

**LATIHAN MODUL 2**

**PRAKTIKUM BASIS DATA**

**Data Definition Language (DDL)**

Oleh:

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Kelas : Basis Data RB



**PROGRAM STUDI TEKNIK INFORMATIKA**

**JURUSAN TEKNIK ELEKTRO INFORMATIKA DAN SISTEM FISIS**

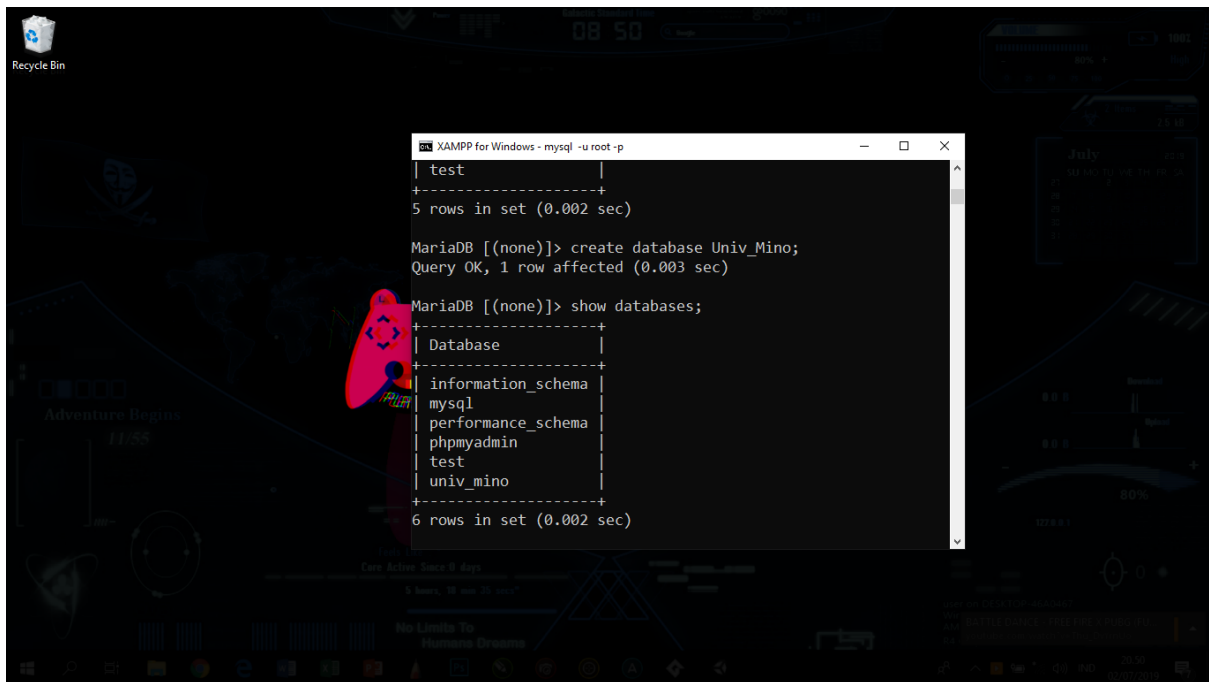
**INSTITUT TEKNOLOGI SUMATERA**

**LAMPUNG SELATAN**

**2022**

## A. Latihan

1. Buatlah database dengan nama “Univ\_Mino”.



```
XAMPP for Windows - mysql -u root -p
test
+-----+
| test   |
+-----+
5 rows in set (0.002 sec)

MariaDB [(none)]> create database Univ_Mino;
Query OK, 1 row affected (0.003 sec)

MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql        |
| performance_schema |
| phpmyadmin   |
| test         |
| univ_mino    |
+-----+
6 rows in set (0.002 sec)
```

