LAPORAN TUGAS AKHIR BASIS DATA

Untuk Memenuhi Ujian Akhir Semester Mata Basis Data dan Prak. Basis Data (Kelas G)



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Dosen:

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**IDENTIFIKASI ENTITAS UTAMA, ATRIBUT, DAN RELASI ANTAR ENTITAS ENTITAS MASTER**

| **Pelanggan** | |
| --- | --- |
| ID Pelanggan | INT (Primary Key) |
| Nama | BIGINT |
| Alamat | VARCHAR |
| Nomor Handphone | VARCHAR |
| Email | VARCHAR |

| **Karyawan** | |
| --- | --- |
| ID Karyawan | INT (Primary Key) |
| Nama Karyawan | VARCHAR |
| Jabatan | VARCHAR |
| Nomor Handphone | VARCHAR |
| Gaji | DECIMAL |

| **Menu** | |
| --- | --- |
| ID Menu | INT (Primary Key) |
| Nama Menu | VARCHAR |
| Harga | DECIMAL |
| Deskripsi | TEXT |
| Kategori | ENUM (‘Makanan’,’Minuman) |

| Pesanan | |
| --- | --- |
| ID Pesanan | INT (Primary Key) |
| Tanggal Pesanan | VARCHAR |
| Total Harga | BIGINT |
| Status Pesanan | VARCHAR |
| ID Pelanggan | INT |
| ID Karyawan | INT |

| **Detail Pesanan** | |
| --- | --- |
| ID Detail | INT (Primary Key) |
| ID Pesanan | INT |
| ID Menu | INT |
| Jumlah Pesanan | INT NOT NULL |
| Subtotal | DECIMAL |

**ENTITAS RELASI**

| **Pesanan** | |
| --- | --- |
| ID Pelanggan | INT (Primary Key) |
| ID Karyawan | INT |
| ID Meja | INT |

| **Detail Pesanan** | |
| --- | --- |
| ID Pesanan | INT (Primary Key) |
| ID Menu | INT |

**RELASI**

1. Pelanggan - Pesanan

Relasi: Satu pelanggan dapat memiliki banyak pesanan.

Tipe relasi: one-to-Many.

1. Karyawan - Pesanan

Relasi: Satu karyawan dapat melayani banyak pesanan

Tipe relasi: One-to-Many.

1. Meja - Pesanan

Relasi: Satu meja dapat digunakan dalam banyak pesanan (berbeda waktu).

Tipe relasi: One-to-Many.

1. Pesanan- Detail Pesanan

Relasi: Satu pesanan dapat memiliki banyak detail pesanan.

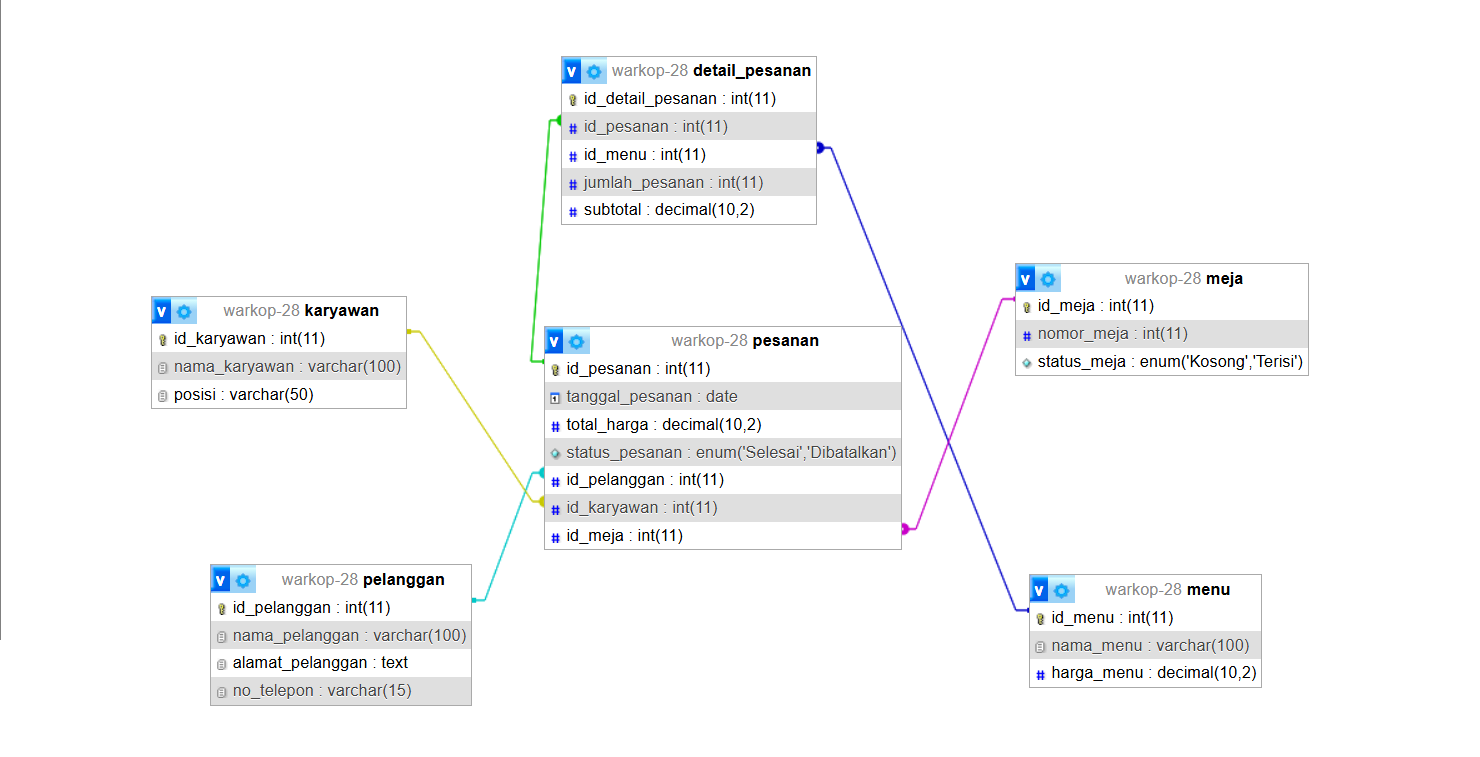
Tipe relasi: One-to-Many.

