

# FINAL

Pemrograman Basis Data lanjutan

“Operasi Relasi Antar Table”



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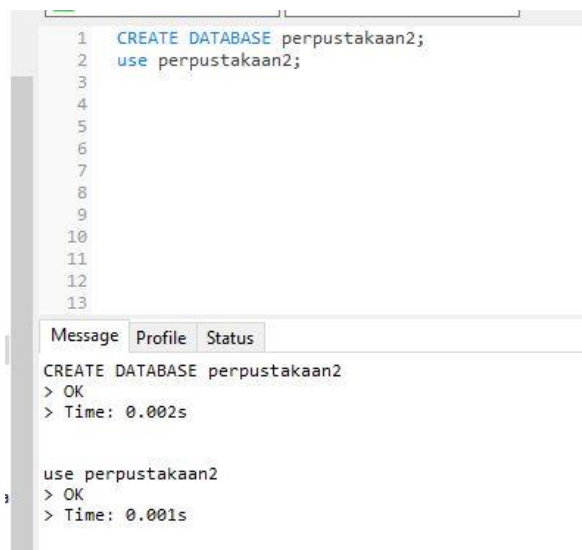
Dosen : Muslim.,S.Pd.,M.Pd

Baiklah Pada Kali Ini Saya Akan Membuat Data Base Dan Merelasikan Antar Table Menggunakan Aplikasi Navicat :

Langkah-langkahnya Sebagai berikut :

1. Saya akan membuat database perpustakaan2 dan masuk kedalam database perpustakaan2  
Query-nya sbb :

```
CREATE DATABASE perpustakaan2;  
use perpustakaan2;
```



```
1 CREATE DATABASE perpustakaan2;  
2 use perpustakaan2;  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13
```

Message	Profile	Status
CREATE DATABASE perpustakaan2		
> OK		
> Time: 0.002s		
use perpustakaan2		
> OK		
> Time: 0.001s		

2. Saya akan membuat tabel serta memberikan field :  
Query-nya sbb :

```
CREATE TABLE anggota (  
    id_anggota int(11) NOT NULL,  
    kode_anggota varchar(9) NOT NULL,  
    nama_anggota varchar(100) NOT NULL,  
    jk_anggota char(1) NOT NULL,  
    jurusan_anggota varchar(2) NOT NULL,  
    no_telp_anggota varchar(13) NOT NULL,  
    alamat_anggota varchar(100) NOT NULL  
)ENGINE InnoDB DEFAULT CHARSET=latin1;
```

```

3
4 CREATE TABLE anggota (
5     id_anggota int(11) NOT NULL,
6     kode_anggota varchar(9) NOT NULL,
7     nama_anggota varchar(100) NOT NULL,
8     jk_anggota char(1) NOT NULL,
9     jurusan_anggota varchar(2) NOT NULL,
10    no_telp_anggota varchar(13) NOT NULL,
11    alamat_anggota varchar(100) NOT NULL
12 )ENGINE InnoDB DEFAULT CHARSET=latin1;
13
14

```

Message Profile Status

```

CREATE TABLE anggota (
  id_anggota int(11) NOT NULL,
  kode_anggota varchar(9) NOT NULL,
  nama_anggota varchar(100) NOT NULL,
  jk_anggota char(1) NOT NULL,
  jurusan_anggota varchar(2) NOT NULL,
  no_telp_anggota varchar(13) NOT NULL,
  alamat_anggota varchar(100) NOT NULL
)ENGINE InnoDB DEFAULT CHARSET=latin1
> OK
> Time: 0.273s

```

- Selanjutnya saya akan mengisi field dengan memasukkan data

Query-nya sbb :

INSERT into anggota values

('2005','0001','Jajat','laki-laki','TI','085251501068','Polman'),  
 ('2006','0002','Lia','Perempuan','TI','085251501066','Polman'),  
 ('2004','0003','Aso','laki-laki','TI','085251501069','Polman'),  
 ('2003','0004','Lisa','Perempuan','TI','085251501061','Pinrang'),  
 ('2001','0005','Riska','Perempuan','TI','085251501062','Polman'),  
 ('2007','0006','Rina','Perempuan','TI','08525000068','Palu'),  
 ('2008','0007','Lina','Perempuan','TI','0852515601066','Pengayoman'),  
 ('2009','0008','Aswan','laki-laki','TI','0852515331069','Bulukumba'),  
 ('2010','0009','Linda','Perempuan','TI','085222501061','Pinrang'),  
 ('2011','0010','Risda','Perempuan','TI','0852515030062','Polman');

```

20 INSERT into anggota values
21 ('2005','0001','Jajat','laki-laki','TI','085251501068','Polman'),
22 ('2006','0002','Lia','Perempuan','TI','085251501066','Polman'),
23 ('2004','0003','Aso','laki-laki','TI','085251501069','Polman'),
24 ('2003','0004','Lisa','Perempuan','TI','085251501061','Pinrang'),
25 ('2001','0005','Riska','Perempuan','TI','085251501062','Polman'),
26 ('2007','0006','Rina','Perempuan','TI','08525000068','Palu'),
27 ('2008','0007','Lina','Perempuan','TI','0852515601066','Pengayoman'),
28 ('2009','0008','Aswan','laki-laki','TI','0852515331069','Bulukumba'),
29 ('2010','0009','Linda','Perempuan','TI','085222501061','Pinrang'),
30 ('2011','0010','Risda','Perempuan','TI','0852515030062','Polman');
31
32 CREATE TABLE buku (

```

Message Profile Status

```

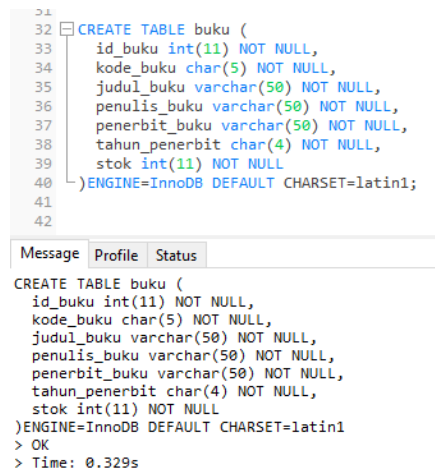
INSERT into anggota values
('2005','0001','Jajat','laki-laki','TI','085251501068','Polman'),
('2006','0002','Lia','Perempuan','TI','085251501066','Polman'),
('2004','0003','Aso','laki-laki','TI','085251501069','Polman'),
('2003','0004','Lisa','Perempuan','TI','085251501061','Pinrang'),
('2001','0005','Riska','Perempuan','TI','085251501062','Polman'),
('2007','0006','Rina','Perempuan','TI','08525000068','Palu'),
('2008','0007','Lina','Perempuan','TI','0852515601066','Pengayoman'),
('2009','0008','Aswan','laki-laki','TI','0852515331069','Bulukumba'),
('2010','0009','Linda','Perempuan','TI','085222501061','Pinrang'),
('2011','0010','Risda','Perempuan','TI','0852515030062','Polman')
> Affected rows: 10
> Time: 0.13s

```

3. Kemudian saya akan membuat tabel yang ke 2

Query-nya sbb :

```
CREATE TABLE buku (  
    id_buku int(11) NOT NULL,  
    kode_buku char(5) NOT NULL,  
    judul_buku varchar(50) NOT NULL,  
    penulis_buku varchar(50) NOT NULL,  
    penerbit_buku varchar(50) NOT NULL,  
    tahun_penerbit char(4) NOT NULL,  
    stok int(11) NOT NULL  
)ENGINE=InnoDB DEFAULT CHARSET=latin1;
```



