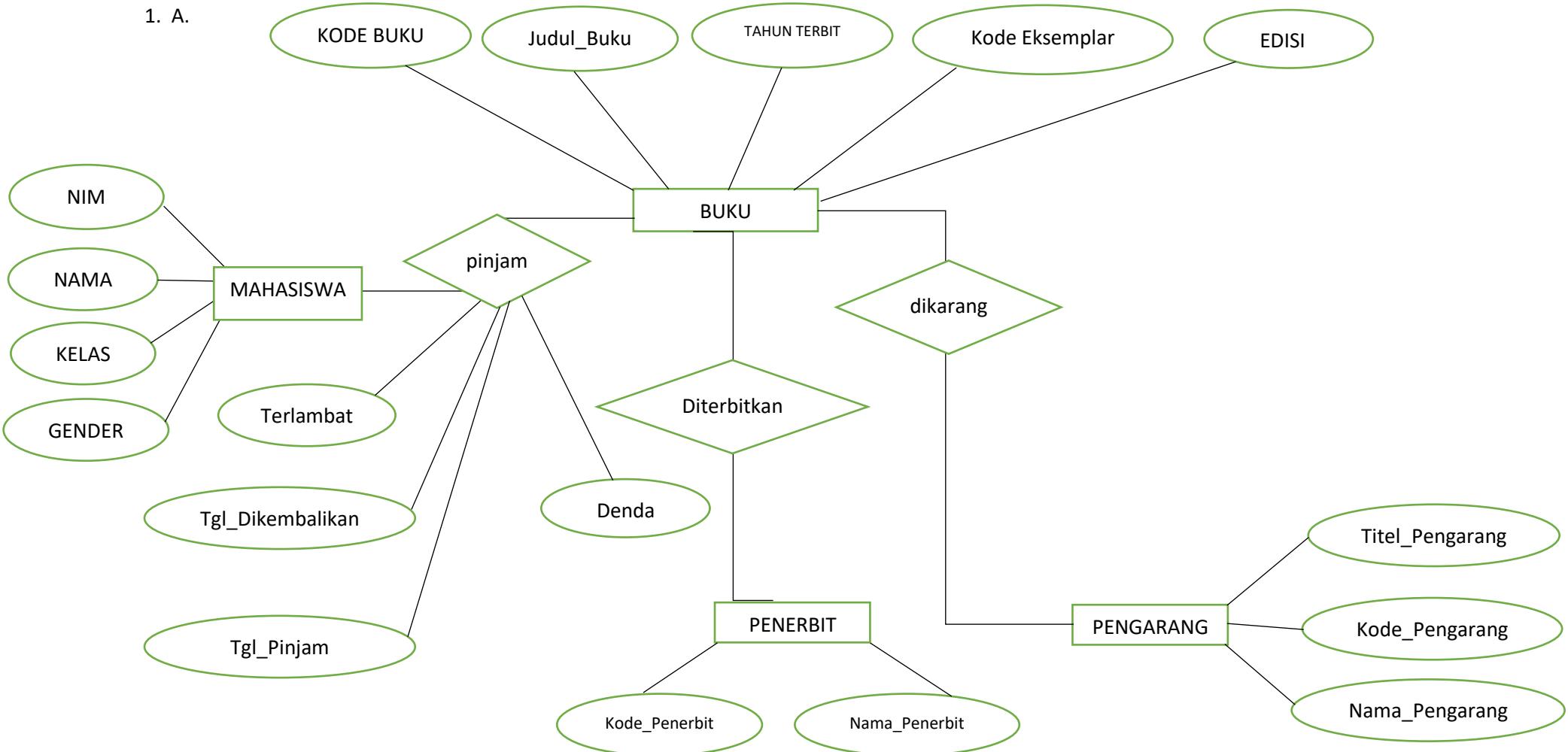


Nama : Muhammad Khalif Rizaldi Wibowo
 Kelas : H
 NIM : L200180217
 Mata Kuliah : Praktikum Sistem Basis Data

UTS

Praktikum Database System

1. A.



B.

