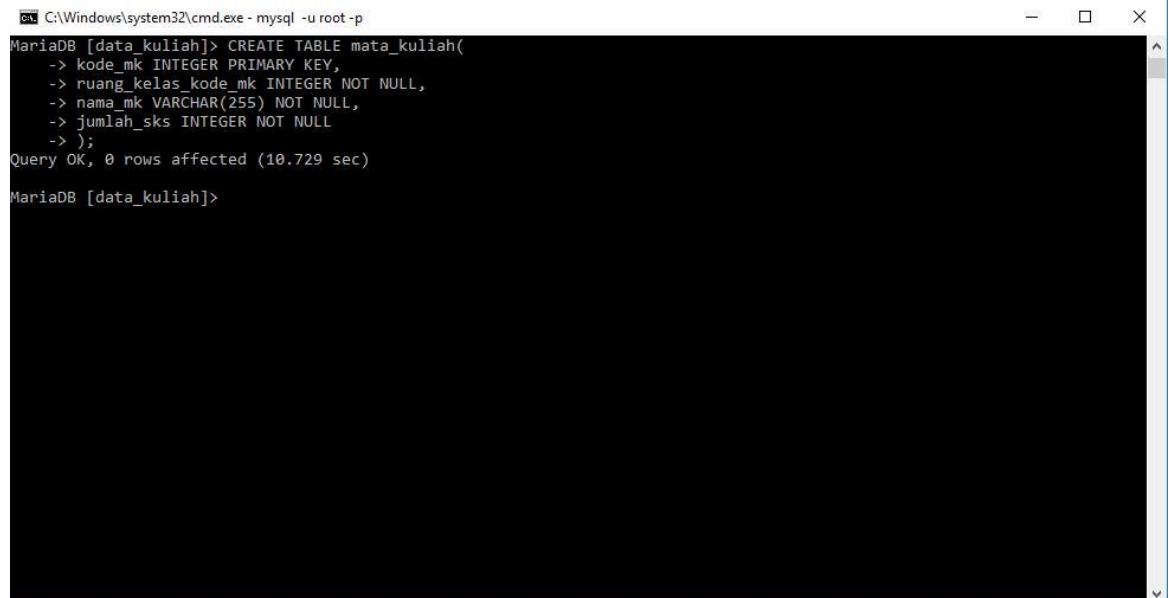
```
(id_dosen INTEGER PRIMARY KEY,  
nama_dosen VARCHAR(45) NOT NULL,  
alamat_dosen VARCHAR(255) NOT NULL  
);
```



```
Select C:\Windows\system32\cmd.exe - mysql -u root -p  
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)]> show databases;  
+-----+  
| Database |  
+-----+  
| information_schema |  
| mysql |  
| perbankan |  
| performance_schema |  
| phpmyadmin |  
| si |  
| test |  
+-----+  
7 rows in set (0.002 sec)  
  
MariaDB [(none)]> create database data_kuliah;  
Query OK, 1 row affected (0.002 sec)  
  
MariaDB [(none)]> use data_kuliah;  
Database changed  
MariaDB [data_kuliah]> CREATE TABLE dosen(  
-> id_dosen INTEGER PRIMARY KEY,  
-> nama_dosen VARCHAR(45) NOT NULL,  
-> alamat_dosen VARCHAR(255) NOT NULL  
-> );  
Query OK, 0 rows affected (0.268 sec)
```

