

```
create database praktikum5;
```

```
use praktikum5;
```

```
CREATE TABLE Dosen (
```

```
    kd_ds VARCHAR(15) PRIMARY KEY,
```

```
    nama VARCHAR(255)
```

```
);
```

```
CREATE TABLE Mahasiswa (
```

```
    nim INT PRIMARY KEY,
```

```
    nama VARCHAR(255),
```

```
    jk ENUM('L', 'P'),
```

```
    tgl_lahir DATE,
```

```
    jalan VARCHAR(255),
```

```
    kota VARCHAR(255),
```

```
    kodepos VARCHAR(10),
```

```
    no_hp VARCHAR(15),
```

```
    kd_ds VARCHAR(15),
```

```
    FOREIGN KEY (kd_ds) REFERENCES Dosen(kd_ds)
```

```
);
```

```
CREATE TABLE Matakuliah (
```

```
    kd_mk VARCHAR(15) PRIMARY KEY,
```

```
    nama VARCHAR(255),
```

```
    sks INT
```

```
);
```

```
CREATE TABLE jadwal_mengajar (
```

```
    kd_mk VARCHAR(15),
```

```
    kd_ds VARCHAR(15),
```

```
    hari VARCHAR(10),
```

```
    jam TIME,
```

```
    ruang VARCHAR(20),  
    FOREIGN KEY (kd_mk) REFERENCES Matakuliah(kd_mk),  
    FOREIGN KEY (kd_ds) REFERENCES Dosen(kd_ds)  
);
```

```
CREATE TABLE KRSMahasiswa (  
    nim INT,  
    kd_mk VARCHAR(15),  
    kd_ds VARCHAR(15),  
    semester VARCHAR(10),  
    nilai INT,  
    FOREIGN KEY (nim) REFERENCES Mahasiswa(nim),  
    FOREIGN KEY (kd_mk) REFERENCES Matakuliah(kd_mk),  
    FOREIGN KEY (kd_ds) REFERENCES Dosen(kd_ds)  
);
```

```
INSERT INTO praktikum5.mahasiswa (nim, nama, jk, tgl_lahir, kota, kd_ds) VALUES ('1812345', 'Ari Santoso', 'L', '1999-10-11', 'Bekasi', 'DS002');
```

```
INSERT INTO praktikum5.mahasiswa (nim, nama, jk, tgl_lahir, kota) VALUES ('1823456', 'Dina Marlina', 'P', '1998-11-20', 'Jakarta');
```

```
INSERT INTO praktikum5.mahasiswa (nim, nama, jk, tgl_lahir, kota) VALUES ('1834567', 'Rahmat Hidayat', 'L', '1999-05-10', 'Bekasi');
```

```
INSERT INTO praktikum5.mahasiswa (nim, nama, jk, tgl_lahir, kota) VALUES ('1845678', 'Jaka Sampurna', 'L', '2000-10-19', 'Cikarang');
```

```
INSERT INTO praktikum5.mahasiswa (nim, nama, jk, tgl_lahir, kota) VALUES ('1856789', 'Tia Lestari', 'P', '1999-02-15', 'Karawang');
```

```
INSERT INTO praktikum5.mahasiswa (nim, nama, jk, tgl_lahir, kota) VALUES ('1867890', 'Anton Sinaga', 'L', '1998-06-22', 'Bekasi');
```

```
INSERT INTO praktikum5.mahasiswa (nim, nama, jk, tgl_lahir, kota) VALUES ('1912345', 'Listia Nastiti', 'P', '2001-10-23', 'Jakarta');
```

```
INSERT INTO praktikum5.mahasiswa (nim, nama, jk, tgl_lahir, kota, kd_ds) VALUES ('1923456', 'Amira Jarisa', 'P', '2001-01-24', 'Karawang', 'DS004');
```

```
INSERT INTO praktikum5.mahasiswa (nim, nama, jk, tgl_lahir, kota) VALUES ('1934567', 'Laksana  
Mardito', 'L', '1999-04-14', 'Cikarang');
```

```
INSERT INTO praktikum5.mahasiswa (nim, nama, jk, tgl_lahir, kota) VALUES ('1945678', 'Jura Marsina', 'P',  
'2000-05-10', 'Cikarang');
```

```
INSERT INTO praktikum5.mahasiswa (nim, nama, jk, tgl_lahir, kota, kd_ds) VALUES ('1956789', 'Dadi  
Martani', 'L', '2001-08-29', 'Bekasi', 'DS005');
```

```
INSERT INTO praktikum5.mahasiswa (nim, nama, jk, tgl_lahir, kota, kd_ds) VALUES ('1967890', 'Bayu  
Laksono', 'L', '1999-07-22', 'Cikarang', 'DS004');
```

```
ALTER TABLE krsmahasiswa MODIFY semester VARCHAR(10) NOT NULL;
```

```
ALTER TABLE jadwal_mengajar MODIFY hari VARCHAR(10) NOT NULL;
```

```
INSERT INTO KRSMahasiswa (nim, kd_mk, kd_ds, semester)
```

```
VALUES ('1823456', 'MK001', 'DS002', 3),
```

```
('1823456', 'MK002', 'DS002', 1),
```

```
('1823456', 'MK003', 'DS001', 3),
```

```
('1823456', 'MK004', 'DS001', 3),
```

```
('1823456', 'MK007', 'DS005', 3),
```

```
('1823456', 'MK008', 'DS005', 3);
```

```
SELECT *
```

```
FROM Mahasiswa
```

```
JOIN Dosen ON Mahasiswa.kd_ds = Dosen.kd_ds;
```

```
ALTER TABLE Matakuliah
```

```
ADD kd_ds VARCHAR(15),
```

```
ADD CONSTRAINT FK_Matakuliah_Dosen
```

```
FOREIGN KEY (kd_ds) REFERENCES Dosen (kd_ds);
```

```
SELECT *
```

```
FROM Matakuliah
```

```
JOIN Dosen ON matakuliah.kd_ds = Dosen.kd_ds;
```

```
SELECT jadwal_mengajar.*, dosen.nama AS nama_dosen, matakuliah.nama AS nama_matakuliah
```

```
FROM jadwal_mengajar
```