- Mahasiswa meminjam buku :

Tabel Utama : mahasiswa, buku

Tabel Kedua : mahasiswa_has_buku

Relationship : many-to-many (m:n)

Attribute penghubung : nim, kode_buku, tgl_pinjam,tgl_kembali,terlambat,denda (FK NIM,kode_buku,tgl_pinjam,tgl_kembali ,terlambat,denda di mahasiswa_has_buku)

- Buku dikarang pengarang :

Tabel Utama : buku, pengarang

Tabel Kedua : buku_has_pengarang

Relationship : many to one (m:1)

Attribute penghubung : kode_buku, kode_pengarang (FK kode_buku, kode_pengarang di buku_has_pengarang)

- Buku diterbitkan penerbit :

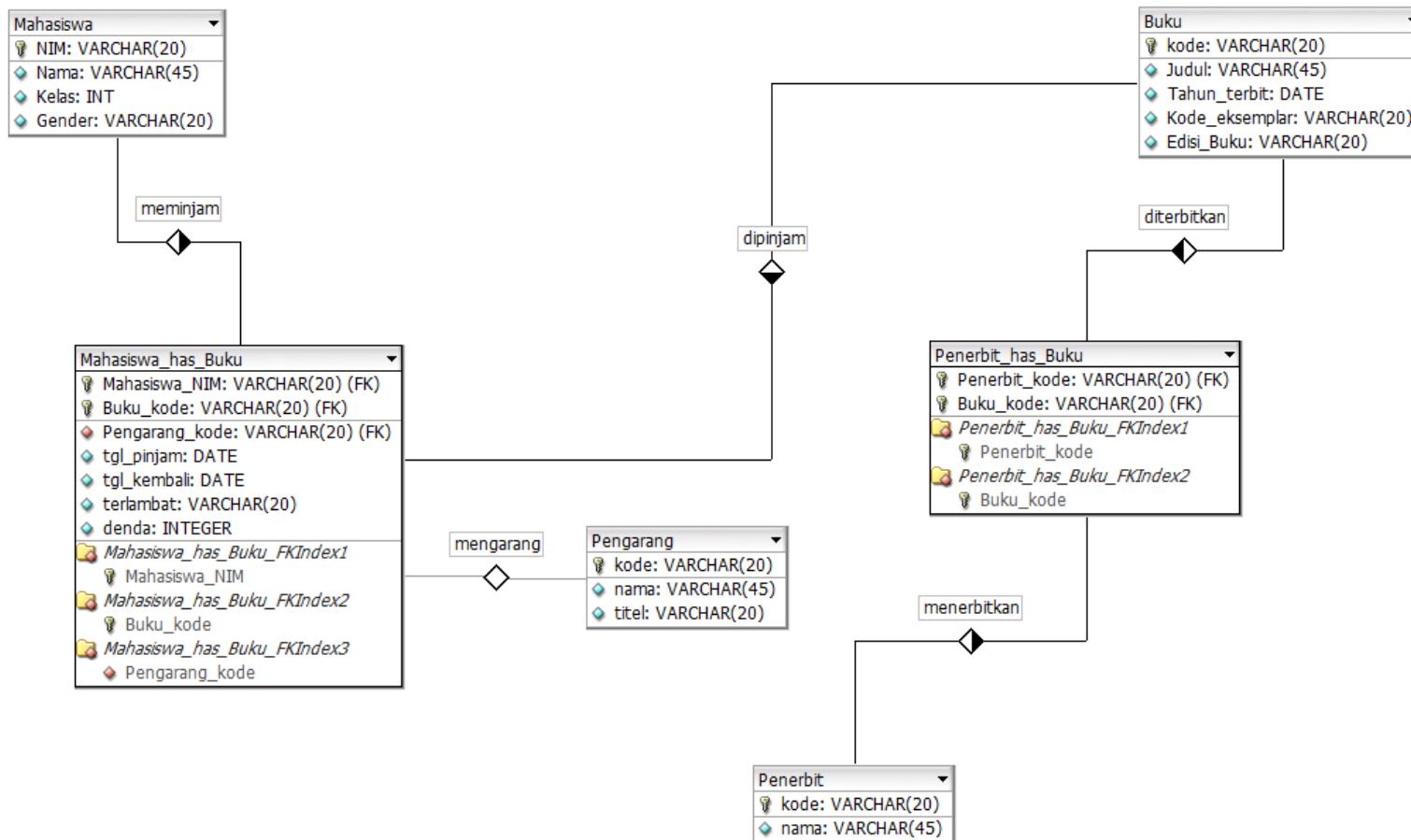
Tabel Utama : buku, penerbit

Tabel Kedua : buku_has_penerbit

Relationship : many to many (m:n)

Attribute penghubung : kode_buku,kode_penerbit (FK kode_buku, kode_penerbit di buku has penerbit)

C.



D.

```
MariaDB [(none)]> CREATE DATABASE perpustakaan;
Query OK, 1 row affected (0.072 sec)

MariaDB [(none)]> CREATE TABLE mahasiswa (
    -> NIM Varchar(20) PRIMARY KEY UNIQUE;
ERROR 1046 (3D000): No database selected
MariaDB [(none)]> CREATE TABLE mahasiswa (
    -> NIM Varchar(20) PRIMARY KEY UNIQUE,
    -> nama VARCHAR(45) NOT NULL,
    -> kelas INTEGER NOT NULL,
    -> gender VARCHAR(20) NOT NULL);
ERROR 1046 (3D000): No database selected
MariaDB [(none)]> use perpustakaan;
Database changed
MariaDB [perpustakaan]> CREATE TABLE mahasiswa (
    -> NIM Varchar(20) PRIMARY KEY UNIQUE,
    -> nama VARCHAR(45) NOT NULL,
    -> kelas INTEGER NOT NULL,
    -> gender VARCHAR(20) NOT NULL);
Query OK, 0 rows affected (0.473 sec)

MariaDB [perpustakaan]> CREATE TABLE pengarang (
    -> kode VARCHAR(20) PRIMARY KEY UNIQUE,