2. Buatlah tabel dengan nama “mahasiswa” dengan struktur tabel sebagai berikut:

Field	Type	Null	Key	Default	Extra
nim	int(11)	NO	PRI	NULL	
nama	char(20)	NO		NULL	
angkatan	int(4)	NO		NULL	
semester	int(2)	NO		NULL	

```

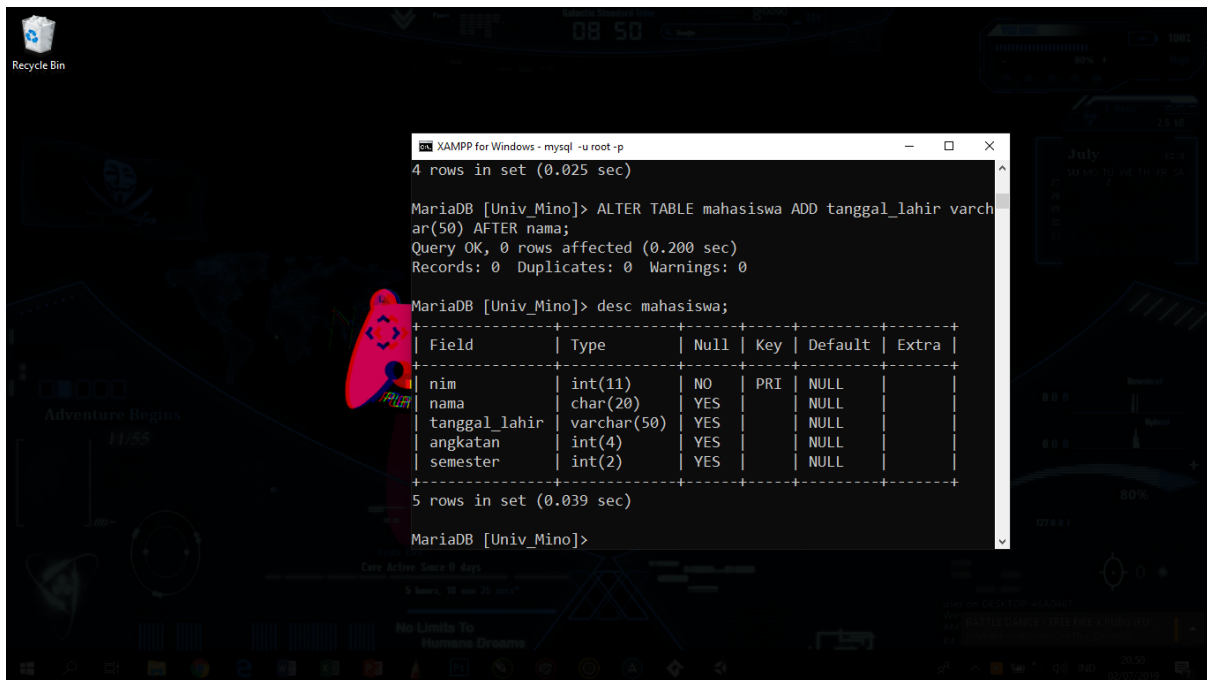
XAMPP for Windows - mysql -u root -p
MariaDB [(none)]> use Univ_Mino;
Database changed
MariaDB [Univ_Mino]> CREATE TABLE mahasiswa (nim int(11), nama
char(20), angkatan int(4), semester int(2), PRIMARY KEY (nim)
) ENGINE = InnoDB;
Query OK, 0 rows affected (0.236 sec)

MariaDB [Univ_Mino]> desc mahasiswa;
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| nim   | int(11) | NO | PRI | NULL |
| nama  | char(20) | YES | | NULL |
| angkatan | int(4) | YES | | NULL |
| semester | int(2) | YES | | NULL |
+-----+-----+-----+-----+-----+
4 rows in set (0.067 sec)

MariaDB [Univ_Mino]>
  
```

3. Ubah struktur tabel "mahasiswa",

a. Tambahkan kolom "tanggal lahir" setelah kolom nama.

