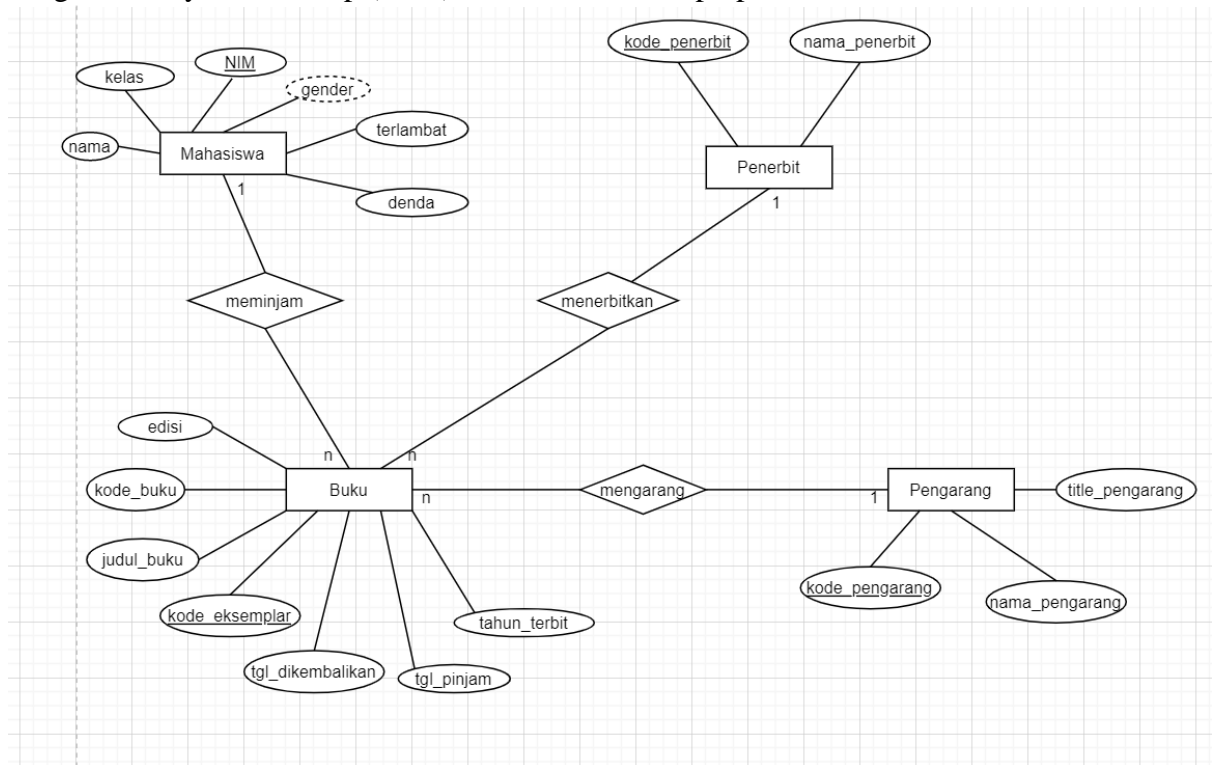


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Kelas : A  
Tanggal : 9 April 2020

## UTS PRAKTIKUM SISTEM BASIS DATA

Nomor 1.

