Soal Latihan Praktikum

Data Model Mapping

```
Mahasiswa (nim, nama, jenis_kelamin, tgl_lahir, jalan, kota, kodepos, no_hp, kd_ds)

Dosen (kd_ds, nama)

Matakuliah (kd_mk, nama, sks)

JadwalMengajar (kd_ds, kd_mk, hari, jam, ruang)

KRSMahasiswa (nim, kd_mk, kd_ds, semester, nilai)
```
- Buat DDL Script berdasarkan skema ERD tersebut diatas.
- Jalankan script DDL tersebut pada DBMS MySQL.

langkah-langkahnya :

1. buat dulu script untuk table mahasiswa :

```
CREATE TABLE Mahasiswa
(nim VARCHAR(10) PRIMARY KEY, nama VARCHAR(255) NOT NULL, jenis_kelamin
ENUM('Laki-Laki', 'Perempuan'),
tgl_lahir DATE,jalan VARCHAR(255) NOT NULL, kota VARCHAR(255) NOT NULL,
kodepos VARCHAR(5) NOT NULL,
no_hp VARCHAR(15) NOT NULL,
kd_ds VARCHAR(10) NOT NULL, FOREIGN KEY (kd_ds) REFERENCES Dosen(kd_ds))
```

![gambar1](screenshot/ss1.png)

tampilkan hasil table :

`desc mahasiswa;`

![gambar2](screenshot/ss2.png)

2. buat script untuk table dosen :
```

```
CREATE TABLE Dosen
( -> kd_ds VARCHAR(10) PRIMARY KEY, ->
   nama VARCHAR(255) NOT NULL -> );
```

![gambar3](screenshot/ss3.png)

tampiilkan tabel :

`desc dosen;`

![gambar4](screenshot/ss4.png)

3. buat script untuk mata kuliah :
```
CREATE TABLE Matakuliah
( -> kd_mk VARCHAR(10) PRIMARY KEY, ->
    nama VARCHAR(255) NOT NULL, ->
    sks INT NOT NULL -> );
```

![gambar5](screenshot/ss5.png)

tampilkan table :

`desc Matakuliah;`

![gambar6](screenshot/ss6.png)

4. Buat script untuk jadwal mengajar :
```
CREATE TABLE JadwalMengajar
( ->     kd_ds VARCHAR(10) NOT NULL, ->     kd_mk VARCHAR(10) NOT NULL, -
>     hari ENUM('Senin', 'Selasa', 'Rabu', 'Kamis', 'Jumat', 'Sabtu', 'Minggu')
NOT NULL, ->     jam TIME NOT NULL, ->     ruang VARCHAR(255) NOT NULL, -
>     PRIMARY KEY (kd_ds, kd_mk, hari, jam), ->     FOREIGN KEY (kd_ds)
REFERENCES Dosen(kd_ds), ->     FOREIGN KEY (kd_mk) REFERENCES Matakuliah(kd_mk)
-> );
```

![gambar7](screenshot/ss7.png)

tampilkan table :

`desc JadwalMengajar;`
```

![gambar8](screenshot/ss8.png)

5. Buat script untuk KRSMahasiswa :
```
CREATE TABLE KRSMahasiswa
( ->     nim VARCHAR(10) NOT NULL, ->     kd_mk VARCHAR(10) NOT NULL, -
>     kd_ds VARCHAR(10) NOT NULL, ->     semester VARCHAR(10) NOT NULL, -
>     nilai FLOAT NOT NULL, ->     PRIMARY KEY (nim, kd_mk), ->     FOREIGN KEY
(nim) REFERENCES Mahasiswa(nim), ->     FOREIGN KEY (kd_mk) REFERENCES
Matakuliah(kd_mk), ->     FOREIGN KEY (kd_ds) REFERENCES Dosen(kd_ds) -> );
```

![gamabr9](screenshot/ss9.png)

tampilkan table :

`desc KRSMahasiswa;`

![gambar10](screenshot/ss10.png)

Berikut script secara keseluruhan :

![gambar11](screenshot/ss11.png)

FINISH...

