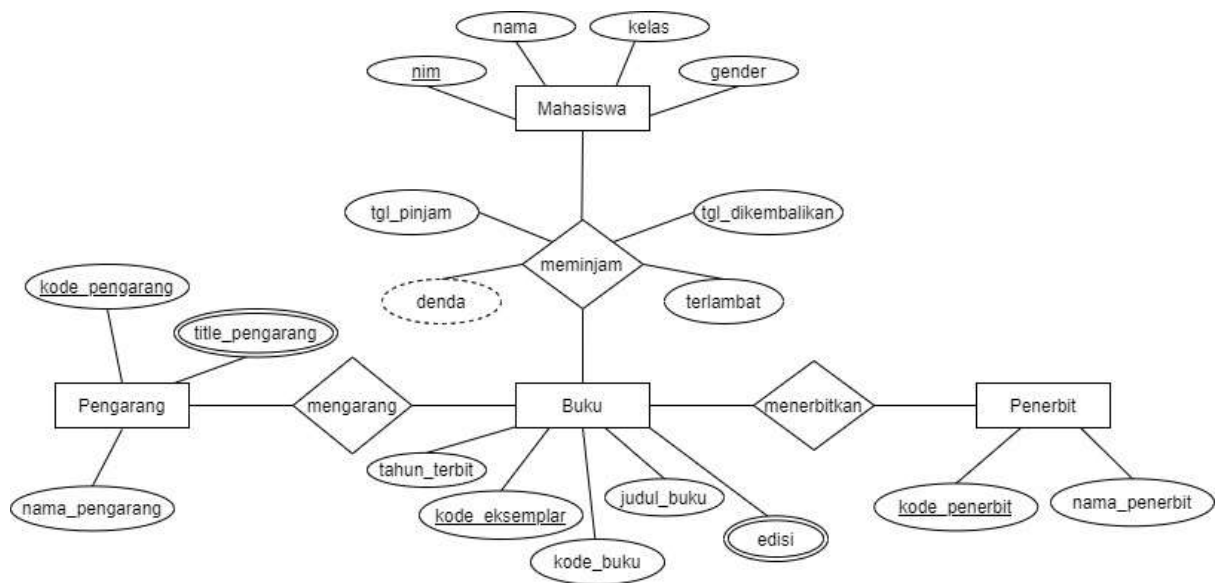


Nama : Cecylia Ivanka Hermanita
NIM : L200180210
Smt/Kelas : 4/H
Mata Uji : Praktikum Sistem Basis Data
Hari/Tanggal : Kamis, 9 April 2020
Penguji : Bapak Heru Setya Nugraha, S.T., M.Kom.