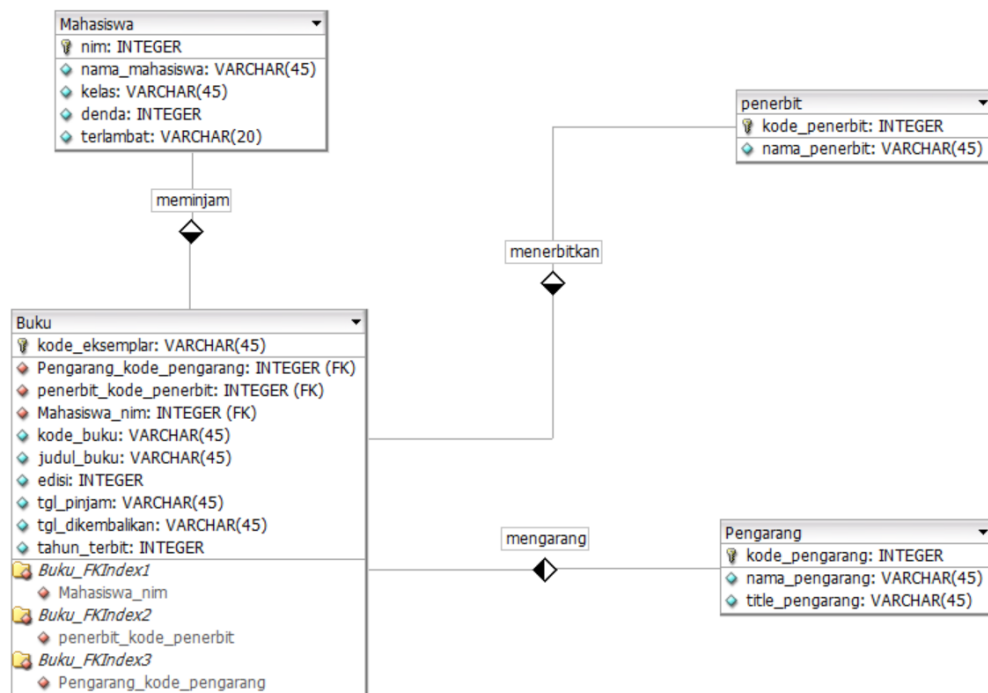
a. Diagram entity relationship (ERD) database sirkulasi perpustakaan



b. Relasi yang dimiliki oleh entitas dari diagram entity relationship

- **Mahasiswa meminjam buku**  
Relationship : One-to-many(1:n)
- **Pengarang mengarang buku**  
Relationship : One-to-many(1:n)
- **Penerbit menerbitkan buku**  
Relationship : One-to-many(1:n)

- c. Rancangan ERD anda menggunakan tool DBDesigner atau sejenisnya. Sebutkan pula tipe data yang dimiliki oleh masing-masing kolom untuk setiap tabelnya (misal integer, varchar, dll)



- d. Implementasikan rancangan ERD pada soal c ke dalam database menggunakan query SQL : CREATE.

```

C:\Users\NUR FITRIA MELANI>cd\
C:\>cd C:\xampp\mysql\bin
C:\xampp\mysql\bin>mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 8
Server version: 10.4.11-MariaDB mariadb.org binary distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> create database perpustakaan;
Query OK, 1 row affected (0.015 sec)

MariaDB [(none)]> use perpustakaan;
Database changed
MariaDB [perpustakaan]> CREATE TABLE mahasiswa(nim INTEGER PRIMARY KEY, nama_mahasiswa VARCHAR(45) NOT NULL, kelas VARCHAR(45) NOT NULL, denda INTEGER NOT NULL, terlambat V
ARCHAR(20) NOT NULL);
Query OK, 0 rows affected (0.108 sec)

MariaDB [perpustakaan]> CREATE TABLE penerbit(kode_penerbit INTEGER PRIMARY KEY, nama_penerbit VARCHAR(45) NOT NULL);
Query OK, 0 rows affected (0.017 sec)

MariaDB [perpustakaan]> CREATE TABLE pengarang(kode_pengarang INTEGER PRIMARY KEY, nama_pengarang VARCHAR(45) NOT NULL, title_pengarang VARCHAR(45) NOT NULL);
Query OK, 0 rows affected (0.015 sec)

MariaDB [perpustakaan]> CREATE TABLE buku(kode_eksemplar VARCHAR(45) PRIMARY KEY, kode_pengarangFK INTEGER REFERENCES pengarang(kode_pengarang) ON DELETE SET NULL ON UPDATE
CASCAD, kode_penerbitFK INTEGER REFERENCES penerbit(kode_penerbit) ON DELETE SET NULL ON UPDATE CASCADE, nimFK INTEGER REFERENCES mahasiswa(nim) ON DELETE SET NULL ON UPD
ATE CASCADE, kode_buku VARCHAR(45) NOT NULL, judul_buku VARCHAR(45) NOT NULL, edisi INTEGER NOT NULL, tahun_terbit INTEGER NOT NULL, tgl_pinjam DATETIME NOT NULL DEFAULT CU
RRENT_TIMESTAMP, tgl_dikembalikan DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP);
Query OK, 0 rows affected (0.026 sec)
    
```

- e. Menambahkan data / record pada setiap tabel yang anda buat pada **soal d** menggunakan perintah INSERT (masing-masing tabel minimal 10 record).