Ss1 :

```
MariaDB [latihan3]> CREATE TABLE Mahasiswa (
    ->      nim VARCHAR(10) PRIMARY KEY,
    ->      nama VARCHAR(255) NOT NULL,
    ->      jenis_kelamin ENUM('Laki-Laki', 'Perempuan'),
    ->      tgl_lahir DATE,
    ->      jalan VARCHAR(255) NOT NULL,
    ->      kota VARCHAR(255) NOT NULL,
    ->      kodepos VARCHAR(5) NOT NULL,
    ->      no_hp VARCHAR(15) NOT NULL,
    ->      kd_ds VARCHAR(10) NOT NULL,
    ->      FOREIGN KEY (kd_ds) REFERENCES Dosen(kd_ds)
    -> );
Query OK, 0 rows affected (0.028 sec)
```

Ss2 :

```
MariaDB [latihan3]> desc mahasiswa;
```

Field	Type	Null	Key	Default	Extra
nim	varchar(10)	NO	PRI	NULL	
nama	varchar(255)	NO		NULL	
jenis_kelamin	enum('Laki-Laki','Perempuan')	YES		NULL	
tgl_lahir	date	YES		NULL	
jalan	varchar(255)	NO		NULL	
kota	varchar(255)	NO		NULL	
kodepos	varchar(5)	NO		NULL	
no_hp	varchar(15)	NO		NULL	
kd_ds	varchar(10)	NO	MUL	NULL	

```
9 rows in set (0.014 sec)
```

Ss3 :

```
MariaDB [latihan3]> CREATE TABLE Dosen (
    ->      kd_ds VARCHAR(10) PRIMARY KEY,
    ->      nama VARCHAR(255) NOT NULL
    -> );
Query OK, 0 rows affected (0.039 sec)
```

Ss4 :

```
MariaDB [latihan3]> desc dosen;
```

Field	Type	Null	Key	Default	Extra
kd_ds	varchar(10)	NO	PRI	NULL	
nama	varchar(255)	NO		NULL	

```
2 rows in set (0.015 sec)
```

Ss5 :

```
MariaDB [latihan3]> CREATE TABLE Matakuliah (
    ->      kd_mk VARCHAR(10) PRIMARY KEY,
    ->      nama VARCHAR(255) NOT NULL,
    ->      sks INT NOT NULL
    -> );
Query OK, 0 rows affected (0.012 sec)
```

Ss6 :

```
MariaDB [latihan3]> desc matakuliah;
+--------+--------------+------+-----+---------+-------+
| Field  | Type         | Null | Key | Default | Extra |
+--------+--------------+------+-----+---------+-------+
| kd_mk  | varchar(10)  | NO   | PRI | NULL    |       |
| nama   | varchar(255) | NO   |     | NULL    |       |
| sks    | int(11)      | NO   |     | NULL    |       |
+--------+--------------+------+-----+---------+-------+
3 rows in set (0.013 sec)
```

Ss7 :

```
MariaDB [latihan3]> CREATE TABLE JadwalMengajar (
    ->      kd_ds VARCHAR(10) NOT NULL,
    ->      kd_mk VARCHAR(10) NOT NULL,
    ->      hari ENUM('Senin', 'Selasa', 'Rabu', 'Kamis', 'Jumat', 'Sabtu', 'Minggu') NOT NULL,
    ->      jam TIME NOT NULL,
    ->      ruang VARCHAR(255) NOT NULL,
    ->      PRIMARY KEY (kd_ds, kd_mk, hari, jam),
    ->      FOREIGN KEY (kd_ds) REFERENCES Dosen(kd_ds),
    ->      FOREIGN KEY (kd_mk) REFERENCES Matakuliah(kd_mk)
    -> );
Query OK, 0 rows affected (0.025 sec)
```