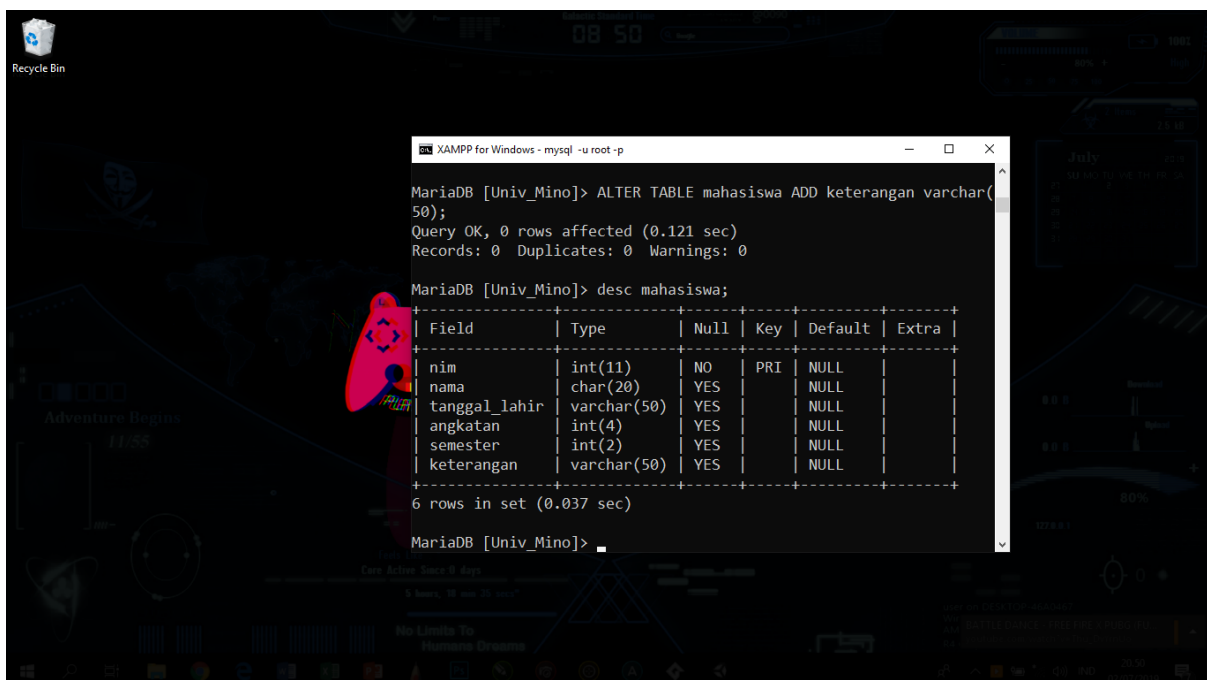


```
MariaDB [Univ_Mino]> ALTER TABLE mahasiswa ADD tanggal_lahir varchar(50) AFTER nama;
Query OK, 0 rows affected (0.200 sec)
Records: 0 Duplicates: 0 Warnings: 0

MariaDB [Univ_Mino]> desc mahasiswa;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| nim    | int(11) | NO | PRI | NULL |      |
| nama   | char(20) | YES |     | NULL |      |
| tanggal_lahir | varchar(50) | YES |     | NULL |      |
| angkatan | int(4) | YES |     | NULL |      |
| semester | int(2) | YES |     | NULL |      |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.039 sec)

MariaDB [Univ_Mino]>
```

b. Tambahkan kolom "keterangan" pada posisi akhir kolom.