    -> nama VARCHAR(45) NOT NULL,
    -> titel VARCHAR(45) NOT NULL);
Query OK, 0 rows affected (0.709 sec)

MariaDB [perpustakaan]> CREATE TABLE penerbit(
    -> kode VARCHAR(20) PRIMARY KEY UNIQUE,
    -> nama VARCHAR(45) NOT NULL);
Query OK, 0 rows affected (0.298 sec)

MariaDB [perpustakaan]> CREATE TABLE buku(
    -> kode_buku VARCHAR(20) PRIMARY KEY,
    -> kode_eksemplar VARCHAR(20) NOT NULL,
    -> judul_buku VARCHAR(45) NOT NULL,
    -> edisi VARCHAR(20) NOT NULL,
```

```
MariaDB [perpustakaan]> CREATE TABLE buku(
    -> kode_buku VARCHAR(20) PRIMARY KEY,
    -> kode_eksemplar VARCHAR(20) NOT NULL,
    -> judul_buku VARCHAR(45) NOT NULL,
    -> tahun_terbit DATE NOT NULL,
    -> edisi_buku VARCHAR(20) NOT NULL);
Query OK, 0 rows affected (0.290 sec)

MariaDB [perpustakaan]> CREATE TABLE mahasiswa_has_buku(
    -> NIMFK VARCHAR(20) REFERENCES mahasiswa(NIM)
    -> ON DELETE CASCADE ON UPDATE CASCADE,
    -> kode_bukufk VARCHAR(20) REFERENCES buku(kode_buku)
    -> ON DELETE CASCADE ON UPDATE CASCADE,
    -> PRIMARY KEY(NIMFK,kode_bukufk));
Query OK, 0 rows affected (0.334 sec)

MariaDB [perpustakaan]> CREATE TABLE buku_has_penerbit(
    -> kode_bukufk INTEGER REFERENCES buku(kode_buku)
    -> ON DELETE CASCADE ON UPDATE CASCADE,
    -> kodefk VARCHAR(20)REFERENCES penerbit(kode)
    -> ON DELETE CASCADE ON UPDATE CASCADE,
    -> PRIMARY KEY(kode_bukufk, kodefk));
Query OK, 0 rows affected (0.350 sec)
```

```
MariaDB [perpustakaan]> alter table mahasiswa_has_buku
    -> add column if not exists
    -> tgl_pinjam date;
```

```
Query OK, 0 rows affected (0.448 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