Ss8 :

```
MariaDB [latihan3]> desc JadwalMengajar;
+--------+--------------------------------------------------------------+------+-----+---------+-------+
| Field  | Type                                                         | Null | Key | Default | Extra |
+--------+--------------------------------------------------------------+------+-----+---------+-------+
| kd_ds  | varchar(10)                                                  | NO   | PRI | NULL    |       |
| kd_mk  | varchar(10)                                                  | NO   | PRI | NULL    |       |
| hari   | enum('Senin','Selasa','Rabu','Kamis','Jumat','Sabtu','Minggu') | NO   | PRI | NULL    |       |
| jam    | time                                                         | NO   | PRI | NULL    |       |
| ruang  | varchar(255)                                                 | NO   |     | NULL    |       |
+--------+--------------------------------------------------------------+------+-----+---------+-------+
5 rows in set (0.015 sec)
```

Ss9 :

```
MariaDB [latihan3]> CREATE TABLE KRSMahasiswa (
    ->      nim VARCHAR(10) NOT NULL,
    ->      kd_mk VARCHAR(10) NOT NULL,
    ->      kd_ds VARCHAR(10) NOT NULL,
    ->      semester VARCHAR(10) NOT NULL,
    ->      nilai FLOAT NOT NULL,
    ->      PRIMARY KEY (nim, kd_mk),
    ->      FOREIGN KEY (nim) REFERENCES Mahasiswa(nim),
    ->      FOREIGN KEY (kd_mk) REFERENCES Matakuliah(kd_mk),
    ->      FOREIGN KEY (kd_ds) REFERENCES Dosen(kd_ds)
    -> );
Query OK, 0 rows affected (0.032 sec)
```

Ss10 :

```
MariaDB [latihan3]> desc KRSMahasiswa;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| nim      | varchar(10) | NO   | PRI | NULL    |       |
| kd_mk    | varchar(10) | NO   | PRI | NULL    |       |
| kd_ds    | varchar(10) | NO   | MUL | NULL    |       |
| semester | varchar(10) | NO   |     | NULL    |       |
| nilai    | float       | NO   |     | NULL    |       |
+----------+-------------+------+-----+---------+-------+
5 rows in set (0.015 sec)
```

Ss11 :

```sql
CREATE TABLE Mahasiswa (
    nim VARCHAR(10) PRIMARY KEY,
    nama VARCHAR(255) NOT NULL,
    jenis_kelamin ENUM('Laki-Laki', 'Perempuan'),
    tgl_lahir DATE,
    jalan VARCHAR(255) NOT NULL,
    kota VARCHAR(255) NOT NULL,
    kodepos VARCHAR(5) NOT NULL,
    no_hp VARCHAR(15) NOT NULL,
    kd_ds VARCHAR(10) NOT NULL,
    FOREIGN KEY (kd_ds) REFERENCES Dosen(kd_ds)
);

CREATE TABLE Dosen (
    kd_ds VARCHAR(10) PRIMARY KEY,
    nama VARCHAR(255) NOT NULL
);

CREATE TABLE Matakuliah (
    kd_mk VARCHAR(10) PRIMARY KEY,
    nama VARCHAR(255) NOT NULL,
    sks INT NOT NULL
);

CREATE TABLE JadwalMengajar (
    kd_ds VARCHAR(10) NOT NULL,
    kd_mk VARCHAR(10) NOT NULL,
    hari ENUM('Senin', 'Selasa', 'Rabu', 'Kamis', 'Jumat', 'Sabtu', 'Minggu'),
    jam TIME NOT NULL,
    ruang VARCHAR(255) NOT NULL,
    PRIMARY KEY (kd_ds, kd_mk, hari, jam),
    FOREIGN KEY (kd_ds) REFERENCES Dosen(kd_ds),
    FOREIGN KEY (kd_mk) REFERENCES Matakuliah(kd_mk)
);

CREATE TABLE KRSMahasiswa (
    nim VARCHAR(10) NOT NULL,
    kd_mk VARCHAR(10) NOT NULL,
    kd_ds VARCHAR(10) NOT NULL,
    semester VARCHAR(10) NOT NULL,
    nilai FLOAT NOT NULL,
    PRIMARY KEY (nim, kd_mk),
    FOREIGN KEY (nim) REFERENCES Mahasiswa(nim),
    FOREIGN KEY (kd_mk) REFERENCES Matakuliah(kd_mk),
    FOREIGN KEY (kd_ds) REFERENCES Dosen(kd_ds)
);
```