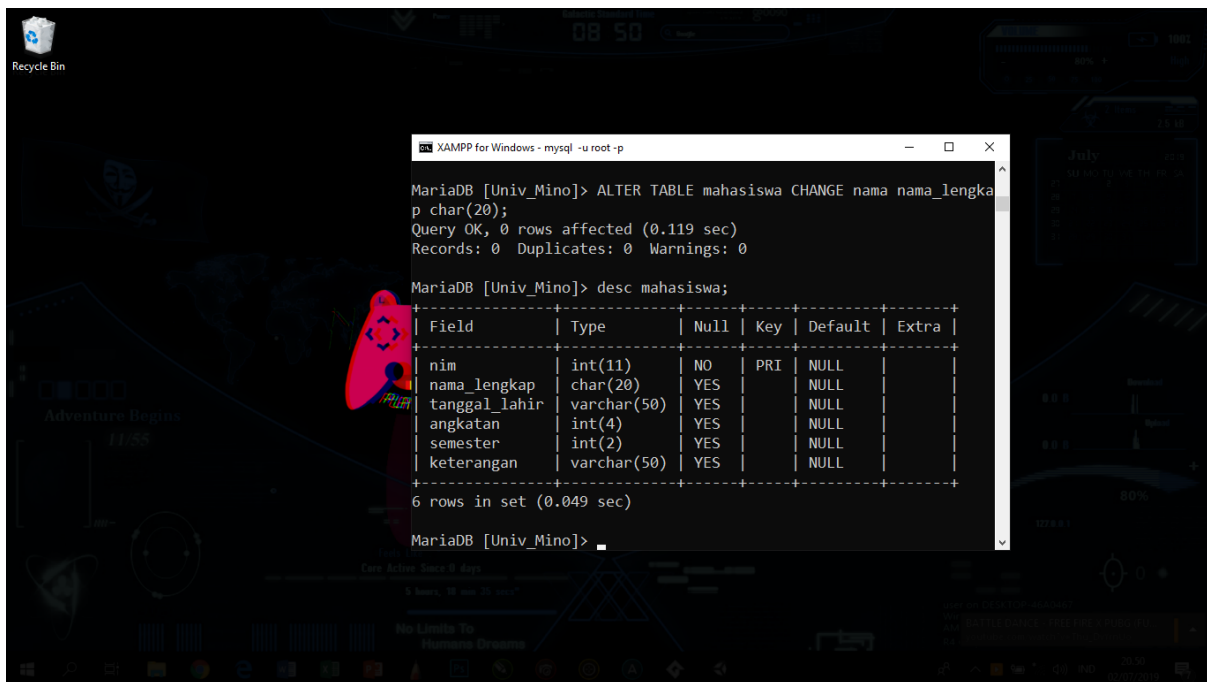


```
MariaDB [Univ_Mino]> ALTER TABLE mahasiswa ADD keterangan varchar(50);
Query OK, 0 rows affected (0.121 sec)
Records: 0 Duplicates: 0 Warnings: 0

MariaDB [Univ_Mino]> desc mahasiswa;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| nim    | int(11) | NO | PRI | NULL |      |
| nama   | char(20) | YES |     | NULL |      |
| tanggal_lahir | varchar(50) | YES |     | NULL |      |
| angkatan | int(4) | YES |     | NULL |      |
| semester | int(2) | YES |     | NULL |      |
| keterangan | varchar(50) | YES |     | NULL |      |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.037 sec)

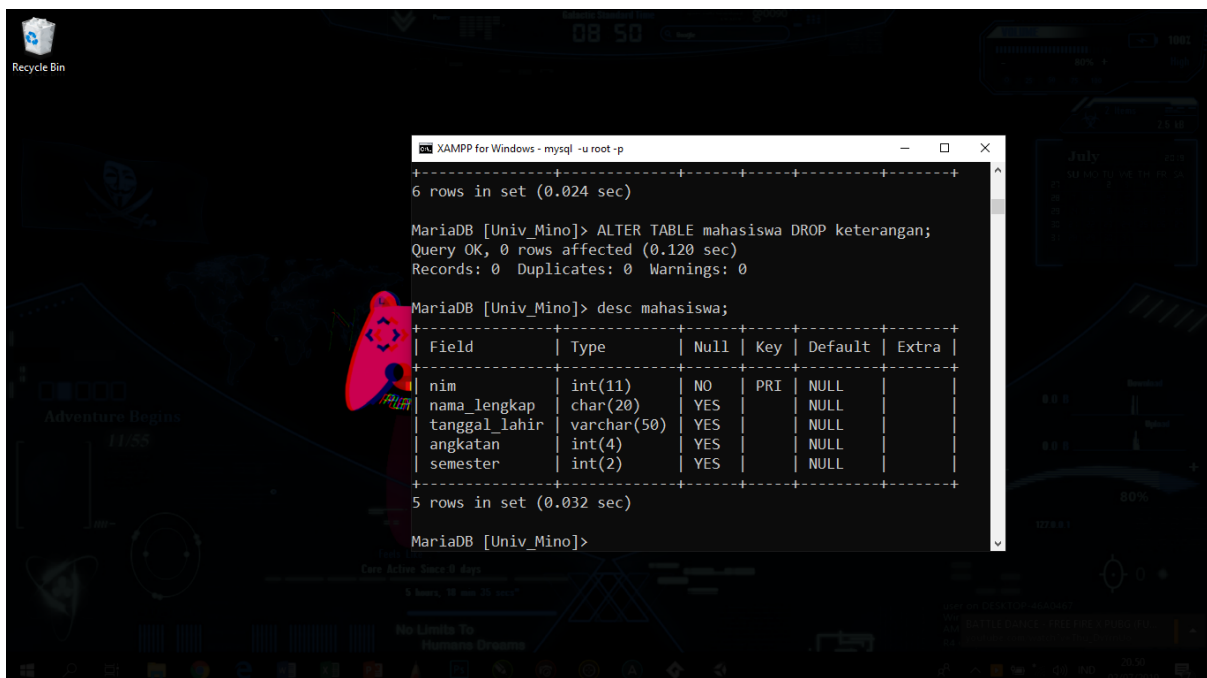
MariaDB [Univ_Mino]>
```