- Mahasiswa

```
MariaDB [perpustakaan]> INSERT INTO mahasiswa VALUES(1001, 'Echa', 'inf-A', 100, '1 hari'),
-> (1002, 'Vivi', 'inf-A', 200, '2 hari'),
-> (1003, 'Dodo', 'inf-A', 100, '1 hari'),
-> (1051, 'Evan', 'inf-B', 300, '3 hari'),
-> (1052, 'Nata', 'inf-B', 100, '1 hari'),
-> (1053, 'Ochi', 'inf-B', 300, '3 hari'),
-> (1098, 'Fitria', 'inf-C', 200, '2 hari'),
-> (1099, 'Hana', 'inf-C', 200, '2 hari'),
-> (1100, 'Rafi', 'inf-C', 100, '1 hari'),
-> (1101, 'Ilham', 'inf-C', 300, '3 hari');
Query OK, 10 rows affected (0.030 sec)
Records: 10 Duplicates: 0 Warnings: 0
```

- Penerbit

```
MariaDB [perpustakaan]> INSERT INTO penerbit VALUES(123, 'Gramedia'),
-> (234, 'Informatika'),
-> (345, 'Tiga Serangkai'),
-> (456, 'Erlangga'),
-> (567, 'Media Pusaka'),
-> (678, 'Mekar Cahaya'),
-> (789, 'Sakura'),
-> (891, 'College Book'),
-> (902, 'Kompas Buku'),
-> (135, 'IPublisher');
Query OK, 10 rows affected (0.045 sec)
Records: 10 Duplicates: 0 Warnings: 0
```

- Pengarang

```
MariaDB [perpustakaan]> INSERT INTO pengarang VALUES(94518, 'Alisyawati', 'S.T'),
-> (92731, 'Rizaldiansyah', 'S.Kom'),
-> (96201, 'Muhammad Harsya', 'S.Pd'),
-> (97112, 'Fitria Melani', 'S.Kom'),
-> (95329, 'Muhammad Yuta', 'S.T., M.T.'),
-> (97825, 'Fahmi Saputra', 'S.Pd., M.Si'),
-> (92914, 'Nining Aulia', 'S.Pd'),
-> (94124, 'Dimas Putra', 'S.Si'),
-> (93331, 'Anindi Maya', 'S.Kom., M.T.'),
-> (95407, 'Bilqis Yana', 'S.T');
Query OK, 10 rows affected (0.017 sec)
Records: 10 Duplicates: 0 Warnings: 0
```

- Buku

```
MariaDB [perpustakaan]> INSERT INTO buku VALUES('001.01/alsy/001', 94518, 678, 1051, '001.01/alsy', 'Kalkulus', 2, 2017, '2019-11-12', '2019-11-22'),
-> ('002.02/rzld/002', 92731, 456, 1001, '002.02/rzld', 'Statistik', 4, 2018, '2019-11-24', '2019-12-1'),
-> ('004.04/ftmrl/001', 97112, 234, 1099, '004.04/ftmrl', 'Sistem Basis Data', 3, 2018, '2019-12-3', '2019-12-11'),
-> ('003.03/hrsy/002', 96201, 123, 1098, '003.03/hrsy', 'Bahasa Indonesia', 2, 2018, '2019-12-5', '2019-12-14'),
-> ('006.06/fhmsp/003', 97825, 891, 1100, '006.06/hrsy', 'Fisika', 1, 2017, '2019-12-10', '2019-12-18'),
-> ('005.05/mhmyt/001', 95329, 345, 1002, '005.05/mhmyt', 'Metode Numerik', 1, 2018, '2019-12-15', '2019-12-24'),
-> ('008.08/dmspt/002', 94124, 789, 1052, '008.08/dmspt', 'Biologi', 2, 2018, '2019-12-17', '2019-12-25'),
-> ('007.07/ngl/003', 92914, 567, 1003, '007.07/dmspt', 'Sistem Informasi', 1, 2018, '2019-12-20', '2019-12-28'),
-> ('010.10/blqsy/004', 95407, 135, 1101, '010.10/blqsy', 'Teknologi Informasi', 2, 2017, '2019-12-22', '2020-1-1'),
-> ('009.09/ndmy/004', 93331, 902, 1053, '009.09/ndmy', 'Logika Himpunan', 3, 2018, '2019-12-27', '2020-1-6');
Query OK, 10 rows affected (0.011 sec)
Records: 10 Duplicates: 0 Warnings: 0
```