1. Menu - Detail Pesanan

Relasi: Satu menu dapat muncul di banyak detail pesanan.

Tipe relasi: One-to-Many.

1. **BUAT ERD UNTUK MENGGAMBARKAN STRUKTUR DATABASE**



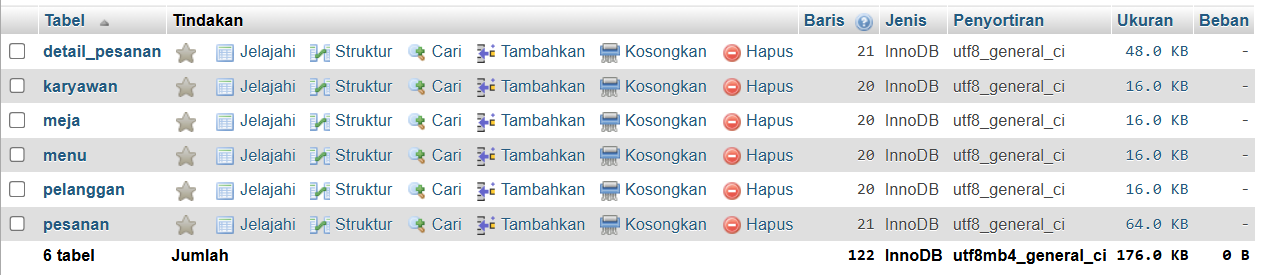
1. **BUAT STRUKTUR DATABASE MENGGUNAKAN MYSQL**