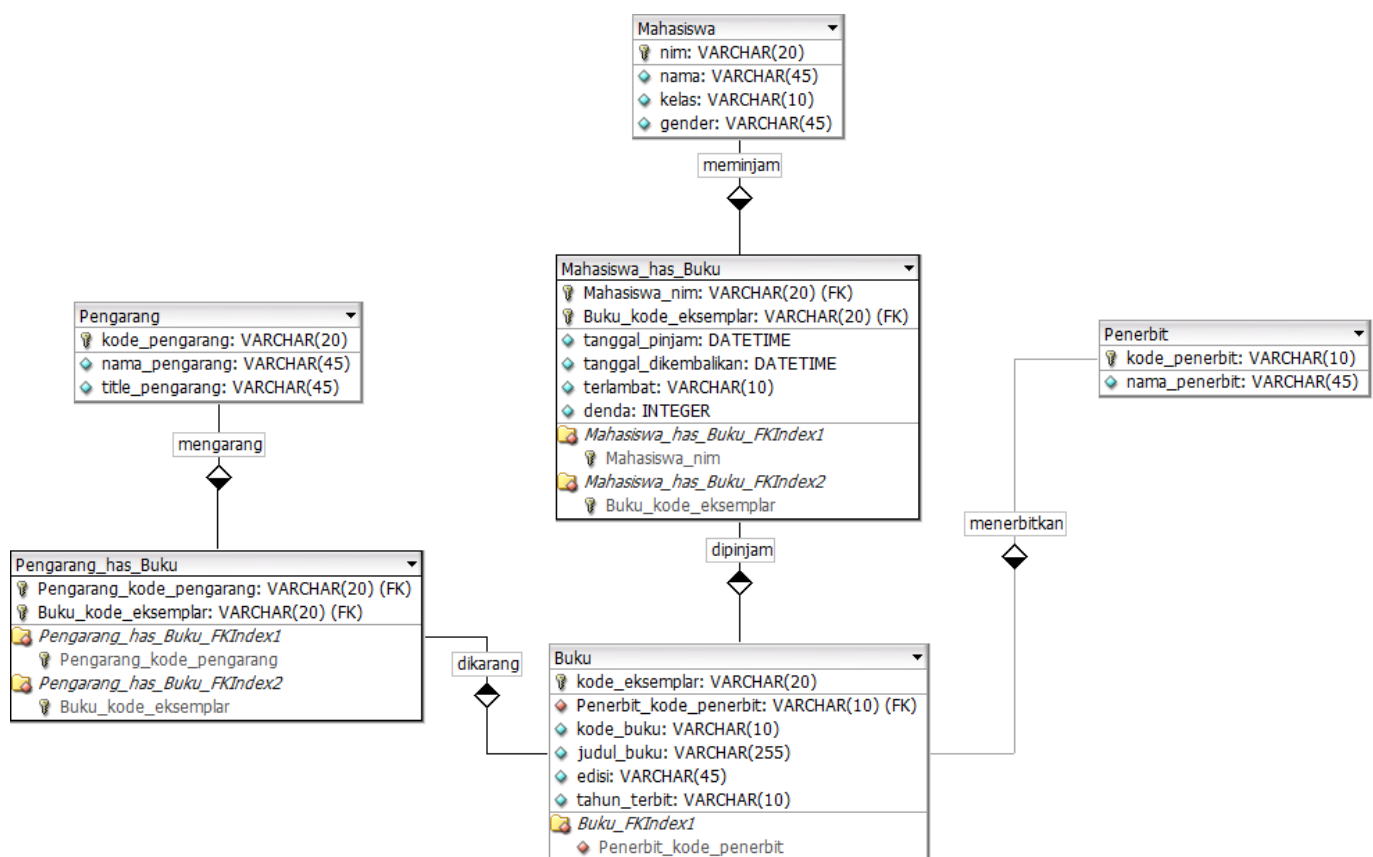
UJIAN TENGAH SEMESTER GENAP

1. Nomor 1
- a. Gambar ERD database sirkulasi perpustakaan



- b. Hubungan/Relasi
- **Mahasiswa meminjam buku**
 - Table utama : **mahasiswa, buku**
 - Table kedua : **mahasiswa_has_buku**
 - Relationship : Many-to-many (m:n)
 - Attribute penghubung : **nim, kode_eksemplar** (FK nim, kode_eksemplar di **mahasiswa_has_buku**)
 - **Pengarang mengarang buku**
 - Table utama : **pengarang**
 - Table kedua : **pengarang_has_buku**
 - Relationship : Many-to-many (m:n)
 - Attribute penghubung : **kode_pengarang, kode_eksemplar** (FK kode_pengarang, kode_eksemplar di **pengarang_has_buku**)
 - **Penerbit menerbitkan buku**
 - Table utama : **penerbit**
 - Table kedua : **buku**
 - Relationship : One-to-many (1:n)
 - Attribute penghubung : **kode_penerbit** (FK kode_penerbit di **buku**)

c. E-R Diagram dengan DBDesigner



d. Implementasi Create

- Membuat table mahasiswa

```
MariaDB [perpustakaan]> CREATE TABLE mahasiswa(
  -> nim VARCHAR(20) PRIMARY KEY,
  -> nama VARCHAR(45) NOT NULL,
  -> kelas VARCHAR(10) NOT NULL,
  -> gender VARCHAR(45) NOT NULL
  -> );
Query OK, 0 rows affected (0.311 sec)
```

- Membuat table pengarang

```
MariaDB [perpustakaan]> CREATE TABLE pengarang(
  -> kode_pengarang VARCHAR(20) PRIMARY KEY,
  -> nama_pengarang VARCHAR(45) NOT NULL,
  -> title_pengarang VARCHAR(45) NOT NULL
  -> );
Query OK, 0 rows affected (0.369 sec)
```

- Membuat table penerbit

```
MariaDB [perpustakaan]> CREATE TABLE penerbit(
  -> kode_penerbit VARCHAR(10) PRIMARY KEY,
  -> nama_penerbit VARCHAR (45) NOT NULL
  -> );
Query OK, 0 rows affected (0.306 sec)
```