```
MariaDB [perpustakaan]> alter table mahasiswa_has_buku
    -> add column if not exists
    -> tgl_kembali date;
```

```
Query OK, 0 rows affected (0.080 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

```
MariaDB [perpustakaan]> alter table mahasiswa_has_buku
    -> add column if not exists
    -> terlambat VARCHAR(20);
```

```
Query OK, 0 rows affected (0.199 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

```
MariaDB [perpustakaan]> alter table mahasiswa_has_buku
    -> add column if not exists
    -> denda INTEGER;
```

```
Query OK, 0 rows affected (0.109 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

```
MariaDB [perpustakaan]> describe mahasiswa_has_buku;
```

Field	Type	Null	Key	Default	Extra
NIMFK	varchar(20)	NO	PRI	NULL	
kode_bukuFK	varchar(20)	NO	PRI	NULL	
tgl_pinjam	date	YES		NULL	
tgl_kembali	date	YES		NULL	
terlambat	varchar(20)	YES		NULL	
denda	int(11)	YES		NULL	

6 rows in set (0.133 sec)

```
MariaDB [perpustakaan]> show tables;
```

Tables_in_perpustakaan
buku
buku_has_penerbit
mahasiswa
mahasiswa_has_buku
penerbit
pengarang

6 rows in set (0.024 sec)

```
MariaDB [perpustakaan]> describe buku;
```

Field	Type	Null	Key	Default	Extra
kode_buku	varchar(20)	NO	PRI	NULL	
kode_eksemplar	varchar(20)	NO		NULL	
judul_buku	varchar(45)	NO		NULL	
tahun_terbit	date	NO		NULL	
edisi_buku	varchar(20)	NO		NULL	

5 rows in set (0.167 sec)

```
MariaDB [perpustakaan]> describe buku_has_penerbit;
```

Field	Type	Null	Key	Default	Extra
kode_bukuFK	int(11)	NO	PRI	NULL	
kodeFK	varchar(20)	NO	PRI	NULL	

2 rows in set (0.024 sec)

```
MariaDB [perpustakaan]> describe mahasiswa;
```

Field	Type	Null	Key	Default	Extra
NIM	varchar(20)	NO	PRI	NULL	
nama	varchar(45)	NO		NULL	
kelas	int(11)	NO		NULL	

```
MariaDB [perpustakaan]> describe mahasiswa;
+-----+-----+-----+-----+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| NIM   | varchar(20) | NO   | PRI  | NULL    |       |
| nama  | varchar(45)  | NO   |       | NULL    |       |
| kelas | int(11)     | NO   |       | NULL    |       |
| gender| varchar(20) | NO   |       | NULL    |       |
+-----+-----+-----+-----+-----+
4 rows in set (0.040 sec)

MariaDB [perpustakaan]> describe mahasiswa_has_buku;
+-----+-----+-----+-----+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| NIMFK | varchar(20) | NO   | PRI  | NULL    |       |
| kode_bukuFK | varchar(20) | NO   | PRI  | NULL    |       |
| tgl_pinjam | date      | YES  |       | NULL    |       |
| tgl_kembali | date      | YES  |       | NULL    |       |
| terlambat  | varchar(20) | YES  |       | NULL    |       |
| denda     | int(11)    | YES  |       | NULL    |       |
+-----+-----+-----+-----+-----+
6 rows in set (0.020 sec)

MariaDB [perpustakaan]> describe penerbit;
+-----+-----+-----+-----+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| kode  | varchar(20) | NO   | PRI  | NULL    |       |
| nama  | varchar(45)  | NO   |       | NULL    |       |
+-----+-----+-----+-----+-----+
2 rows in set (0.033 sec)

MariaDB [perpustakaan]> describe pengarang;
+-----+-----+-----+-----+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| kode  | varchar(20) | NO   | PRI  | NULL    |       |
| nama  | varchar(45)  | NO   |       | NULL    |       |
| titel | varchar(45) | NO   |       | NULL    |       |
+-----+-----+-----+-----+-----+
3 rows in set (0.165 sec)
```