The screenshot shows a MySQL command window with the following content:

```
32 CREATE TABLE buku (  
33     id_buku int(11) NOT NULL,  
34     kode_buku char(5) NOT NULL,  
35     judul_buku varchar(50) NOT NULL,  
36     penulis_buku varchar(50) NOT NULL,  
37     penerbit_buku varchar(50) NOT NULL,  
38     tahun_penerbit char(4) NOT NULL,  
39     stok int(11) NOT NULL  
40 )ENGINE=InnoDB DEFAULT CHARSET=latin1;  
41  
42
```

Below the query, there is a tabbed interface with 'Message', 'Profile', and 'Status' tabs. The 'Message' tab is active and displays the following text:

```
CREATE TABLE buku (  
    id_buku int(11) NOT NULL,  
    kode_buku char(5) NOT NULL,  
    judul_buku varchar(50) NOT NULL,  
    penulis_buku varchar(50) NOT NULL,  
    penerbit_buku varchar(50) NOT NULL,  
    tahun_penerbit char(4) NOT NULL,  
    stok int(11) NOT NULL  
)ENGINE=InnoDB DEFAULT CHARSET=latin1  
> OK  
> Time: 0.329s
```

- Selanjutnya saya akan mengisinya dengan memasukkan data

Query-nya sbb :

insert into buku VALUES

```
('001','B001','piknik_seru','Anita_Hairunnisa','Little_Serambi.Jakarta','2009','5'),  
('002','B002','jika_kamu_menjadi_tanda_tambah','Trista_Speed_Shaskan','BIP.Ja  
karta','2010','10'),  
('003','B003','Fisika','Rahman','STMIK','2009','5'),  
('004','B004','Matematika','Rusli','STMIK','2010','10'),  
('005','B005','Kimia','Rizky','STMIK','2009','5'),  
('006','B006','Biologi','Rahmat','STMIK','20011','7'),  
('007','B007','Pkn','Rusdi','STMIK','2000','3'),  
('008','B008','Ipa','Rizka','STMIK','2007','2'),  
('009','B009','Ips','Rusman','STMIK','2009','2'),
```

('010','B010','Mulok','Risma','STMIK','2001','9');

```
49 insert into buku VALUES
50 ('001','B001','piknik_seru','Anita_Hairunnisa','Little_Serambi.Jakarta','2009','5'),
51 ('002','B002','jika_kamu_menjadi_tanda_tambah','Trista_Speed_Shaskan','BIP.Jakarta','2010','10'),
52 ('003','B003','Fisika','Rahman','STMIK','2009','5'),
53 ('004','B004','Matematika','Rusli','STMIK','2010','10'),
54 ('005','B005','Kimia','Rizky','STMIK','2009','5'),
55 ('006','B006','Biologi','Rahmat','STMIK','20011','7'),
56 ('007','B007','Pkn','Rusdi','STMIK','2000','3'),
57 ('008','B008','Ipa','Rizka','STMIK','2007','2'),
58 ('009','B009','Ips','Rusman','STMIK','2009','2'),
59 ('010','B010','Mulok','Risma','STMIK','2001','9');
```

Message Profile Status

```
insert into buku VALUES
('001','B001','piknik_seru','Anita_Hairunnisa','Little_Serambi.Jakarta','2009','5'),
('002','B002','jika_kamu_menjadi_tanda_tambah','Trista_Speed_Shaskan','BIP.Jakarta','2010','10'),
('003','B003','Fisika','Rahman','STMIK','2009','5'),
('004','B004','Matematika','Rusli','STMIK','2010','10'),
('005','B005','Kimia','Rizky','STMIK','2009','5'),
('006','B006','Biologi','Rahmat','STMIK','20011','7'),
('007','B007','Pkn','Rusdi','STMIK','2000','3'),
('008','B008','Ipa','Rizka','STMIK','2007','2'),
('009','B009','Ips','Rusman','STMIK','2009','2'),
('010','B010','Mulok','Risma','STMIK','2001','9')
> Affected rows: 10
> Time: 0.124s
```

#### 4. Tabel yang ke 3

Query-nya sbb :

CREATE TABLE peminjaman (

id\_peminjaman int(11) NOT NULL,

tanggal\_pinjam date NOT NULL,

tanggal\_kembali date NOT NULL,

id\_buku int(11) NOT NULL,

id\_anggota int(11) NOT NULL,

id\_petugas int(11) NOT NULL

)ENGINE=InnoDB DEFAULT CHARSET=latin1;

```
62 CREATE TABLE peminjaman (
63   id_peminjaman int(11) NOT NULL,
64   tanggal_pinjam date NOT NULL,
65   tanggal_kembali date NOT NULL,
66   id_buku int(11) NOT NULL,
67   id_anggota int(11) NOT NULL,
68   id_petugas int(11) NOT NULL
69 )ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

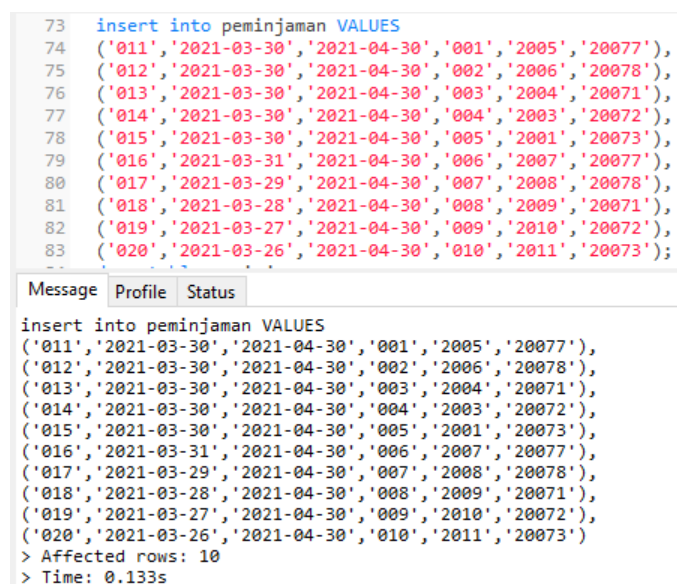
Message Profile Status

```
CREATE TABLE peminjaman (
  id_peminjaman int(11) NOT NULL,
  tanggal_pinjam date NOT NULL,
  tanggal_kembali date NOT NULL,
  id_buku int(11) NOT NULL,
  id_anggota int(11) NOT NULL,
  id_petugas int(11) NOT NULL
)ENGINE=InnoDB DEFAULT CHARSET=latin1
> OK
> Time: 0.328s
```

- Selanjutnya mengisi data

Query-nya sbb :

```
insert into peminjaman VALUES
('011','2021-03-30','2021-04-30','001','2005','20077'),
('012','2021-03-30','2021-04-30','002','2006','20078'),
('013','2021-03-30','2021-04-30','003','2004','20071'),
('014','2021-03-30','2021-04-30','004','2003','20072'),
('015','2021-03-30','2021-04-30','005','2001','20073'),
('016','2021-03-31','2021-04-30','006','2007','20077'),
('017','2021-03-29','2021-04-30','007','2008','20078'),
('018','2021-03-28','2021-04-30','008','2009','20071'),
('019','2021-03-27','2021-04-30','009','2010','20072'),
('020','2021-03-26','2021-04-30','010','2011','20073');
```