c. Ubah kolom nama menjadi “nama\_lengkap”.



```
MariaDB [Univ_Mino]> ALTER TABLE mahasiswa CHANGE nama nama_lengkap  
p char(20);  
Query OK, 0 rows affected (0.119 sec)  
Records: 0 Duplicates: 0 Warnings: 0  
  
MariaDB [Univ_Mino]> desc mahasiswa;  
+-----+-----+-----+-----+-----+-----+  
| Field      | Type      | Null | Key | Default | Extra |  
+-----+-----+-----+-----+-----+-----+  
| nim        | int(11)   | NO   | PRI | NULL    |       |  
| nama_lengkap | char(20)  | YES  |     | NULL    |       |  
| tanggal_lahir | varchar(50) | YES  |     | NULL    |       |  
| angkatan   | int(4)    | YES  |     | NULL    |       |  
| semester   | int(2)    | YES  |     | NULL    |       |  
| keterangan | varchar(50) | YES  |     | NULL    |       |  
+-----+-----+-----+-----+-----+-----+  
6 rows in set (0.049 sec)  
  
MariaDB [Univ_Mino]>
```

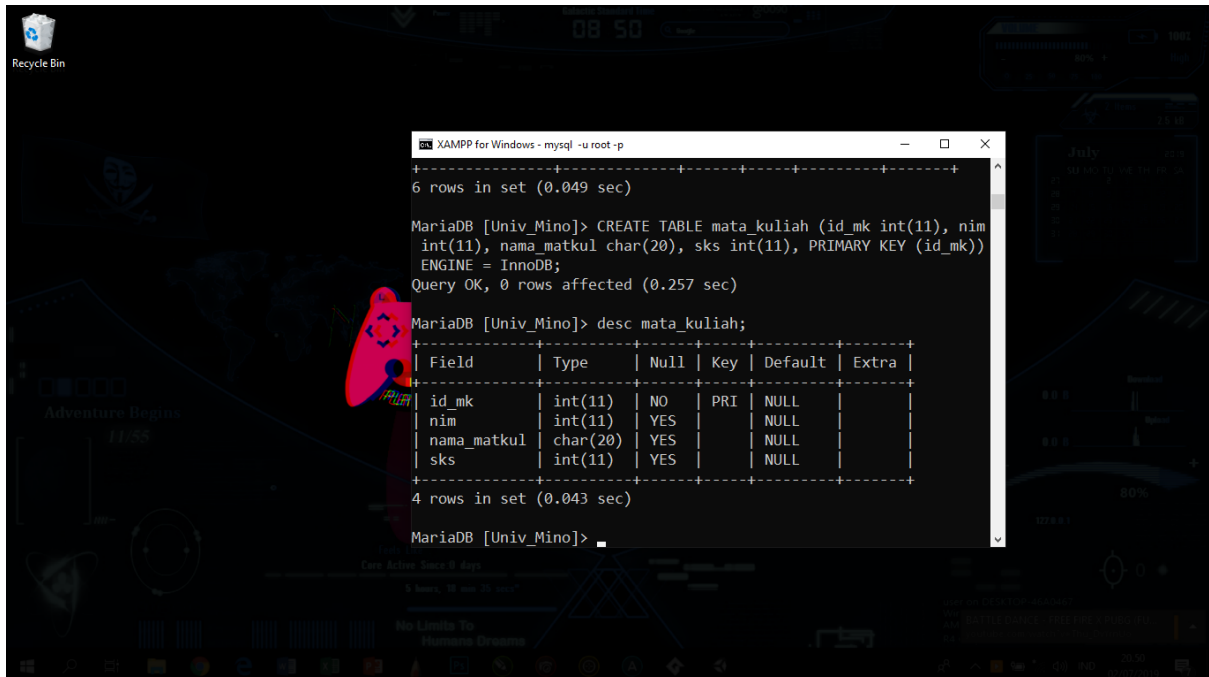
d. Hapus kolom keterangan.