E.

```
MariaDB [perpustakaan]> insert into mahasiswa(NIM,nama,kelas,gender) VALUES
-> ('K11','Kolev','12','Pria'),
-> ('K12','Wibowo','11','Pria'),
-> ('K13','Celsy','11','Wanita'),
-> ('K14','Riani','12','Wanita'),
-> ('K15','Pevita','12','Wanita'),
-> ('K16','Anisa','11','Wanita'),
-> ('K17','Sherina','11','Wanita'),
-> ('K18','Shobri','12','Pria'),
-> ('K19','Maryam','12','Wanita'),
-> ('K20','Imran','10','Pria');
```

```
Query OK, 10 rows affected (0.147 sec)
Records: 10  Duplicates: 0  Warnings: 0
```

```
MariaDB [perpustakaan]> desc penerbit;
+-----+-----+-----+-----+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| kode  | varchar(20) | NO   | PRI | NULL    |       |
| nama  | varchar(45)  | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+
2 rows in set (0.091 sec)
```

```
MariaDB [perpustakaan]> insert into penerbit(kode,nama) VALUES
-> ("JM10","Republik Lawak"),
-> ("JM09","Asah Otak"),
-> ("JM08","Litbang HW"),
-> ("JM07","Merdeka Negeri"),
-> ("JM06","Sinodoro Agung"),
-> ("JM05","Angkasa Jaya"),
-> ("JM04","Gramedia"),
-> ("JM03","Cahaya Timur"),
-> ("JM02","Merbabu"),
-> ("JM01","Ramayana")
-> ;
Query OK, 10 rows affected (0.159 sec)
Records: 10  Duplicates: 0  Warnings: 0
```

```
MariaDB [perpustakaan]> desc pengarang;
+-----+-----+-----+-----+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| kode  | varchar(20) | NO   | PRI | NULL    |       |
| nama  | varchar(45) | NO   |     | NULL    |       |
| titel | varchar(45) | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+
3 rows in set (0.158 sec)
```

```
MariaDB [perpustakaan]> insert into pengarang (kode,nama,titel) VALUES
-> ('OMG01','Khalif Rizaldi','S.Kom'),
-> ('OMG02','Sujalwo','S.Kom'),
-> ('OMG03','Ahmad Suparno','S.T'),
-> ('OMG04','Jimmy Kent','M.Eng'),
-> ('OMG05','Jimmy Kent','M.Eng'),
-> ('OMG06','Kento Mamota','B.Eng'),
-> ('OMG07','Thomas Cook','S.Si'),
-> ('OMG08','Abdul Ghani','S.Pdi'),
-> ('OMG09','Ander Son','S.E'),
-> ('OMG10','Aa guus','M.E');
Query OK, 10 rows affected (0.104 sec)
Records: 10  Duplicates: 0  Warnings: 0
```

```
MariaDB [perpustakaan]> insert into buku(kode_buku,kode_eksemplar,judul_buku,tahun_terbit,edisi_buku) VALUES  
-> ('GH01','001.01/ws/001','Ahli Komputer','2017-08-12','ke-1'),  
-> ('GH02','001.01/ws/002','Hacking Nasa dengan HTML','2017-10-12','ke-4'),  
-> ('GH03','001.01/ws/003','Bumi Kita','2015-03-12','ke-5'),  
-> ('GH04','001.01/ws/004','Bucin Is Death','2011-03-10','ke-10'),  
-> ('GH05','001.01/ws/005','Tanah Air Ku','2011-05-30','ke-1'),  