```
73 insert into peminjaman VALUES
74 ('011','2021-03-30','2021-04-30','001','2005','20077'),
75 ('012','2021-03-30','2021-04-30','002','2006','20078'),
76 ('013','2021-03-30','2021-04-30','003','2004','20071'),
77 ('014','2021-03-30','2021-04-30','004','2003','20072'),
78 ('015','2021-03-30','2021-04-30','005','2001','20073'),
79 ('016','2021-03-31','2021-04-30','006','2007','20077'),
80 ('017','2021-03-29','2021-04-30','007','2008','20078'),
81 ('018','2021-03-28','2021-04-30','008','2009','20071'),
82 ('019','2021-03-27','2021-04-30','009','2010','20072'),
83 ('020','2021-03-26','2021-04-30','010','2011','20073');
```

Message Profile Status

```
insert into peminjaman VALUES
('011','2021-03-30','2021-04-30','001','2005','20077'),
('012','2021-03-30','2021-04-30','002','2006','20078'),
('013','2021-03-30','2021-04-30','003','2004','20071'),
('014','2021-03-30','2021-04-30','004','2003','20072'),
('015','2021-03-30','2021-04-30','005','2001','20073'),
('016','2021-03-31','2021-04-30','006','2007','20077'),
('017','2021-03-29','2021-04-30','007','2008','20078'),
('018','2021-03-28','2021-04-30','008','2009','20071'),
('019','2021-03-27','2021-04-30','009','2010','20072'),
('020','2021-03-26','2021-04-30','010','2011','20073')
> Affected rows: 10
> Time: 0.133s
```

## 5. Tabel yang ke 4

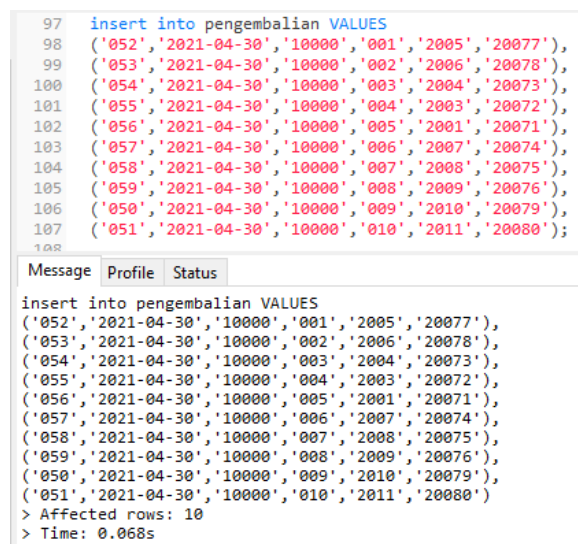
Query-nya sbb :

```
CREATE TABLE pengembalian (
    id_pengembalian int(11) NOT NULL,
    tanggal_pengembalian date NOT NULL,
    denda int(11) NOT NULL,
    id_buku int(11) NOT NULL,
    id_anggota int(11) NOT NULL,
    id_petugas int(11) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

- Selanjutnya isi data

Query-nya sbb :

```
insert into pengembalian VALUES
('052','2021-04-30','10000','001','2005','20077'),
('053','2021-04-30','10000','002','2006','20078'),
('054','2021-04-30','10000','003','2004','20073'),
('055','2021-04-30','10000','004','2003','20072'),
('056','2021-04-30','10000','005','2001','20071'),
('057','2021-04-30','10000','006','2007','20074'),
('058','2021-04-30','10000','007','2008','20075'),
('059','2021-04-30','10000','008','2009','20076'),
('050','2021-04-30','10000','009','2010','20079'),
('051','2021-04-30','10000','010','2011','20080');
```



```

97  insert into pengembalian VALUES
98  ('052','2021-04-30','10000','001','2005','20077'),
99  ('053','2021-04-30','10000','002','2006','20078'),
100 ('054','2021-04-30','10000','003','2004','20073'),
101 ('055','2021-04-30','10000','004','2003','20072'),
102 ('056','2021-04-30','10000','005','2001','20071'),
103 ('057','2021-04-30','10000','006','2007','20074'),
104 ('058','2021-04-30','10000','007','2008','20075'),
105 ('059','2021-04-30','10000','008','2009','20076'),
106 ('050','2021-04-30','10000','009','2010','20079'),
107 ('051','2021-04-30','10000','010','2011','20080');
108
Message  Profile  Status
insert into pengembalian VALUES
('052','2021-04-30','10000','001','2005','20077'),
('053','2021-04-30','10000','002','2006','20078'),
('054','2021-04-30','10000','003','2004','20073'),
('055','2021-04-30','10000','004','2003','20072'),
('056','2021-04-30','10000','005','2001','20071'),
('057','2021-04-30','10000','006','2007','20074'),
('058','2021-04-30','10000','007','2008','20075'),
('059','2021-04-30','10000','008','2009','20076'),
('050','2021-04-30','10000','009','2010','20079'),
('051','2021-04-30','10000','010','2011','20080')
> Affected rows: 10
> Time: 0.068s

```

## 6. Tabel ke 5

Query-nya sbb :

```
CREATE TABLE petugas (
id_petugas int(11) NOT NULL,
nama_petugas varchar(50) NOT NULL,
jabatan_petugas varchar(50) NOT NULL,
no_telp_petugas char(13) NOT NULL,
alamat_petugas varchar(100) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```

110 CREATE TABLE petugas (
111     id_petugas int(11) NOT NULL,
112     nama_petugas varchar(50) NOT NULL,
113     jabatan_petugas varchar(50) NOT NULL,
114     no_telp_petugas char(13) NOT NULL,
115     alamat_petugas varchar(100) NOT NULL
116 ) ENGINE=InnoDB DEFAULT CHARSET=latin1;

```

Message	Profile	Status
<pre> CREATE TABLE petugas (   id_petugas int(11) NOT NULL,   nama_petugas varchar(50) NOT NULL,   jabatan_petugas varchar(50) NOT NULL,   no_telp_petugas char(13) NOT NULL,   alamat_petugas varchar(100) NOT NULL ) ENGINE=InnoDB DEFAULT CHARSET=latin1 &gt; OK &gt; Time: 0.286s </pre>		

- Selanjutnya isi tabel

Query-nya sbb :

insert into petugas VALUES

```

('20077','Haeril','Security','085251501069','Bantaeng'),
('20078','Haedir','Security','085251501060','Malino'),
('20071','Arham','Bendahara','085251501028','Bulukumba'),
('20072','Ricky','Sekretaris','085251501030','Bulukumba'),
('20073','Ehsan','Ketua','085251501020','Bulukumba'),
('20074','Herman','Security','085251501009','Bantaeng'),
('20075','Awi','Wakil','085251501000','Malino'),
('20076','Arman','Security','085151501028','Bulukumba'),
('20079','Rahman','Security','089251501030','Bulukumba'),
('20080','Isman','Security','087251501020','Bulukumba');

```

```

121 insert into petugas VALUES
122 ('20077','Haeril','Security','085251501069','Bantaeng'),
123 ('20078','Haedir','Security','085251501060','Malino'),
124 ('20071','Arham','Bendahara','085251501028','Bulukumba'),
125 ('20072','Ricky','Sekretaris','085251501030','Bulukumba'),
126 ('20073','Ehsan','Ketua','085251501020','Bulukumba'),
127 ('20074','Herman','Security','085251501009','Bantaeng'),
128 ('20075','Awi','Wakil','085251501000','Malino'),
129 ('20076','Arman','Security','085151501028','Bulukumba'),
130 ('20079','Rahman','Security','089251501030','Bulukumba'),
131 ('20080','Isman','Security','087251501020','Bulukumba');