2. Membuat table mata_kuliah dengan scrip berikut.

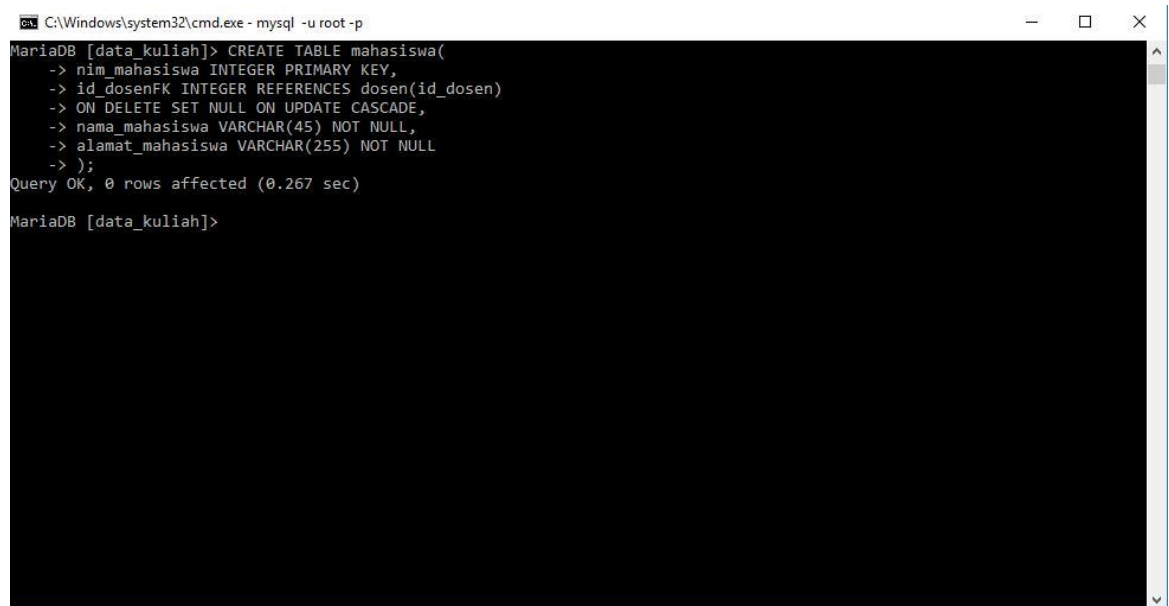
```
CREATE TABLE mata_kuliah(  
    kode_mk INTEGER PRIMARY KEY,  
    (ruang_kelas_kode_mk INTEGER NOT  
    NULL, nama_mk VARCHAR(255) NOT  
    NULL);
```



```
C:\Windows\system32\cmd.exe - mysql -u root -p  
MariaDB [data_kuliah]> CREATE TABLE mata_kuliah(  
    -> kode_mk INTEGER PRIMARY KEY,  
    -> ruang_kelas_kode_mk INTEGER NOT NULL,  
    -> nama_mk VARCHAR(255) NOT NULL,  
    -> jumlah_sks INTEGER NOT NULL  
    -> );  
Query OK, 0 rows affected (10.729 sec)  
MariaDB [data_kuliah]>
```

3. Membuat table mahasiswa dengan script berikut.

```
CREATE TABLE mahasiswa( nim_mahasiswa  
INTEGER PRIMARY KEY,(  
  
id_dosenFK INTEGER REFERENCES dosen(id_dosen),  
  
ON DELETE SET NULL ON UPDATE  
CASCADE, nama_mahasiswa VARCHAR(45) NOT  
NULL, alamat_mahasiswa VARCHAR(255) NOT  
NULL );
```