-> ('GH06','001.01/ws/006','Insyaf Si Bucin','2014-06-23','ke-2'),  
-> ('GH07','001.01/ws/007','revolusi harga mati','2016-08-21','ke-4'),  
-> ('GH08','001.01/ws/008','Tuntunan Sholat','2012-03-27','ke-5'),  
-> ('GH09','001.01/ws/009','bisnis online dengan SEO','2020-04-27','ke-7'),  
-> ('GH10','001.01/ws/010','World Economy','2019-04-21','ke-3');  
Query OK, 10 rows affected (0.047 sec)  
Records: 10  Duplicates: 0  Warnings: 0
```

```
MariaDB [perpustakaan]> select*from mahasiswa;  
+----+-----+-----+-----+  
| NIM | nama   | kelas | gender |  
+----+-----+-----+-----+  
| K11 | Kolev  |    12 | Pria  |  
| K12 | Wibowo |    11 | Pria  |  
| K13 | Celsy   |    11 | Wanita |  
| K14 | Riani  |    12 | Wanita |  
| K15 | Pevita  |    12 | Wanita |  
| K16 | Anisa  |    11 | Wanita |  
| K17 | Sherina |    11 | Wanita |  
| K18 | Shobri  |    12 | Pria  |  
| K19 | Maryam  |    12 | Wanita |  
| K20 | Imran  |    10 | Pria  |  
+----+-----+-----+  
10 rows in set (0.000 sec)
```

```
MariaDB [perpustakaan]> select*from penerbit;
+-----+-----+
| kode | nama      |
+-----+-----+
| JM01 | Ramayana |
| JM02 | Merbabu   |
| JM03 | Cahaya Timur |
| JM04 | Gramedia  |
| JM05 | Angkasa Jaya |
| JM06 | Sinodoro Agung |
| JM07 | Merdeka Negeri |
| JM08 | Litbang HW |
| JM09 | Asah Otak  |
| JM10 | Republik Lawak |
+-----+-----+
10 rows in set (0.001 sec)
```

```
MariaDB [perpustakaan]> select*from pengarang;
+-----+-----+-----+
| kode | nama      | titel  |
+-----+-----+-----+
| OMG01 | Khalif Rizaldi | S.Kom |
| OMG02 | Sujalwo     | S.Kom |
| OMG03 | Ahmad Suparno | S.T    |
| OMG04 | Jimmy Kent   | M.Eng |
| OMG05 | Jimmy Kent   | M.Eng |
| OMG06 | Kento Mamota | B.Eng |
| OMG07 | Thomas Cook  | S.Si  |
| OMG08 | Abdul Ghani  | S.Pdi |
| OMG09 | Ander Son    | S.E   |
| OMG10 | Aa guus     | M.E   |
+-----+-----+-----+
10 rows in set (0.000 sec)
```

```
MariaDB [perpustakaan]> select*from buku;
```

kode_buku	kode_eksemplar	judul_buku	tahun_terbit	edisi_buku
GH01	001.01/ws/001	Ahli Komputer	2017-08-12	ke-1
GH02	001.01/ws/002	Hacking Nasa dengan HTML	2017-10-12	ke-4
GH03	001.01/ws/003	Bumi Kita	2015-03-12	ke-5
GH04	001.01/ws/004	Bucin Is Death	2011-03-10	ke-10
GH05	001.01/ws/005	Tanah Air Ku	2011-05-30	ke-1
GH06	001.01/ws/006	Insyaf Si Bucin	2014-06-23	ke-2
GH07	001.01/ws/007	revolusi harga mati	2016-08-21	ke-4
GH08	001.01/ws/008	Tuntunan Sholat	2012-03-27	ke-5
GH09	001.01/ws/009	bisnis online dengan SEO	2020-04-27	ke-7
GH10	001.01/ws/010	World Economy	2019-04-21	ke-3

10 rows in set (0.000 sec)