- Membuat table buku

```

MariaDB [perpustakaan]> CREATE TABLE buku(
  -> kode_eksemplar VARCHAR(20) PRIMARY KEY,
  -> kode_penerbitFK VARCHAR(10) REFERENCES penerbit(id_penerbit)
  -> ON DELETE SET NULL ON UPDATE CASCADE,
  -> kode_buku VARCHAR(10) NOT NULL,
  -> judul_buku VARCHAR(255) NOT NULL,
  -> edisi VARCHAR(45),
  -> tahun_terbit VARCHAR(10)
  -> );
Query OK, 0 rows affected (0.423 sec)

```

- Membuat table mahasiswa_has_buku

```

MariaDB [perpustakaan]> CREATE TABLE mahasiswa_has_buku(
  -> nimFK VARCHAR(20) REFERENCES mahasiswa(nim)
  -> ON DELETE CASCADE ON UPDATE CASCADE,
  -> tanggal_pinjam DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
  -> tanggal_dikembalikan DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
  -> terlambat VARCHAR(10) NOT NULL,
  -> denda INTEGER
  -> );
Query OK, 0 rows affected (0.316 sec)

```

- Membuat table pengarang_has_buku

```

MariaDB [perpustakaan]> CREATE TABLE pengarang_has_buku(
  -> kode_eksemplarFK VARCHAR(20) REFERENCES buku(kode_eksemplar)
  -> ON DELETE CASCADE ON UPDATE CASCADE,
  -> kode_pengarangFK VARCHAR(20) REFERENCES pengarang(kode_pengarang)
  -> ON DELETE CASCADE ON UPDATE CASCADE,
  -> PRIMARY KEY (kode_eksemplarFK, kode_pengarangFK)
  -> );
Query OK, 0 rows affected (0.268 sec)

```

e. Implementasi Insert

- Menambahkan data pada table mahasiswa dan menampilkan datanya

```

MariaDB [perpustakaan]> INSERT INTO mahasiswa(nim, nama, kelas, gender)
  -> VALUES('L200180210', 'Cecylia Ivanka Hermanita', 'H', 'P'),
  -> ('L200180183', 'Fakhar Swastika Al-Baihaqi', 'G', 'L'),
  -> ('L200180202', 'Firdaus Imani', 'H', 'L'),
  -> ('L200180209', 'Riska Putri Damayanti', 'H', 'P'),
  -> ('L200180211', 'Baity Jannatika', 'H', 'P'),
  -> ('L200180086', 'Shilvia Ajeng Meidita', 'E', 'P'),
  -> ('L200180222', 'Keisya Nazwa', 'H', 'P'),
  -> ('L200180094', 'Tuslikha', 'E', 'P'),
  -> ('L200180182', 'Fabrian Harbowo', 'F', 'L'),
  -> ('L200180174', 'Nur Rahmah', 'F', 'P');
Query OK, 10 rows affected (0.153 sec)
Records: 10  Duplicates: 0  Warnings: 0

MariaDB [perpustakaan]> SELECT * FROM mahasiswa;
+-----+-----+-----+-----+
| nim      | nama                                | kelas | gender |
+-----+-----+-----+-----+
| L200180086 | Shilvia Ajeng Meidita              | E     | P      |
| L200180094 | Tuslikha                           | E     | P      |
| L200180174 | Nur Rahmah                         | F     | P      |
| L200180182 | Fabrian Harbowo                    | F     | L      |
| L200180183 | Fakhar Swastika Al-Baihaqi         | G     | L      |
| L200180202 | Firdaus Imani                      | H     | L      |
| L200180209 | Riska Putri Damayanti              | H     | P      |
| L200180210 | Cecylia Ivanka Hermanita           | H     | P      |
| L200180211 | Baity Jannatika                    | H     | P      |
| L200180222 | Keisya Nazwa                       | H     | P      |
+-----+-----+-----+-----+
10 rows in set (0.332 sec)