```

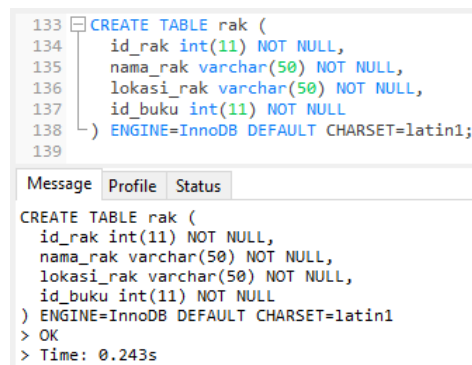
Message	Profile	Status
<pre> insert into petugas VALUES ('20077','Haeril','Security','085251501069','Bantaeng'), ('20078','Haedir','Security','085251501060','Malino'), ('20071','Arham','Bendahara','085251501028','Bulukumba'), ('20072','Ricky','Sekretaris','085251501030','Bulukumba'), ('20073','Ehsan','Ketua','085251501020','Bulukumba'), ('20074','Herman','Security','085251501009','Bantaeng'), ('20075','Awi','Wakil','085251501000','Malino'), ('20076','Arman','Security','085151501028','Bulukumba'), ('20079','Rahman','Security','089251501030','Bulukumba'), ('20080','Isman','Security','087251501020','Bulukumba') &gt; Affected rows: 10 &gt; Time: 0.131s </pre>		



7. Membuat tabel yang ke 6

Query-nya sbb :

```
CREATE TABLE rak (  
    id_rak int(11) NOT NULL,  
    nama_rak varchar(50) NOT NULL,  
    lokasi_rak varchar(50) NOT NULL,  
    id_buku int(11) NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```



The screenshot shows a MySQL command-line interface with a light blue background. The command prompt is at line 133. The user has entered the following SQL command:

```
133 CREATE TABLE rak (  
134     id_rak int(11) NOT NULL,  
135     nama_rak varchar(50) NOT NULL,  
136     lokasi_rak varchar(50) NOT NULL,  
137     id_buku int(11) NOT NULL  
138 ) ENGINE=InnoDB DEFAULT CHARSET=latin1;  
139
```

Below the command prompt, there are three tabs: "Message", "Profile", and "Status". The "Message" tab is selected, showing the following output:

```
CREATE TABLE rak (  
    id_rak int(11) NOT NULL,  
    nama_rak varchar(50) NOT NULL,  
    lokasi_rak varchar(50) NOT NULL,  
    id_buku int(11) NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=latin1  
> OK  
> Time: 0.243s
```

- Isi table

Query-nya sbb :

```
insert into rak VALUES  
(01,'Buku1','Kiri','001'),  
(02,'Buku2','Kanan','002'),  
(03,'Buku3','Kiri','003'),  
(04,'Buku4','Kiri','004'),  
(05,'Buku5','Kanan','005'),  
(06,'Buku6','Kiri','006'),  
(07,'Buku7','Kanan','007'),  
(08,'Buku8','Kiri','008'),  
(09,'Buku9','Kiri','009'),  
(10,'Buku10','Kanan','010');
```

```

145 insert into rak VALUES
146 ('01','Buku1','Kiri','001'),
147 ('02','Buku2','Kanan','002'),
148 ('03','Buku3','Kiri','003'),
149 ('04','Buku4','Kiri','004'),
150 ('05','Buku5','Kanan','005'),
151 ('06','Buku6','Kiri','006'),
152 ('07','Buku7','Kanan','007'),
153 ('08','Buku8','Kiri','008'),
154 ('09','Buku9','Kiri','009'),
155 ('10','Buku10','Kanan','010');

```

Message	Profile	Status
insert into rak VALUES ('01','Buku1','Kiri','001'), ('02','Buku2','Kanan','002'), ('03','Buku3','Kiri','003'), ('04','Buku4','Kiri','004'), ('05','Buku5','Kanan','005'), ('06','Buku6','Kiri','006'), ('07','Buku7','Kanan','007'), ('08','Buku8','Kiri','008'), ('09','Buku9','Kiri','009'), ('10','Buku10','Kanan','010') > Affected rows: 10 > Time: 0.133s		

8. Selanjutnya saya akan memberikan primery key pada setiap table

Query-nya sbb :

ALTER TABLE `anggota`

ADD PRIMARY KEY (`id\_anggota`);

```

158 ALTER TABLE `anggota`
159     ADD PRIMARY KEY (`id_anggota`);
160
161
162
163

```

Message	Profile	Status
ALTER TABLE `anggota` ADD PRIMARY KEY (`id_anggota`) > OK > Time: 0.68s		

ALTER TABLE `buku`

ADD PRIMARY KEY (`id\_buku`),

ADD UNIQUE KEY `kode\_buku` (`kode\_buku`);

```

162 ALTER TABLE `buku`
163     ADD PRIMARY KEY (`id_buku`),
164     ADD UNIQUE KEY `kode_buku` (`kode_buku`);
165
166

```

Message	Profile	Status
ALTER TABLE `buku` ADD PRIMARY KEY (`id_buku`), ADD UNIQUE KEY `kode_buku` (`kode_buku`) > OK > Time: 0.766s		

```
ALTER TABLE `peminjaman`
  ADD PRIMARY KEY (`id_peminjaman`),
  ADD KEY `id_buku` (`id_buku`),
  ADD KEY `id_anggota` (`id_anggota`),
  ADD KEY `id_petugas` (`id_petugas`);
```

```
166
167 ALTER TABLE `peminjaman`
168     ADD PRIMARY KEY (`id_peminjaman`),
169     ADD KEY `id_buku` (`id_buku`),
170     ADD KEY `id_anggota` (`id_anggota`),
171     ADD KEY `id_petugas` (`id_petugas`);
172
```

Message	Profile	Status
<pre>ALTER TABLE `peminjaman`   ADD PRIMARY KEY (`id_peminjaman`),   ADD KEY `id_buku` (`id_buku`),   ADD KEY `id_anggota` (`id_anggota`),   ADD KEY `id_petugas` (`id_petugas`); &gt; OK &gt; Time: 0.665s</pre>		

```
ALTER TABLE `pengembalian`
  ADD PRIMARY KEY (`id_pengembalian`),
  ADD KEY `id_petugas` (`id_petugas`),
  ADD KEY `id_anggota` (`id_anggota`),
  ADD KEY `id_buku` (`id_buku`);
```

```
174 ALTER TABLE `pengembalian`
175     ADD PRIMARY KEY (`id_pengembalian`),
176     ADD KEY `id_petugas` (`id_petugas`),
177     ADD KEY `id_anggota` (`id_anggota`),
178     ADD KEY `id_buku` (`id_buku`);
```

Message	Profile	Status
<pre>ALTER TABLE `pengembalian`   ADD PRIMARY KEY (`id_pengembalian`),   ADD KEY `id_petugas` (`id_petugas`),   ADD KEY `id_anggota` (`id_anggota`),   ADD KEY `id_buku` (`id_buku`); &gt; OK &gt; Time: 0.554s</pre>		

```
ALTER TABLE `petugas`  
ADD PRIMARY KEY (`id_petugas`);
```

```
181  
182 ALTER TABLE `petugas`  
183     ADD PRIMARY KEY (`id_petugas`);  
184  
185  
186  
187
```

Message	Profile	Status
ALTER TABLE `petugas` ADD PRIMARY KEY (`id_petugas`) > OK > Time: 0.514s		

```
ALTER TABLE `rak`  
ADD PRIMARY KEY (`id_rak`),  
ADD KEY `id_buku` (`id_buku`);
```