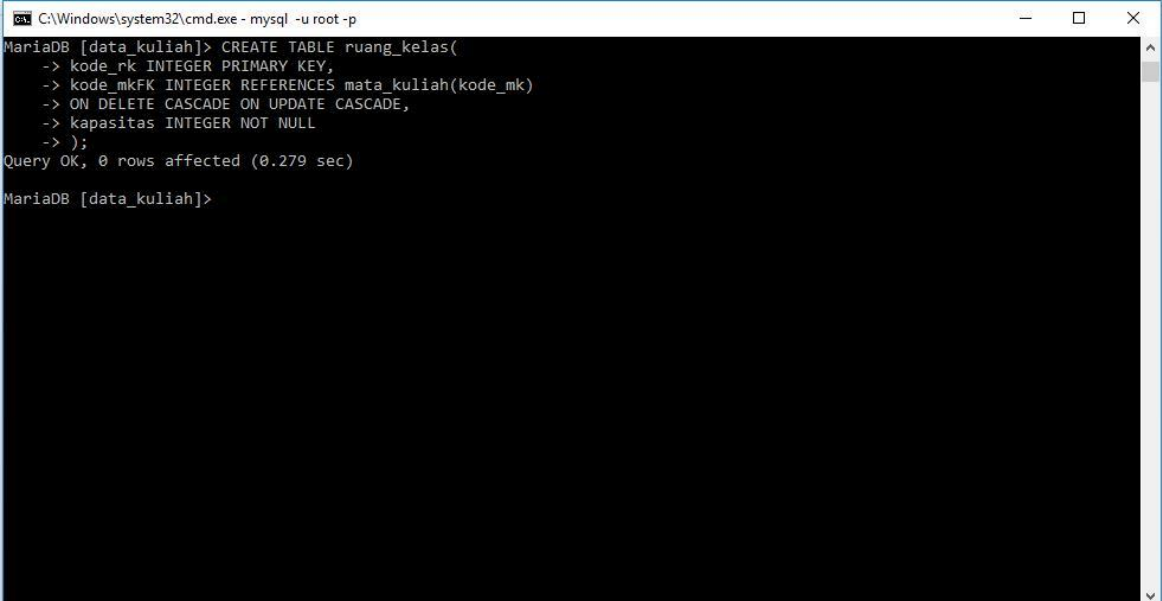


```
C:\Windows\system32\cmd.exe - mysql -u root -p  
MariaDB [data_kuliah]> CREATE TABLE mahasiswa(  
-> nim_mahasiswa INTEGER PRIMARY KEY,  
-> id_dosenFK INTEGER REFERENCES dosen(id_dosen)  
-> ON DELETE SET NULL ON UPDATE CASCADE,  
-> nama_mahasiswa VARCHAR(45) NOT NULL,  
-> alamat_mahasiswa VARCHAR(255) NOT NULL  
-> );  
Query OK, 0 rows affected (0.267 sec)  
MariaDB [data_kuliah]>
```

4. Membuat table ruang_kelas dengan scrip berikut. CREATE TABLE ruang_kelas(
kode_rk INTEGER PRIMARY KEY,

kode_mkFK INTEGER REFERENCES mata_kuliah(kode_mk)
kapasitas INTEGER NOT NULL

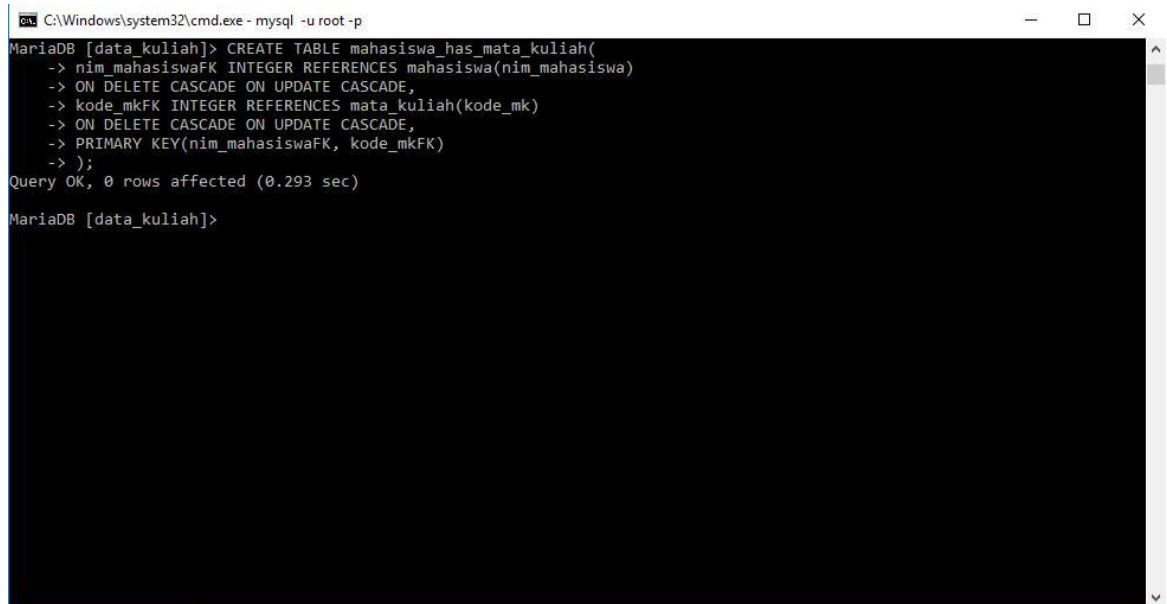
);



```
C:\Windows\system32\cmd.exe - mysql -u root -p
MariaDB [data_kuliah]> CREATE TABLE ruang_kelas(
-> kode_rk INTEGER PRIMARY KEY,
-> kode_mkFK INTEGER REFERENCES mata_kuliah(kode_mk)
-> ON DELETE CASCADE ON UPDATE CASCADE,
-> kapasitas INTEGER NOT NULL
-> );
Query OK, 0 rows affected (0.279 sec)
MariaDB [data_kuliah]>
```