```

- Menambahkan data pengarang dan menampilkan datanya

```
MariaDB [perpustakaan]> INSERT INTO pengarang(kode_pengarang, nama_pengarang, title_pengarang)
-> VALUES ('001', 'Edy Winarno', 'ST, M.ENG'),
-> ('002', 'Alan Aditya', 'S.T.,M.T.'),
-> ('003', 'Abdul Kadir', 'S.Kom.,M.Kom'),
-> ('004', 'Widodo Budiharto', 'S.T.,M.Eng.'),
-> ('005', 'Hendra Wijaya', 'S.Kom'),
-> ('006', 'Ali Zaki', 'S.T.,M.T.'),
-> ('007', 'Hasnul Arifin', 'S.Kom'),
-> ('008', 'Deni Afrianto', 'ST, M.Eng'),
-> ('009', 'Dedy Susilo', 'S.Kom'),
-> ('010', 'Atang Gumawang', 'ST, M.eng.');
```

Query OK, 10 rows affected (0.088 sec)
Records: 10 Duplicates: 0 Warnings: 0

```
MariaDB [perpustakaan]> SELECT * FROM pengarang;
```

kode_pengarang	nama_pengarang	title_pengarang
001	Edy Winarno	ST, M.ENG
002	Alan Aditya	S.T.,M.T.
003	Abdul Kadir	S.Kom.,M.Kom
004	Widodo Budiharto	S.T.,M.Eng.
005	Hendra Wijaya	S.Kom
006	Ali Zaki	S.T.,M.T.
007	Hasnul Arifin	S.Kom
008	Deni Afrianto	ST, M.Eng
009	Dedy Susilo	S.Kom
010	Atang Gumawang	ST, M.eng.

10 rows in set (0.001 sec)

- Menambahkan data penerbit dan menampilkan datanya

```
MariaDB [perpustakaan]> INSERT INTO penerbit(kode_penerbit, nama_penerbit)
-> VALUES('001.01', 'Mediakita'),
-> ('001.02', 'Maxicom'),
-> ('001.03', 'Media Komputindo'),
-> ('001.04', 'Wahana Komputer'),
-> ('001.05', 'Media Komputindo'),
-> ('001.06', 'Jasakom'),
-> ('001.07', 'Graha Ilmu'),
-> ('001.08', 'Flash Book'),
-> ('001.09', 'Kawah Pustaka'),
-> ('001.10', 'Madcoms');
```

Query OK, 10 rows affected (0.079 sec)
Records: 10 Duplicates: 0 Warnings: 0

```
MariaDB [perpustakaan]> SELECT * FROM penerbit;
```

kode_penerbit	nama_penerbit
001.01	Mediakita
001.02	Maxicom
001.03	Media Komputindo
001.04	Wahana Komputer
001.05	Media Komputindo
001.06	Jasakom
001.07	Graha Ilmu
001.08	Flash Book
001.09	Kawah Pustaka
001.10	Madcoms

10 rows in set (0.001 sec)

- Menambahkan data buku dan menampilkan datanya

```
MariaDB [perpustakaan]> INSERT INTO buku(kode_eksemplar, kode_penerbitFK, kode_buku, judul_buku, edisi, tahun_terbit)
-> VALUES ('001.01/ew/001', '001.01', '001.01/ew', 'Cara Mudah Membangun Jaringan Komputer', 'I', '2010'),
-> ('001.02/aa/002', '001.02', '001.02/aa', 'Parallel Programming', 'I', '2010'),
-> ('001.03/ak/003', '001.03', '001.03/ak', 'Kecerdasan Tiruan', 'II', '2009'),
-> ('001.04/wb/004', '001.04', '001.04/wb', 'Teknik Digital', 'I', '2009'),
-> ('001.05/hw/005', '001.05', '001.05/hw', 'Pemrograman Bahasa C++', 'I', '2008'),
-> ('001.05/hw/006', '001.05', '001.05/hw', 'Pemrograman Bahasa C++', 'II', '2008'),
-> ('001.07/az/007', '001.07', '001.07/az', 'Microsoft Visual', 'I', '2011'),
-> ('001.02/aa/003', '001.02', '001.02/aa', 'Parallel Programming', 'II', '2012'),
-> ('001.08/aa/008', '001.08', '001.08/da', 'Aplikasi Logika Fuzzy', 'I', '2010'),
-> ('001.08/aa/009', '001.08', '001.08/da', 'Aplikasi Logika Fuzzy', 'II', '2013');
Query OK, 10 rows affected (0.086 sec)
Records: 10 Duplicates: 0 Warnings: 0

MariaDB [perpustakaan]> SELECT * FROM buku;
```