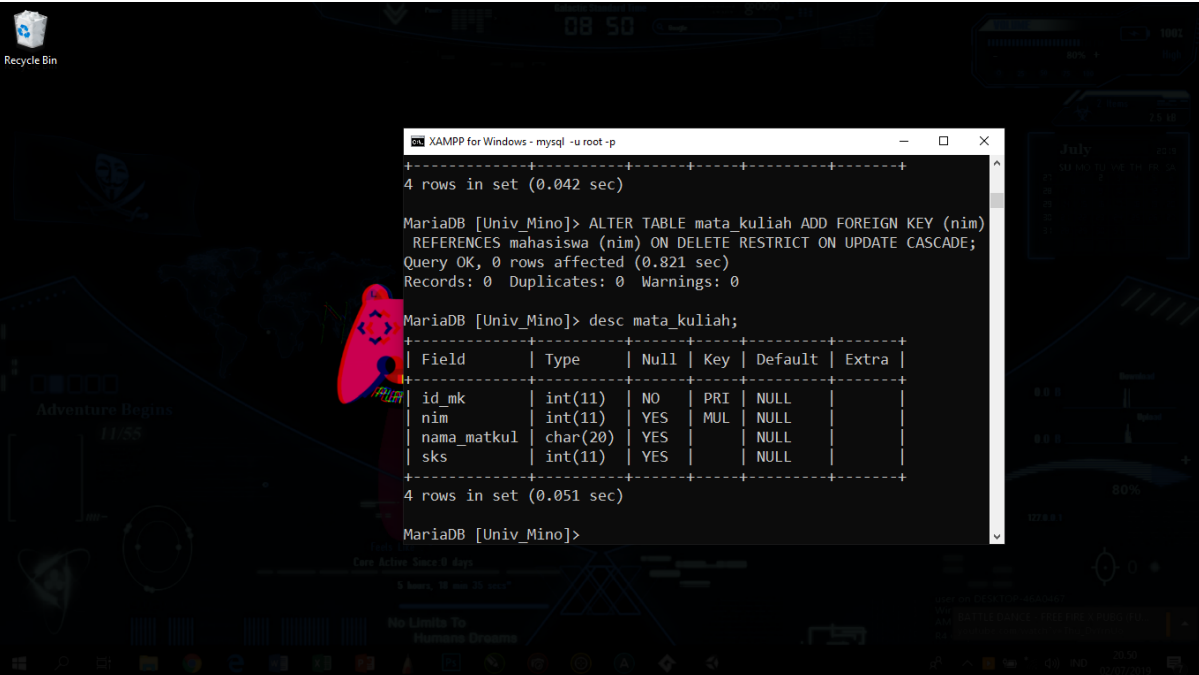
```
6 rows in set (0.024 sec)  
  
MariaDB [Univ_Mino]> ALTER TABLE mahasiswa DROP keterangan;  
Query OK, 0 rows affected (0.120 sec)  
Records: 0 Duplicates: 0 Warnings: 0  
  
MariaDB [Univ_Mino]> desc mahasiswa;  
+-----+-----+-----+-----+-----+-----+  
| Field      | Type      | Null | Key | Default | Extra |  
+-----+-----+-----+-----+-----+-----+  
| nim        | int(11)   | NO   | PRI | NULL    |       |  
| nama_lengkap | char(20)  | YES  |     | NULL    |       |  
| tanggal_lahir | varchar(50) | YES  |     | NULL    |       |  
| angkatan   | int(4)    | YES  |     | NULL    |       |  
| semester   | int(2)    | YES  |     | NULL    |       |  
+-----+-----+-----+-----+-----+-----+  
5 rows in set (0.032 sec)  
  
MariaDB [Univ_Mino]>
```

