

TUGAS PENGKODEAN DAN PEMROGRAMAN

Membuat Database Sistem Perpustakaan



Nama : Rifda Fachriza
NIM : 12030123140347
Kelas : E
Mata Kuliah : Pengkodean dan Pemrograman
Dosen Pengampu : Dr. Totok Dewayanto, S.E.,M.Si., Akt.

PROGRAM STUDI S1 AKUNTANSI

FAKULTAS EKONOMIKA DAN BISNIS

UNIVERSITAS DIPONEGORO

2025

ChatGPT

buat database perpustakaan dari ERD diatas dilengkapi dengan struktur tabelnya

Berikut adalah skema database perpustakaan berdasarkan ERD yang telah dijelaskan sebelumnya. Struktur tabel dibuat menggunakan SQL dengan tipe data yang sesuai dan relasi yang sudah didefinisikan dengan **primary key (PK)** dan **foreign key (FK)**.

1. Tabel Anggota

```
sql
CREATE TABLE Anggota (
    ID_Anggota INT PRIMARY KEY AUTO_INCREMENT,
    Nama VARCHAR(100) NOT NULL,
    Alamat TEXT,
    No_Telepon VARCHAR(15),
    Email VARCHAR(100) UNIQUE
)

Ask anything
+ Search Reason ...
ChatGPT can make mistakes. Check important info.
```

Result

The screenshot shows the phpMyAdmin interface for the 'sistem_perpustakaan' database. The 'anggota' table is selected in the 'Structure' tab. The table has the following structure:

Table	Action	Rows	Type	Collation	Size	Overhead
anggota		0	InnoDB	utf8mb4_general_ci	32.0 Kib	-
buku		0	InnoDB	utf8mb4_general_ci	16.0 Kib	-
denda		0	InnoDB	utf8mb4_general_ci	16.0 Kib	-
kategori_buku		0	InnoDB	utf8mb4_general_ci	32.0 Kib	-
peminjaman		0	InnoDB	utf8mb4_general_ci	16.0 Kib	-
pengembalian		0	InnoDB	utf8mb4_general_ci	32.0 Kib	-
petugas		0	InnoDB	utf8mb4_general_ci	32.0 Kib	-

1. Anggota

CREATE TABLE Anggota (
ID_Anggota INT PRIMARY KEY AUTO_INCREMENT,
Nama VARCHAR(100) NOT NULL,

Alamat TEXT,
 No_Telepon VARCHAR(15),
 Email VARCHAR(100) UNIQUE,
 Tanggal_Pendaftaran DATE NOT NULL
);

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	ID_Anggota	int(11)			No	None	AUTO_INCREMENT		Change Drop More
2	Nama	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
3	Alamat	text	utf8mb4_general_ci		No	None			Change Drop More
4	No_Telepon	varchar(15)	utf8mb4_general_ci		No	None			Change Drop More
5	Email	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
6	Tanggal_Pendaftaran	date			No	None			Change Drop More

2. Petugas

CREATE TABLE Petugas (
 ID_Petugas INT PRIMARY KEY AUTO_INCREMENT,
 Nama VARCHAR(100) NOT NULL,
 Username VARCHAR(50) UNIQUE NOT NULL,
 Password VARCHAR(255) NOT NULL,
 No_Telepon VARCHAR(15)
);

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	ID_Petugas	int(11)			No	None	AUTO_INCREMENT		Change Drop More
2	Nama	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
3	Username	varchar(50)	utf8mb4_general_ci		No	None			Change Drop More
4	Password	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
5	No_Telepon	varchar(15)	utf8mb4_general_ci		No	None			Change Drop More

3. Kategori Buku

```

CREATE TABLE Kategori_Buku (
    ID_Kategori INT PRIMARY KEY AUTO_INCREMENT,
    Nama_Kategori VARCHAR(50) NOT NULL UNIQUE
);

```

The screenshot shows the phpMyAdmin interface for creating a table named 'kategori_buku'. The table has two columns: 'ID_Kategori' (int(11)) with a primary key and auto-increment, and 'Nama_Kategori' (varchar(50)) which is unique. An index is defined on the 'Nama_Kategori' column. The 'Indexes' section shows a primary key on 'ID_Kategori' and a unique index on 'Nama_Kategori'.