kode_eksemplar	kode_penerbitFK	kode_buku	judul_buku	edisi	tahun_terbit
001.01/ew/001	001.01	001.01/ew	Cara Mudah Membangun Jaringan Komputer	I	2010
001.02/aa/002	001.02	001.02/aa	Parallel Programming	I	2010
001.02/aa/003	001.02	001.02/aa	Parallel Programming	II	2012
001.03/ak/003	001.03	001.03/ak	Kecerdasan Tiruan	II	2009
001.04/wb/004	001.04	001.04/wb	Teknik Digital	I	2009
001.05/hw/005	001.05	001.05/hw	Pemrograman Bahasa C++	I	2008
001.05/hw/006	001.05	001.05/hw	Pemrograman Bahasa C++	II	2008
001.07/az/007	001.07	001.07/az	Microsoft Visual	I	2011
001.08/aa/008	001.08	001.08/da	Aplikasi Logika Fuzzy	I	2010
001.08/aa/009	001.08	001.08/da	Aplikasi Logika Fuzzy	II	2013

```
10 rows in set (0.000 sec)
```

- Menambahkan data mahasiswa_has_buku dan menampilkan datanya

```
MariaDB [perpustakaan]> INSERT INTO mahasiswa_has_buku(nimFK, tanggal_pinjam, tanggal_dikembalikan, terlambat, denda)
-> VALUES('L200180210', DEFAULT, DEFAULT, '2 hari', 2000),
-> ('L200180209', DEFAULT, DEFAULT, '2 hari', 2000),
-> ('L200180183', DEFAULT, DEFAULT, '10 hari', 5000),
-> ('L200180086', DEFAULT, DEFAULT, '6 hari', 3000),
-> ('L200180094', DEFAULT, DEFAULT, '7 hari', 3500),
-> ('L200180211', DEFAULT, DEFAULT, '16 hari', 8000),
-> ('L200180222', DEFAULT, DEFAULT, '9 hari', 4500),
-> ('L200180202', DEFAULT, DEFAULT, '1 hari', 500),
-> ('L200180182', DEFAULT, DEFAULT, '14 hari', 7000),
-> ('L200180174', DEFAULT, DEFAULT, '10 hari', 5000);
Query OK, 10 rows affected (0.128 sec)
Records: 10 Duplicates: 0 Warnings: 0

MariaDB [perpustakaan]> SELECT * FROM mahasiswa_has_buku;
```

nimFK	tanggal_pinjam	tanggal_dikembalikan	terlambat	denda
L200180210	2020-04-08 03:41:18	2020-04-08 03:41:18	2 hari	2000
L200180209	2020-04-08 03:41:18	2020-04-08 03:41:18	2 hari	2000
L200180183	2020-04-08 03:41:18	2020-04-08 03:41:18	10 hari	5000
L200180086	2020-04-08 03:41:18	2020-04-08 03:41:18	6 hari	3000
L200180094	2020-04-08 03:41:18	2020-04-08 03:41:18	7 hari	3500
L200180211	2020-04-08 03:41:18	2020-04-08 03:41:18	16 hari	8000
L200180222	2020-04-08 03:41:18	2020-04-08 03:41:18	9 hari	4500
L200180202	2020-04-08 03:41:18	2020-04-08 03:41:18	1 hari	500
L200180182	2020-04-08 03:41:18	2020-04-08 03:41:18	14 hari	7000
L200180174	2020-04-08 03:41:18	2020-04-08 03:41:18	10 hari	5000

```
10 rows in set (0.001 sec)
```

- Menambahkan data pengarang_has_buku dan menampilkan datanya

```
MariaDB [perpustakaan]> INSERT INTO pengarang_has_buku (kode_eksemplarFK, kode_pengarangFK)
-> VALUES('001.01/ew/001', '001'),
-> ('001.02/aa/002', '002'),
-> ('001.02/aa/003', '002'),
-> ('001.04/wb/004', '004'),
-> ('001.05/hw/005', '005'),
-> ('001.05/hw/006', '005'),
-> ('001.07/az/007', '006'),
-> ('001.08/aa/008', '002'),
-> ('001.08/aa/009', '002');
```

+-----+-----+	
kode_eksemplarFK	kode_pengarangFK
+-----+-----+	
001.01/ew/001	001
001.02/aa/002	002
001.02/aa/003	002
001.04/wb/004	004
001.05/hw/005	005
001.05/hw/006	005
001.07/az/007	006
001.08/aa/008	002
001.08/aa/009	002
+-----+-----+	

9 rows in set (0.001 sec)