4. Buatlah tabel dengan nama “mata\_kuliah” dengan struktur tabel sebagai berikut:

Field	Type	Null	Key	Default	Extra
id_mk	int(11)	NO	PRI	NULL	
nim	int(11)	NO	MUL	NULL	
nama_matkul	char(20)	NO		NULL	
sks	int(11)	NO		NULL	



Pada tabel mahasiswa diatas, kolom nim ingin di relasikan dengan tabel mahasiswa melalui kolom nim. Dengan perintah SQL, buatlah relasi tabel tersebut.



```
XAMPP for Windows - mysql -u root -p
4 rows in set (0.042 sec)

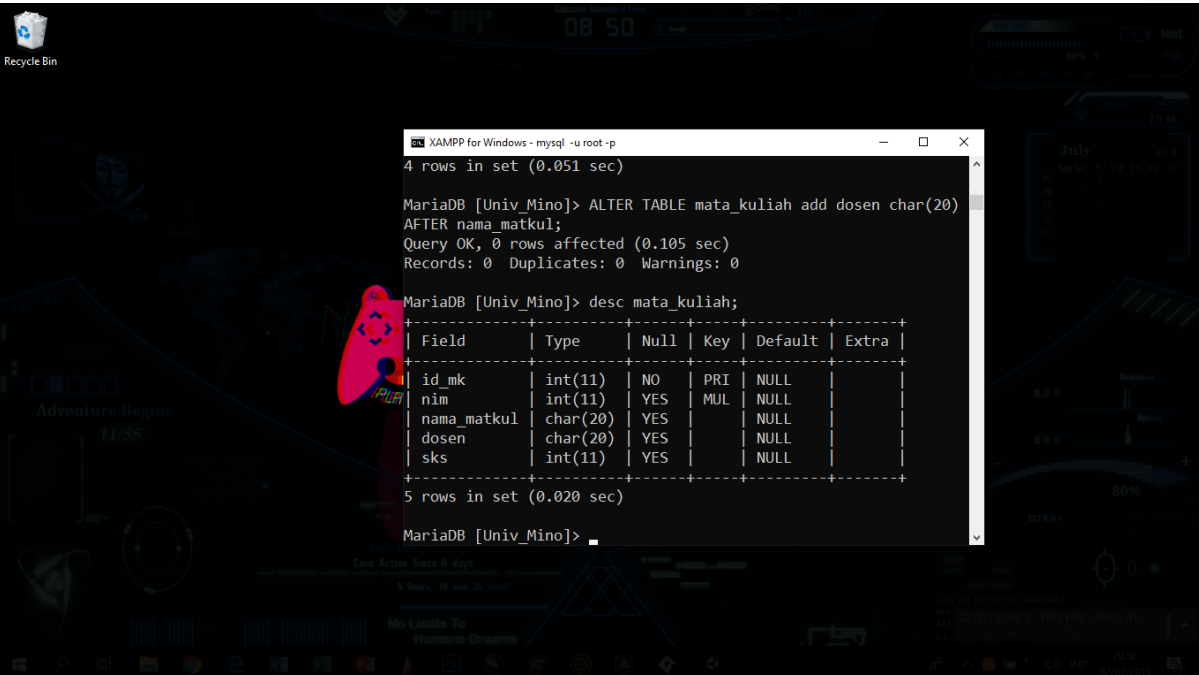
MariaDB [Univ_Mino]> ALTER TABLE mata_kuliah ADD FOREIGN KEY (nim)
REFERENCES mahasiswa (nim) ON DELETE RESTRICT ON UPDATE CASCADE;
Query OK, 0 rows affected (0.821 sec)
Records: 0 Duplicates: 0 Warnings: 0

MariaDB [Univ_Mino]> desc mata_kuliah;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id_mk | int(11) | NO | PRI | NULL | |
| nim | int(11) | YES | MUL | NULL | |
| nama_matkul | char(20) | YES | | NULL | |
| sks | int(11) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.051 sec)

MariaDB [Univ_Mino]>
```

5. Ubah struktur tabel "mata\_kuliah",

a. Tambahkan kolom "dosen" setelah kolom nama\_matkul.