```
188  
189 ALTER TABLE `rak`  
190     ADD PRIMARY KEY (`id_rak`),  
191     ADD KEY `id_buku` (`id_buku`);  
192  
193
```

Message	Profile	Status
ALTER TABLE `rak` ADD PRIMARY KEY (`id_rak`), ADD KEY `id_buku` (`id_buku`) > OK > Time: 0.83s		

9. Selanjutnya saya akan memodify setiap tabel

Query-nya sbb :

```
ALTER TABLE `anggota`  
MODIFY `id_anggota` int(11) NOT NULL AUTO_INCREMENT;
```

```
194  
195 ALTER TABLE `anggota`  
196     MODIFY `id_anggota` int(11) NOT NULL AUTO_INCREMENT;  
197  
198  
199
```

Message	Profile	Status
ALTER TABLE `anggota` MODIFY `id_anggota` int(11) NOT NULL AUTO_INCREMENT > OK > Time: 1.362s		

ALTER TABLE `buku`

MODIFY `id\_buku` int(11) NOT NULL AUTO\_INCREMENT;

```
199
200 ALTER TABLE `buku`
201     MODIFY `id_buku` int(11) NOT NULL AUTO_INCREMENT;
202
```

Message	Profile	Status
ALTER TABLE `buku` MODIFY `id_buku` int(11) NOT NULL AUTO_INCREMENT > OK > Time: 1.073s		

ALTER TABLE `peminjaman`

MODIFY `id\_peminjaman` int(11) NOT NULL AUTO\_INCREMENT;

```
203 ALTER TABLE `peminjaman`
204     MODIFY `id_peminjaman` int(11) NOT NULL AUTO_INCREMENT;
205
206
207
208
```

Message	Profile	Status
ALTER TABLE `peminjaman` MODIFY `id_peminjaman` int(11) NOT NULL AUTO_INCREMENT > OK > Time: 0.74s		

ALTER TABLE `pengembalian`

MODIFY `id\_pengembalian` int(11) NOT NULL AUTO\_INCREMENT;

```
208
209 ALTER TABLE `pengembalian`
210     MODIFY `id_pengembalian` int(11) NOT NULL AUTO_INCREMENT;
211
```

Message	Profile	Status
ALTER TABLE `pengembalian` MODIFY `id_pengembalian` int(11) NOT NULL AUTO_INCREMENT > OK > Time: 0.99s		

ALTER TABLE `petugas`

MODIFY `id\_petugas` int(11) NOT NULL AUTO\_INCREMENT;

```
212
213 ALTER TABLE `petugas`
214     MODIFY `id_petugas` int(11) NOT NULL AUTO_INCREMENT;
215
216
217
```

Message	Profile	Status
ALTER TABLE `petugas` MODIFY `id_petugas` int(11) NOT NULL AUTO_INCREMENT > OK > Time: 0.817s		

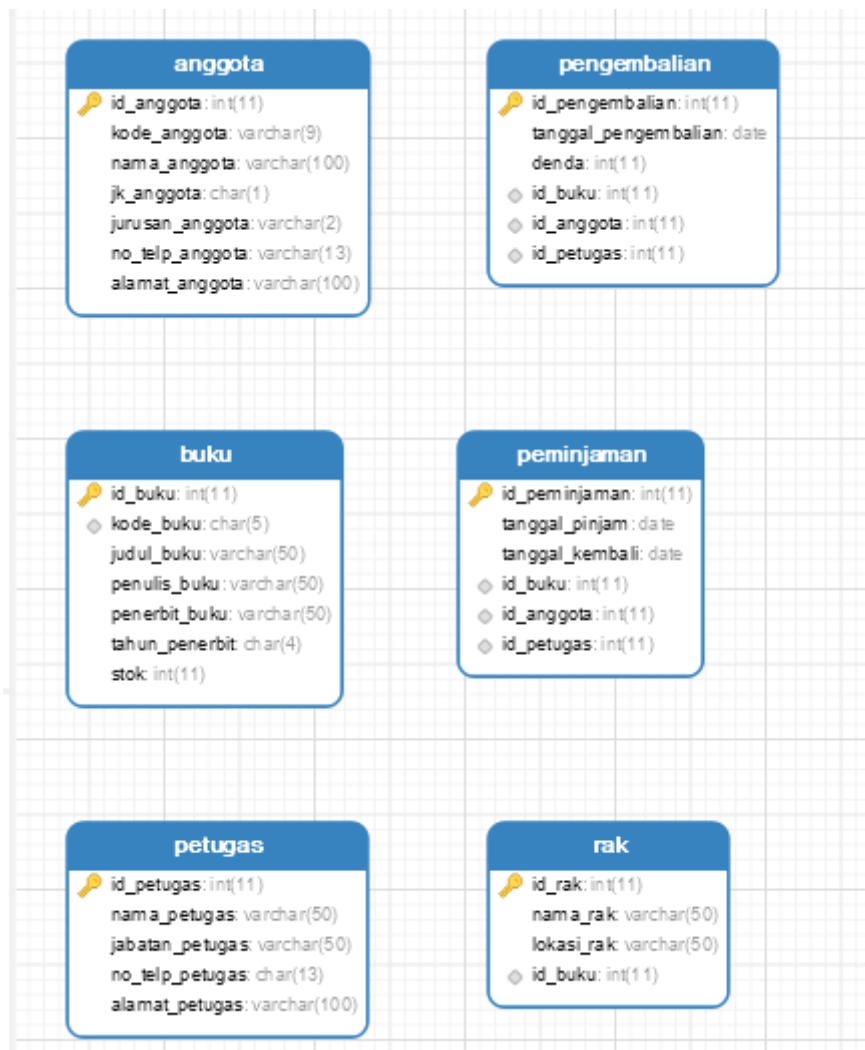
ALTER TABLE `rak`

MODIFY `id\_rak` int(11) NOT NULL AUTO\_INCREMENT;

```
218 ALTER TABLE `rak`
219     MODIFY `id_rak` int(11) NOT NULL AUTO_INCREMENT;
220
```

Message	Profile	Status
ALTER TABLE `rak` MODIFY `id_rak` int(11) NOT NULL AUTO_INCREMENT > OK > Time: 0.779s		

10. Sebelum saya merelasikan tabel tampilannya sbb :



11. Sebelum merelasikan tabel satu dengan yang lain saya akan memberikan contohnya

Query-nya sbb :

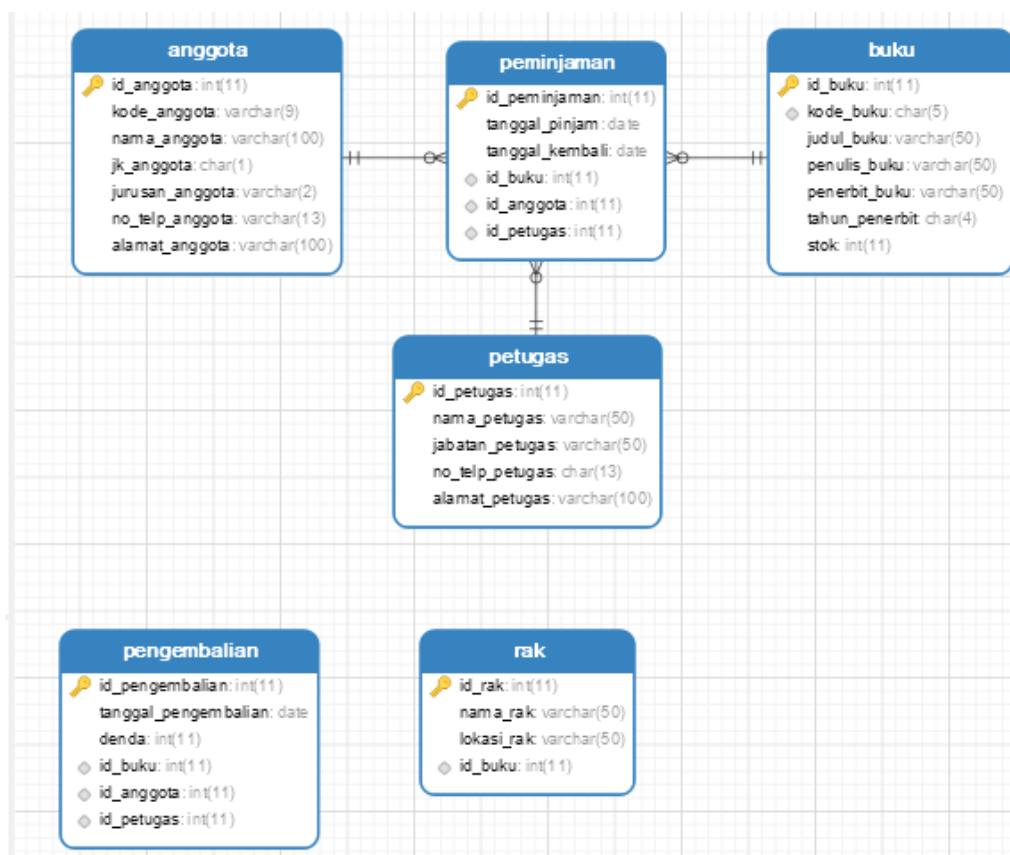
```
ALTER TABLE `peminjaman`
```