| **Keterangan** | **Perintah dan Tampilan** |
| --- | --- |
| Membuat database warkop\_28 | CREATE DATABASE warkop\_28 |
| Membuat tabel pelanggan | 1. CREATE TABLE pelanggan (   id\_pelanggan INT AUTO\_INCREMENT PRIMARY KEY,  nama VARCHAR(100) NOT NULL,  alamat VARCHAR(255),  nomor\_telepon VARCHAR(20),  email VARCHAR(100)  ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4; |
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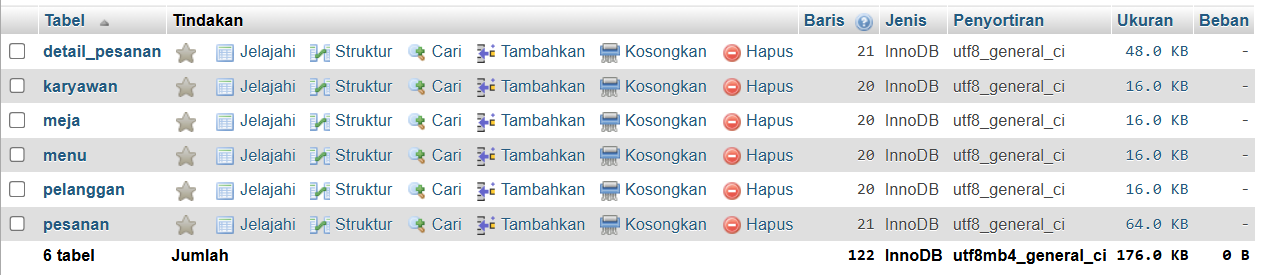
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| --- | --- |
| Membuat Tabel Karyawan | 1. CREATE TABLE karyawan (   id\_karyawan INT AUTO\_INCREMENT PRIMARY KEY,  nama\_karyawan VARCHAR(100) NOT NULL,  jabatan VARCHAR(50),  nomor\_telepon VARCHAR(20),  gaji DECIMAL(10, 2)  ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4; |
| Mebuat Tabel Menu | 1. CREATE TABLE menu (   id\_menu INT AUTO\_INCREMENT PRIMARY KEY,  nama\_menu VARCHAR(100) NOT NULL,  harga DECIMAL(10, 2) NOT NULL,  deskripsi TEXT,  kategori ENUM('Makanan', 'Minuman') NOT NULL  ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4; |
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| Membuat Tabel Pesanan | 1. CREATE TABLE pesanan (   id\_pesanan INT AUTO\_INCREMENT PRIMARY KEY,  tanggal\_pesanan DATE NOT NULL,  total\_harga DECIMAL(10, 2),  status\_pesanan VARCHAR(50),  id\_pelanggan INT,  id\_karyawan INT,  FOREIGN KEY (id\_pelanggan) REFERENCES pelanggan(id\_pelanggan) ON DELETE SET NULL,  FOREIGN KEY (id\_karyawan) REFERENCES karyawan(id\_karyawan) ON DELETE SET NULL  ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4; |
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| Membuat tabel detail\_pesanan | 1. CREATE TABLE detail\_pesanan (   id\_detail INT AUTO\_INCREMENT PRIMARY KEY,  id\_pesanan INT,  id\_menu INT,  jumlah\_pesanan INT NOT NULL,  subtotal DECIMAL(10, 2),  FOREIGN KEY (id\_pesanan) REFERENCES pesanan(id\_pesanan) ON DELETE CASCADE,  FOREIGN KEY (id\_menu) REFERENCES menu(id\_menu) ON DELETE CASCADE  ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4; |
| --- | --- |
| Membuat tabel Meja | CREATE TABLE meja (  id\_meja INT AUTO\_INCREMENT PRIMARY KEY,  nomor\_meja INT,  status\_meja ENUM('Kosong', 'Terisi') DEFAULT 'Kosong'  ) ENGINE=InnoDB DEFAULT CHARSET=utf8 |

1. **GUNAKAN INNODB**



1. **UTF8**



1. **MASUKKAN DATA DUMMY, 20 ROW MINIMAL SETIAP TABELNYA**

| **Keterangan** | **Perintah dan Penampilan** |
| --- | --- |
| Memasukkan 20 data dummy ke tabel pelanggan yang berisi nama, alamat, no telepon, dan email | 1. INSERT INTO pelanggan (nama, alamat, nomor\_telepon, email) VALUES   ('Andi Wijaya', 'Jl. Merdeka No. 12', '081234567890'),  ('Budi Santoso', 'Jl. Sudirman No. 45', '081234567891'),  ('Citra Lestari', 'Jl. Gajah Mada No. 22', '081234567892'),  ('Dewi Amalia', 'Jl. Pattimura No. 11', '081234567893'),  ('Eko Susilo', 'Jl. Thamrin No. 20', '081234567894'),  ('Fikri Maulana', 'Jl. Diponegoro No. 30', '081234567895'),  ('Gina Maharani', 'Jl. Kartini No. 25', '081234567896'),  ('Hendra Pratama', 'Jl. Sultan Agung No. 15', '081234567897'),  ('Irma Kusuma', 'Jl. Ahmad Yani No. 50', '081234567898'),  ('Joko Saputra', 'Jl. Jenderal Soedirman No. 78', '081234567899'),  ('Kirana Putri', 'Jl. Cendrawasih No. 13', '081234567900'),  ('Lina Sari', 'Jl. Letjen Suprapto No. 32', '081234567901'),  ('Maya Wulan', 'Jl. Imam Bonjol No. 19', '081234567902'),  ('Nadia Fitri', 'Jl. Gatot Subroto No. 77', '081234567903'),  ('Oka Andika', 'Jl. Sisingamangaraja No. 23', '081234567904'),  ('Putri Ramadhani', 'Jl. Veteran No. 31', '081234567905'),  ('Qori Fadli', 'Jl. Hasanuddin No. 28', '081234567906'),  ('Rama Hermawan', 'Jl. Pemuda No. 18', '081234567907'),  ('Sari Ayu', 'Jl. Raden Saleh No. 17', '081234567908'),  ('Taufik Hidayat', 'Jl. Melati No. 33', '081234567909');  ; |