Action	Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
Edit	PRIMARY	BTREE	Yes	No	ID_Kategori	0	A	No	
Edit	Nama_Kategori	BTREE	Yes	No	Nama_Kategori	0	A	No	

4. Buku

```

CREATE TABLE Buku (
    ID_Buku INT PRIMARY KEY AUTO_INCREMENT,
    Judul VARCHAR(200) NOT NULL,
    Pengarang VARCHAR(100),
    Penerbit VARCHAR(100),
    Tahun_Terbit YEAR,
    ISBN VARCHAR(20) UNIQUE,
    ID_Kategori INT,
    Jumlah_Stok INT DEFAULT 1,
    FOREIGN KEY (ID_Kategori) REFERENCES Kategori_Buku(ID_Kategori) ON
    DELETE SET NULL
);

```

The screenshot shows the phpMyAdmin interface for the 'buku' table in the 'sistem_perpustakaan' database. The table structure is as follows:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	ID_Buku	int(11)	utf8mb4_general_ci		No		AUTO_INCREMENT		Change Drop More
2	Judul	varchar(200)	utf8mb4_general_ci		No				Change Drop More
3	Pengarang	varchar(100)	utf8mb4_general_ci		No				Change Drop More
4	Penerbit	varchar(100)	utf8mb4_general_ci		No				Change Drop More
5	Tahun_Terbit	year(4)			No				Change Drop More
6	ISBN	varchar(20)	utf8mb4_general_ci		No				Change Drop More
7	ID_Kategori	int(11)			No				Change Drop More
8	Jumlah_Stok	int(11)			No				Change Drop More

Indexes:

Action	Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
Edit Rename Drop	PRIMARY	BTREE	Yes	No	ID_Buku	0	A	No	

Create an index on 1 columns

Partitions:

5. Peminjaman

CREATE TABLE Peminjaman (

```

ID_Peminjaman INT PRIMARY KEY AUTO_INCREMENT,
ID_Anggota INT,
ID_Buku INT,
ID_Petugas INT,
Tanggal_Peminjaman DATE NOT NULL,
Tanggal_JatuhTempo DATE NOT NULL,
Status_Peminjaman ENUM('Dipinjam', 'Dikembalikan') DEFAULT 'Dipinjam',
FOREIGN KEY (ID_Anggota) REFERENCES Anggota(ID_Anggota) ON
DELETE CASCADE,
FOREIGN KEY (ID_Buku) REFERENCES Buku(ID_Buku) ON DELETE
CASCADE,
FOREIGN KEY (ID_Petugas) REFERENCES Petugas(ID_Petugas) ON DELETE
SET NULL
);

```

Table: peminjaman

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	ID_Peminjaman	int(11)			No	None	AUTO_INCREMENT		
2	ID_Anggota	int(11)			No	None			
3	ID_Buku	int(11)			No	None			
4	ID_Petugas	int(11)			No	None			
5	Tanggal_Peminjaman	date			No	None			
6	Tanggal_Jatuhtempo	date			No	None			
7	Status_Peminjama	int(11)			No	None			

Indexes

Action	Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
	PRIMARY	BTREE	Yes	No	ID_Peminjaman	0	A	No	

Create an index on 1 columns

Partitions

No partitioning defined!

6. Pengembalian

```
CREATE TABLE Pengembalian (
    ID_Pengembalian INT PRIMARY KEY AUTO_INCREMENT,
    ID_Peminjaman INT UNIQUE,
    Tanggal_Pengembalian DATE NOT NULL,
    Denda DECIMAL(10,2) DEFAULT 0,
    FOREIGN KEY (ID_Peminjaman) REFERENCES Peminjaman(ID_Peminjaman)
    ON DELETE CASCADE
);
```

Table: pengembalian

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	ID_Pengembalian	int(11)			No	None	AUTO_INCREMENT		
2	ID_Peminjaman	int(11)			No	None			
3	Tanggal_Pengembalian	date			No	None			
4	Denda	decimal(10,2)			No	None			

Indexes

Action	Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
	PRIMARY	BTREE	Yes	No	ID_Pengembalian	0	A	No	
	ID_Peminjaman	BTREE	Yes	No	ID_Peminjaman	0	A	No	

Create an index on 1 columns

Partitions

No partitioning defined!

7. Denda

```
CREATE TABLE Denda (
    ID_Denda INT PRIMARY KEY AUTO_INCREMENT,
    ID_Anggota INT,
    Jumlah_Denda DECIMAL(10,2) NOT NULL,
```

Status_Pembayaran ENUM('Belum Dibayar', 'Sudah Dibayar') DEFAULT 'Belum Dibayar',

FOREIGN KEY (ID_Anggota) REFERENCES Anggota(ID_Anggota) ON DELETE CASCADE
);

The screenshot shows the 'Table structure' tab for the 'denda' table in the 'Database: sistem_perpustakaan'. The table has four columns:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	ID_Denda	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	ID_Anggot	int(11)			No	None			Change Drop More
3	Jumlah_Denda	decimal(10,2)			No	None			Change Drop More
4	Status_Pembayaran	int(11)			No	None			Change Drop More

Below the table structure, there are sections for 'Indexes', 'Partitions', and 'Partition table'. The 'Indexes' section shows one primary key index named 'PRIMARY'.