```
ADD CONSTRAINT `peminjaman_ibfk_1` FOREIGN KEY (`id_buku`) REFERENCES `buku` (`id_buku`),
```

```
ADD CONSTRAINT `peminjaman_ibfk_2` FOREIGN KEY (`id_petugas`) REFERENCES `petugas` (`id_petugas`),
```

```
ADD CONSTRAINT `peminjaman_ibfk_3` FOREIGN KEY (`id_anggota`) REFERENCES `anggota` (`id_anggota`);
```

```
208 ALTER TABLE `peminjaman`
209 ADD CONSTRAINT `peminjaman_ibfk_1` FOREIGN KEY (`id_buku`) REFERENCES `buku` (`id_buku`),
210 ADD CONSTRAINT `peminjaman_ibfk_2` FOREIGN KEY (`id_petugas`) REFERENCES `petugas` (`id_petugas`),
211 ADD CONSTRAINT `peminjaman_ibfk_3` FOREIGN KEY (`id_anggota`) REFERENCES `anggota` (`id_anggota`);
212
Message Profile Status
ALTER TABLE `peminjaman`
ADD CONSTRAINT `peminjaman_ibfk_1` FOREIGN KEY (`id_buku`) REFERENCES `buku` (`id_buku`),
ADD CONSTRAINT `peminjaman_ibfk_2` FOREIGN KEY (`id_petugas`) REFERENCES `petugas` (`id_petugas`),
ADD CONSTRAINT `peminjaman_ibfk_3` FOREIGN KEY (`id_anggota`) REFERENCES `anggota` (`id_anggota`)
> OK
> Time: 1.583s
```



```

ALTER TABLE `pengembalian`
  ADD CONSTRAINT `pengembalian_ibfk_1` FOREIGN KEY (`id_buku`)
REFERENCES `buku` (`id_buku`),
  ADD CONSTRAINT `pengembalian_ibfk_2` FOREIGN KEY (`id_petugas`)
REFERENCES `petugas` (`id_petugas`),
  ADD CONSTRAINT `pengembalian_ibfk_3` FOREIGN KEY (`id_anggota`)
REFERENCES `anggota` (`id_anggota`);

```

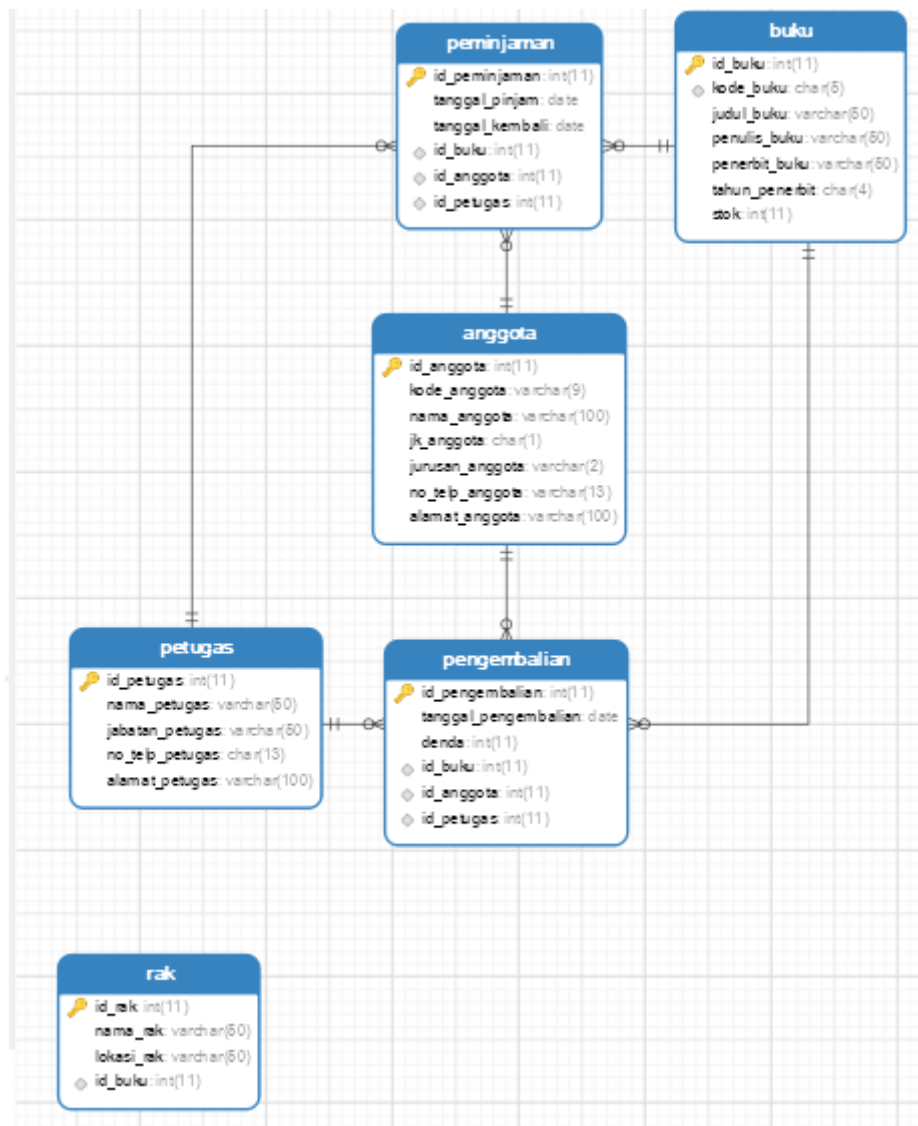
```