JOIN dosen ON jadwal_mengajar.kd_ds = dosen.kd_ds

JOIN matakuliah ON jadwal_mengajar.kd_mk = matakuliah.kd_mk;

SELECT krsmahasiswa.*, mahasiswa.nama AS nama_mahasiswa, matakuliah.nama AS nama_matakuliah,
dosen.nama AS nama_dosen

FROM krsmahasiswa

JOIN mahasiswa ON krsmahasiswa.nim = mahasiswa.nim

JOIN matakuliah ON krsmahasiswa.kd_mk = matakuliah.kd_mk

JOIN dosen ON krsmahasiswa.kd_ds = dosen.kd_ds;

	nim	nama	jk	tgl_lahir	jalan	kota	kodepos	no_hp	kd_ds	kd_ds	nama
▶	1812345	Ari Santoso	L	1999-10-11	NULL	Bekasi	NULL	NULL	DS002	DS002	Ario Talib
	1923456	Amira Jarisa	P	2001-01-24	NULL	Karawang	NULL	NULL	DS004	DS004	Ratna Kumala
	1967890	Bayu Laksono	L	1999-07-22	NULL	Cikarang	NULL	NULL	DS004	DS004	Ratna Kumala
	1956789	Dadi Martani	L	2001-08-29	NULL	Bekasi	NULL	NULL	DS005	DS005	Vika Prasetyo

	kd_mk	nama	sks	kd_ds	kd_ds	nama
▶	MK001	Algoritma Dan Pemrograman	3	DS001	DS001	Nofal Arianto
	MK004	Praktikum Teknologi Basis Data	1	DS001	DS001	Nofal Arianto
	MK006	Pemrograman Berorientasi Objek	3	DS002	DS002	Ario Talib
	MK008	Arsitektur Komputer	2	DS002	DS002	Ario Talib
	MK002	Praktikum Algoritma Dan Pemrograman	1	DS003	DS003	Ayu Rahmadina
	MK003	Teknologi Basis Data	3	DS004	DS004	Ratna Kumala
	MK005	Pemrograman Dasar	3	DS005	DS005	Vika Prasetyo
	MK007	Struktur Data	3	DS005	DS005	Vika Prasetyo

	kd_mk	kd_ds	hari	jam	ruang	nama_dosen	nama_matakuliah
▶	MK001	DS002	Senin	10:00:00	102	Ario Talib	Algoritma Dan Pemrograman
	MK002	DS002	Senin	13:00:00	Lab. 01	Ario Talib	Praktikum Algoritma Dan Pemrograman
	MK003	DS001	Selasa	08:00:00	201	Nofal Arianto	Teknologi Basis Data
	MK004	DS001	Rabu	10:00:00	Lab. 02	Nofal Arianto	Praktikum Teknologi Basis Data
	MK005	DS003	Selasa	10:00:00	Lab. 01	Ayu Rahmadina	Pemrograman Dasar
	MK006	DS004	Kamis	09:00:00	Lab. 03	Ratna Kumala	Pemrograman Berorientasi Objek
	MK007	DS005	Rabu	08:00:00	102	Vika Prasetyo	Struktur Data
	MK008	DS005	Kamis	13:00:00	201	Vika Prasetyo	Arsitektur Komputer

	nim	kd_mk	kd_ds	semester	nilai	nama_mahasiswa	nama_matakuliah	nama_dosen
▶	1823456	MK001	DS002	3	NULL	Dina Marlina	Algoritma Dan Pemrograman	Ario Talib
	1823456	MK002	DS002	1	NULL	Dina Marlina	Praktikum Algoritma Dan Pemrograman	Ario Talib
	1823456	MK003	DS001	3	NULL	Dina Marlina	Teknologi Basis Data	Nofal Arianto
	1823456	MK004	DS001	3	NULL	Dina Marlina	Praktikum Teknologi Basis Data	Nofal Arianto
	1823456	MK007	DS005	3	NULL	Dina Marlina	Struktur Data	Vika Prasetyo
	1823456	MK008	DS005	3	NULL	Dina Marlina	Arsitektur Komputer	Vika Prasetyo
	1823456	MK001	DS002	3	NULL	Dina Marlina	Algoritma Dan Pemrograman	Ario Talib
	1823456	MK002	DS002	1	NULL	Dina Marlina	Praktikum Algoritma Dan Pemrograman	Ario Talib
	1823456	MK003	DS001	3	NULL	Dina Marlina	Teknologi Basis Data	Nofal Arianto
	1823456	MK004	DS001	3	NULL	Dina Marlina	Praktikum Teknologi Basis Data	Nofal Arianto
	1823456	MK007	DS005	3	NULL	Dina Marlina	Struktur Data	Vika Prasetyo
	1823456	MK008	DS005	3	NULL	Dina Marlina	Arsitektur Komputer	Vika Prasetyo