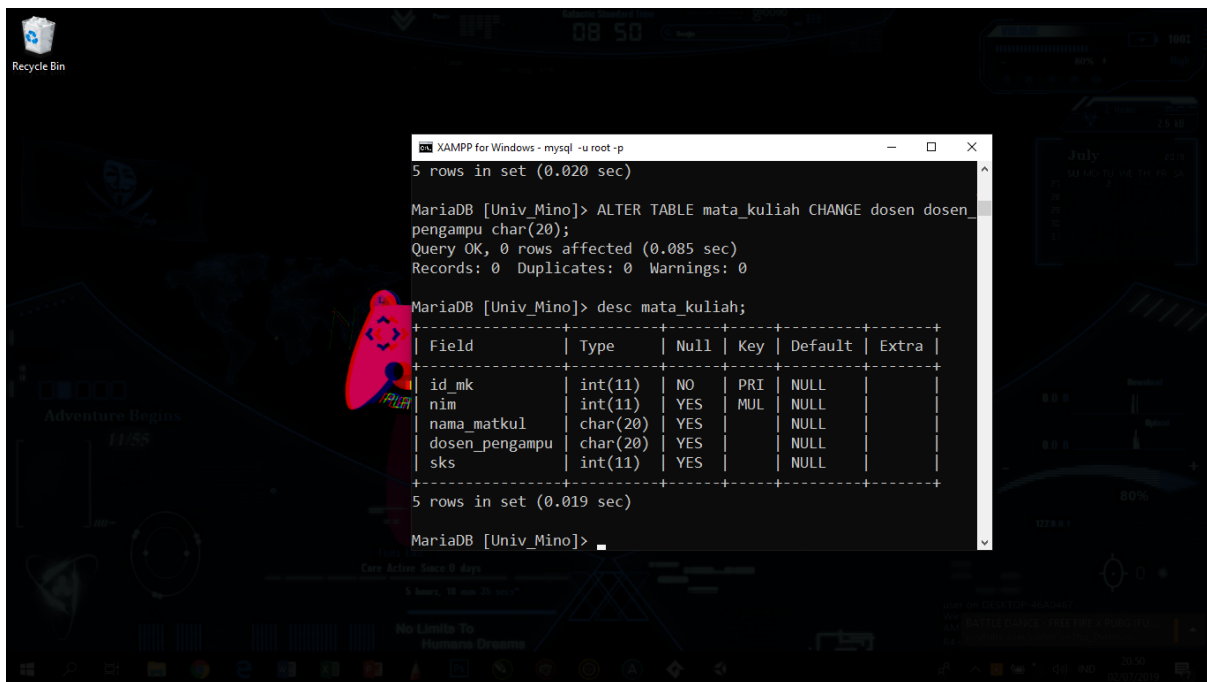
```
XAMPP for Windows - mysql -u root -p
4 rows in set (0.051 sec)

MariaDB [Univ_Mino]> ALTER TABLE mata_kuliah add dosen char(20)
AFTER nama_matkul;
Query OK, 0 rows affected (0.105 sec)
Records: 0 Duplicates: 0 Warnings: 0

MariaDB [Univ_Mino]> desc mata_kuliah;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id_mk | int(11) | NO | PRI | NULL | |
| nim | int(11) | YES | MUL | NULL | |
| nama_matkul | char(20) | YES | | NULL | |
| dosen | char(20) | YES | | NULL | |
| sks | int(11) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.020 sec)

MariaDB [Univ_Mino]>
```

b. Ubah kolom “dosen” menjadi kolom “dosen\_pengampu”.



```
XAMPP for Windows - mysql -u root -p
5 rows in set (0.020 sec)

MariaDB [Univ_Mino]> ALTER TABLE mata_kuliah CHANGE dosen dosen_
pengampu char(20);
Query OK, 0 rows affected (0.085 sec)
Records: 0 Duplicates: 0 Warnings: 0

MariaDB [Univ_Mino]> desc mata_kuliah;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id_mk | int(11) | NO | PRI | NULL | |
| nim | int(11) | YES | MUL | NULL | |
| nama_matkul | char(20) | YES | | NULL | |
| dosen_pengampu | char(20) | YES | | NULL | |
| sks | int(11) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.019 sec)

MariaDB [Univ_Mino]>
```