214 ALTER TABLE `pengembalian`
215     ADD CONSTRAINT `pengembalian_ibfk_1` FOREIGN KEY (`id_buku`) REFERENCES `buku` (`id_buku`),
216     ADD CONSTRAINT `pengembalian_ibfk_2` FOREIGN KEY (`id_petugas`) REFERENCES `petugas` (`id_petugas`),
217     ADD CONSTRAINT `pengembalian_ibfk_3` FOREIGN KEY (`id_anggota`) REFERENCES `anggota` (`id_anggota`);
218

```

Message	Profile	Status
ALTER TABLE `pengembalian` ADD CONSTRAINT `pengembalian_ibfk_1` FOREIGN KEY (`id_buku`) REFERENCES `buku` (`id_buku`), ADD CONSTRAINT `pengembalian_ibfk_2` FOREIGN KEY (`id_petugas`) REFERENCES `petugas` (`id_petugas`), ADD CONSTRAINT `pengembalian_ibfk_3` FOREIGN KEY (`id_anggota`) REFERENCES `anggota` (`id_anggota`) > OK > Time: 0.84s		





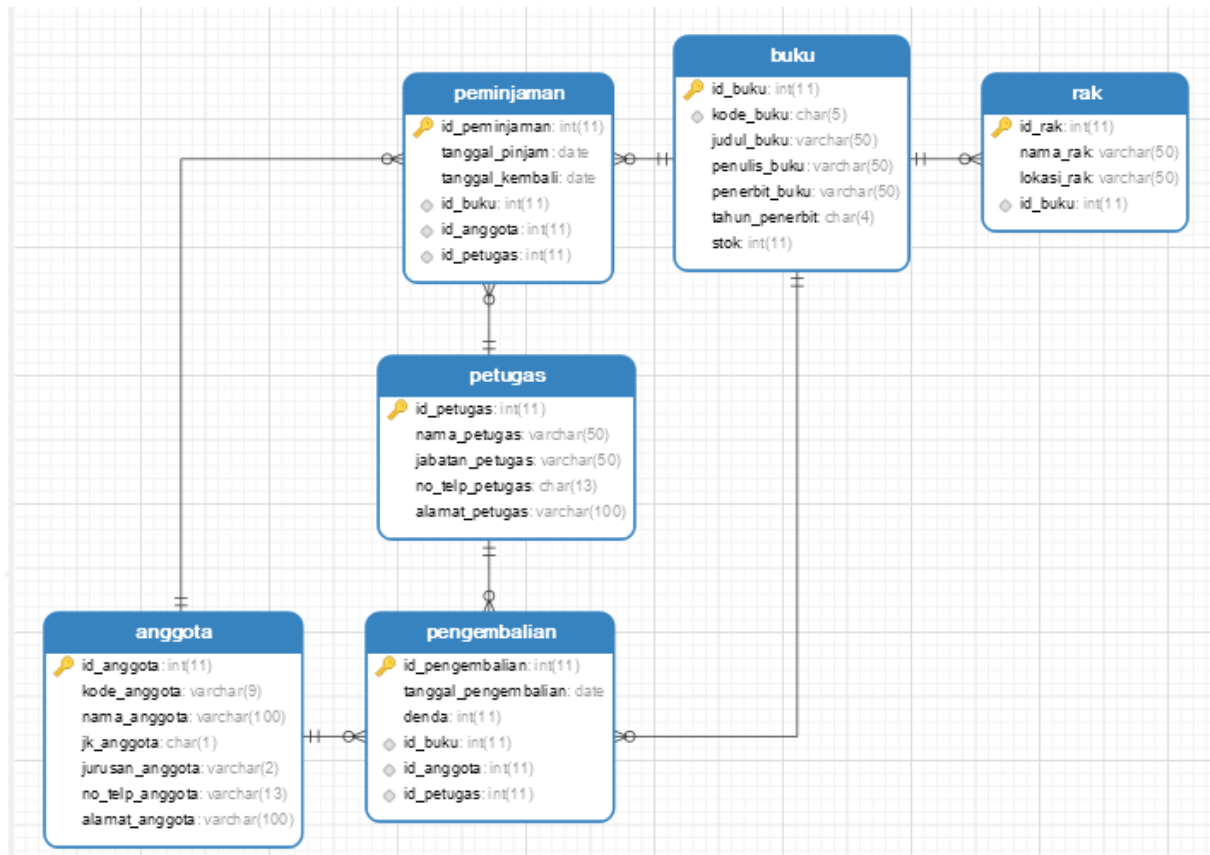
ALTER TABLE `rak`

ADD CONSTRAINT `rak\_ibfk\_1` FOREIGN KEY (`id\_buku`) REFERENCES `buku`  
(`id\_buku`);

```

219
220 ALTER TABLE `rak`
221 ADD CONSTRAINT `rak_ibfk_1` FOREIGN KEY (`id_buku`) REFERENCES `buku` (`id_buku`);
  
```

Message	Profile	Status
ALTER TABLE `rak` ADD CONSTRAINT `rak_ibfk_1` FOREIGN KEY (`id_buku`) REFERENCES `buku` (`id_buku`) > OK > Time: 1.793s		



Inilah hasil dari proses relasi antara tabel yang satu dan yang lain.

**Databases yang saya gunakan sbb :**

CREATE DATABASE perpustakaan2;

use perpustakaan2;

CREATE TABLE anggota (

id\_anggota int(11) NOT NULL,

kode\_anggota varchar(9) NOT NULL,

nama\_anggota varchar(100) NOT NULL,

jk\_anggota char(1) NOT NULL,

jurusan\_anggota varchar(2) NOT NULL,

no\_telp\_anggota varchar(13) NOT NULL,

alamat\_anggota varchar(100) NOT NULL

)ENGINE InnoDB DEFAULT CHARSET=latin1;

```
select * from anggota;  
desc anggota;  
drop table anggota;
```

```
INSERT into anggota values  
( '2005','0001','Jajat','laki-laki','TI','085251501068','Polman'),  
( '2006','0002','Lia','Perempuan','TI','085251501066','Polman'),  
( '2004','0003','Aso','laki-laki','TI','085251501069','Polman'),  
( '2003','0004','Lisa','Perempuan','TI','085251501061','Pinrang'),  
( '2001','0005','Riska','Perempuan','TI','085251501062','Polman'),  
( '2007','0006','Rina','Perempuan','TI','085250000068','Palu'),  
( '2008','0007','Lina','Perempuan','TI','0852515601066','Pengayoman'),  
( '2009','0008','Aswan','laki-laki','TI','0852515331069','Bulukumba'),  
( '2010','0009','Linda','Perempuan','TI','085222501061','Pinrang'),  
( '2011','0010','Risda','Perempuan','TI','0852515030062','Polman');
```

```
CREATE TABLE buku (  
    id_buku int(11) NOT NULL,  
    kode_buku char(5) NOT NULL,  
    judul_buku varchar(50) NOT NULL,  
    penulis_buku varchar(50) NOT NULL,  
    penerbit_buku varchar(50) NOT NULL,  
    tahun_penerbit char(4) NOT NULL,  
    stok int(11) NOT NULL  
)ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
DESC buku;  
select * from buku;  
drop table buku;
```

```
insert into buku VALUES
```

```
('001','B001','piknik_seru','Anita_Hairunnisa','Little_Serambi.Jakarta','2009','5'),  
( '002','B002','jika_kamu_menjadi_tanda_tambah','Trista_Speed_Shaskan','BIP.Jakarta','2  
010','10'),  
( '003','B003','Fisika','Rahman','STMIK','2009','5'),  
( '004','B004','Matematika','Rusli','STMIK','2010','10'),  
( '005','B005','Kimia','Rizky','STMIK','2009','5'),  
( '006','B006','Biologi','Rahmat','STMIK','20011','7'),  
( '007','B007','Pkn','Rusdi','STMIK','2000','3'),  
( '008','B008','Ipa','Rizka','STMIK','2007','2'),  
( '009','B009','Ips','Rusman','STMIK','2009','2'),  
( '010','B010','Mulok','Risma','STMIK','2001','9');
```