5. Membuat table mahasiswa_has_mata_kuliah dengan script berikut. CREATE TABLE mahasiswa_has_mata_kuliah

```
(nim_mahasiswaFK INTEGER REFERENCES mahasiswa(nim_mahasiswa)
ON DELETE CASCADE ON UPDATE CASCADE,
kode_mkFK INTEGER REFERENCES mata_kuliah(kode_mk)
ON DELETE CASCADE ON UPDATE
CASCADE, PRIMARY
KEY(nim_mahasiswaFK,kode_mkFK) );
```



```
C:\Windows\system32\cmd.exe - mysql -u root -p
MariaDB [data_kuliah]> CREATE TABLE mahasiswa_has_mata_kuliah(
-> nim_mahasiswaFK INTEGER REFERENCES mahasiswa(nim_mahasiswa)
-> ON DELETE CASCADE ON UPDATE CASCADE,
-> kode_mkFK INTEGER REFERENCES mata_kuliah(kode_mk)
-> ON DELETE CASCADE ON UPDATE CASCADE,
-> PRIMARY KEY(nim_mahasiswaFK, kode_mkFK)
-> );
Query OK, 0 rows affected (0.293 sec)
MariaDB [data_kuliah]>
```

6. Mengecek hasil pembuatan database.

```
C:\Windows\system32\cmd.exe - mysql -u root -p
MariaDB [data_kuliah]> CREATE TABLE mahasiswa_has_mata_kuliah(
-> nim_mahasiswaFK INTEGER REFERENCES mahasiswa(nim_mahasiswa)
-> ON DELETE CASCADE ON UPDATE CASCADE,
-> kode_mkFK INTEGER REFERENCES mata_kuliah(kode_mk)
-> ON DELETE CASCADE ON UPDATE CASCADE,
-> PRIMARY KEY(nim_mahasiswaFK, kode_mkFK)
-> );
Query OK, 0 rows affected (0.293 sec)

MariaDB [data_kuliah]> show tables;
+-----+
| Tables_in_data_kuliah |
+-----+
| dosen                  |
| mahasiswa              |
| mahasiswa_has_mata_kuliah |
| mata_kuliah            |
| ruang_kelas            |
+-----+
5 rows in set (0.002 sec)

MariaDB [data_kuliah]>
```

7. Melihat struktur pada setiap tabel.

```
C:\Windows\system32\cmd.exe - mysql -u root -p
MariaDB [data_kuliah]> describe dosen;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id_dosen | int(11) | NO | PRI | NULL | |
| nama_dosen | varchar(45) | NO | | NULL | |
| alamat_dosen | varchar(255) | NO | | NULL | |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.049 sec)

MariaDB [data_kuliah]> describe mata_kuliah;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| kode_mk | int(11) | NO | PRI | NULL | |
| ruang_kelas_kode_mk | int(11) | NO | | NULL | |
| nama_mk | varchar(255) | NO | | NULL | |
| jumlah_sks | int(11) | NO | | NULL | |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.018 sec)

MariaDB [data_kuliah]> describe mahasiswa;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| nim_mahasiswa | int(11) | NO | PRI | NULL | |
| id_dosenFK | int(11) | YES | | NULL | |
| nama_mahasiswa | varchar(45) | NO | | NULL | |
| alamat_mahasiswa | varchar(255) | NO | | NULL | |
+-----+-----+-----+-----+-----+-----+
```