```
CREATE TABLE peminjaman (
```

```
    id_peminjaman int(11) NOT NULL,
```

```
    tanggal_pinjam date NOT NULL,
```

```
    tanggal_kembali date NOT NULL,
```

```
    id_buku int(11) NOT NULL,
```

```
    id_anggota int(11) NOT NULL,
```

```
    id_petugas int(11) NOT NULL
```

```
)ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
DESC peminjaman;
```

```
select * from peminjaman;
```

```
drop table Peminjaman;
```

```
insert into peminjaman VALUES
```

```
('011','2021-03-30','2021-04-30','001','2005','20077'),  
( '012','2021-03-30','2021-04-30','002','2006','20078'),  
( '013','2021-03-30','2021-04-30','003','2004','20071'),  
( '014','2021-03-30','2021-04-30','004','2003','20072'),  
( '015','2021-03-30','2021-04-30','005','2001','20073'),  
( '016','2021-03-31','2021-04-30','006','2007','20077'),
```

```
('017','2021-03-29','2021-04-30','007','2008','20078'),  
( '018','2021-03-28','2021-04-30','008','2009','20071'),  
( '019','2021-03-27','2021-04-30','009','2010','20072'),  
( '020','2021-03-26','2021-04-30','010','2011','20073');  
drop table peminjaman;
```

```
CREATE TABLE pengembalian (  
    id_pengembalian int(11) NOT NULL,  
    tanggal_pengembalian date NOT NULL,  
    denda int(11) NOT NULL,  
    id_buku int(11) NOT NULL,  
    id_anggota int(11) NOT NULL,  
    id_petugas int(11) NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;  
select * from pengembalian;  
desc pengembalian;  
drop table Pengembalian;  
insert into pengembalian VALUES  
( '052','2021-04-30','10000','001','2005','20077'),  
( '053','2021-04-30','10000','002','2006','20078'),  
( '054','2021-04-30','10000','003','2004','20073'),  
( '055','2021-04-30','10000','004','2003','20072'),  
( '056','2021-04-30','10000','005','2001','20071'),  
( '057','2021-04-30','10000','006','2007','20074'),  
( '058','2021-04-30','10000','007','2008','20075'),  
( '059','2021-04-30','10000','008','2009','20076'),  
( '050','2021-04-30','10000','009','2010','20079'),  
( '051','2021-04-30','10000','010','2011','20080');
```

```
CREATE TABLE petugas (  
    id_petugas int(11) NOT NULL,  
    nama_petugas varchar(50) NOT NULL,  
    jabatan_petugas varchar(50) NOT NULL,
```

```
no_telp_petugas char(13) NOT NULL,  
alamat_petugas varchar(100) NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;  
select * from petugas;  
desc petugas;  
drop table petugas;
```

```
insert into petugas VALUES  
( '20077','Haeril','Security','085251501069','Bantaeng'),  
( '20078','Haedir','Security','085251501060','Malino'),  
( '20071','Arham','Bendahara','085251501028','Bulukumba'),  
( '20072','Ricky','Sekretaris','085251501030','Bulukumba'),  
( '20073','Ehsan','Ketua','085251501020','Bulukumba'),  
( '20074','Herman','Security','085251501009','Bantaeng'),  
( '20075','Awi','Wakil','085251501000','Malino'),  
( '20076','Arman','Security','085151501028','Bulukumba'),  
( '20079','Rahman','Security','089251501030','Bulukumba'),  
( '20080','Isman','Security','087251501020','Bulukumba');
```

```
CREATE TABLE rak (  
id_rak int(11) NOT NULL,  
nama_rak varchar(50) NOT NULL,  
lokasi_rak varchar(50) NOT NULL,  
id_buku int(11) NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
select * from rak;  
desc rak;  
drop table rak;
```

```
insert into rak VALUES  
( '01','Buku1','Kiri','001'),  
( '02','Buku2','Kanan','002'),
```

```
('03','Buku3','Kiri','003'),  
('04','Buku4','Kiri','004'),  
('05','Buku5','Kanan','005'),  
('06','Buku6','Kiri','006'),  
('07','Buku7','Kanan','007'),  
('08','Buku8','Kiri','008'),  
('09','Buku9','Kiri','009'),  
('10','Buku10','Kanan','010');
```

```
ALTER TABLE `anggota`  
  ADD PRIMARY KEY (`id_anggota`);
```

```
ALTER TABLE `buku`  
  ADD PRIMARY KEY (`id_buku`),  
  ADD UNIQUE KEY `kode_buku` (`kode_buku`);
```

```
ALTER TABLE `peminjaman`  
  ADD PRIMARY KEY (`id_peminjaman`),  
  ADD KEY `id_buku` (`id_buku`),  
  ADD KEY `id_anggota` (`id_anggota`),  
  ADD KEY `id_petugas` (`id_petugas`);
```

```
ALTER TABLE `pengembalian`  
  ADD PRIMARY KEY (`id_pengembalian`),  
  ADD KEY `id_petugas` (`id_petugas`),  
  ADD KEY `id_anggota` (`id_anggota`),  
  ADD KEY `id_buku` (`id_buku`);
```

```
ALTER TABLE `petugas`  
  ADD PRIMARY KEY (`id_petugas`);
```

```
ALTER TABLE `rak`
```

```
ADD PRIMARY KEY (`id_rak`),  
ADD KEY `id_buku` (`id_buku`);
```

```
ALTER TABLE `anggota`  
MODIFY `id_anggota` int(11) NOT NULL AUTO_INCREMENT;
```

```
ALTER TABLE `buku`  
MODIFY `id_buku` int(11) NOT NULL AUTO_INCREMENT;
```

```
ALTER TABLE `peminjaman`  
MODIFY `id_peminjaman` int(11) NOT NULL AUTO_INCREMENT;
```

```
ALTER TABLE `pengembalian`  
MODIFY `id_pengembalian` int(11) NOT NULL AUTO_INCREMENT;
```

```
ALTER TABLE `petugas`  
MODIFY `id_petugas` int(11) NOT NULL AUTO_INCREMENT;
```

```
ALTER TABLE `rak`  
MODIFY `id_rak` int(11) NOT NULL AUTO_INCREMENT;
```

```
ALTER TABLE `peminjaman`  
ADD CONSTRAINT `peminjaman_ibfk_1` FOREIGN KEY (`id_buku`)  
REFERENCES `buku` (`id_buku`),  
ADD CONSTRAINT `peminjaman_ibfk_2` FOREIGN KEY (`id_petugas`)  
REFERENCES `petugas` (`id_petugas`),  
ADD CONSTRAINT `peminjaman_ibfk_3` FOREIGN KEY (`id_anggota`)  
REFERENCES `anggota` (`id_anggota`);
```



```
ALTER TABLE `pengembalian`  
  ADD CONSTRAINT `pengembalian_ibfk_1` FOREIGN KEY (`id_buku`) REFERENCES `buku` (`id_buku`),  
  ADD CONSTRAINT `pengembalian_ibfk_2` FOREIGN KEY (`id_petugas`) REFERENCES `petugas` (`id_petugas`),  
  ADD CONSTRAINT `pengembalian_ibfk_3` FOREIGN KEY (`id_anggota`) REFERENCES `anggota` (`id_anggota`);
```

```
ALTER TABLE `rak`  
  ADD CONSTRAINT `rak_ibfk_1` FOREIGN KEY (`id_buku`) REFERENCES `buku` (`id_buku`);
```