|  |  |
| --- | --- |
| Memasukkan 20 baris data ke tabel Karyawan, di mana setiap baris mencakup informasi tentang nama, jabatan, nomor handphone, dan gaji. | 1. INSERT INTO karyawan (nama\_karyawan, jabatan, nomor\_telepon, gaji) VALUES   ('Rina Ambarwati', 'Pelayan'),  ('Agus Wijaya', 'Kasir'),  ('Diana Puspa', 'Pelayan'),  ('Siti Aisyah', 'Barista'),  ('Bambang Sutrisno', 'Koki'),  ('Indra Lesmana', 'Pelayan'),  ('Teguh Prakoso', 'Barista'),  ('Wulan Saputri', 'Pelayan'),  ('Farid Nurcahyo', 'Pelayan'),  ('Yuni Andriani', 'Kasir'),  ('Nugroho Prasetyo', 'Koki'),  ('Lisa Utami', 'Pelayan'),  ('Yanto Susanto', 'Pelayan'),  ('Rika Sari', 'Kasir'),  ('Satria Utama', 'Pelayan'),  ('Putri Damayanti', 'Barista'),  ('Heri Purnomo', 'Pelayan'),  ('Arif Budiman', 'Barista'),  ('Ayu Setiawan', 'Kasir'),  ('Dewi Anggraini', 'Pelayan'); |

| Memasukkan 20 baris data ke tabel Menu | INSERT INTO menu (nama\_menu, harga, deskripsi, kategori) VALUES  INSERT INTO menu (nama\_menu, harga\_menu) VALUES  ('Kopi Hitam', 10000),  ('Teh Manis', 8000),  ('Es Jeruk', 12000),  ('Nasi Goreng', 20000),  ('Mie Goreng', 18000),  ('Roti Bakar', 15000),  ('Soto Ayam', 22000),  ('Bakso', 17000),  ('Mie Ayam', 18000),  ('Es Teh', 5000),  ('Es Kopi Susu', 15000),  ('Kopi Latte', 18000),  ('Cappuccino', 20000),  ('Es Coklat', 12000),  ('Air Mineral', 3000),  ('Nasi Ayam', 25000),  ('Ayam Geprek', 22000),  ('Nasi Uduk', 15000),  ('Kentang Goreng', 12000),  ('Burger', 25000); |
| --- | --- |

| Menambahkan Data Dummy ke table Meja | INSERT INTO meja (nomor\_meja, status\_meja) VALUES  (1, 'Kosong'),  (2, 'Kosong'),  (3, 'Kosong'),  (4, 'Kosong'),  (5, 'Kosong'),  (6, 'Kosong'),  (7, 'Kosong'),  (8, 'Kosong'),  (9, 'Kosong'),  (10, 'Kosong'),  (11, 'Kosong'),  (12, 'Kosong'),  (13, 'Kosong'),  (14, 'Kosong'),  (15, 'Kosong'),  (16, 'Kosong'),  (17, 'Kosong'),  (18, 'Kosong'),  (19, 'Kosong'),  (20, 'Kosong'); |
| --- | --- |

| Memasukkan 20 baris data ke tabel detail\_pesanan, l. | INSERT INTO detail\_pesanan (id\_pesanan, id\_menu, jumlah\_pesanan, subtotal) VALUES  (1, 1, 2, 20000),  (1, 3, 1, 12000),  (2, 4, 1, 20000),  (2, 6, 1, 15000),  (3, 5, 2, 36000),  (3, 7, 1, 22000),  (4, 9, 1, 18000),  (4, 2, 2, 16000),  (5, 8, 1, 17000),  (5, 10, 2, 10000),  (6, 11, 1, 15000),  (6, 12, 1, 18000),  (7, 13, 1, 12000),  (7, 14, 2, 24000),  (8, 15, 1, 3000),  (8, 16, 1, 25000),  (9, 17, 1, 22000),  (9, 18, 2, 30000),  (10, 19, 2, 50000),  (10, 20, 1, 25000); |
| --- | --- |

| Memasukkan 20 baris data ke tabel Pesanan. | INSERT INTO pesanan (tanggal\_pesanan, total\_harga, status\_pesanan, id\_pelanggan, id\_karyawan, id\_meja) VALUES  ('2024-12-10', 50000, 'Selesai', 1, 2, 3),  ('2024-12-11', 60000, 'Selesai', 2, 1, 5),  ('2024-12-12', 75000, 'Selesai', 3, 3, 4),  ('2024-12-13', 90000, 'Selesai', 4, 4, 7),  ('2024-12-14', 80000, 'Selesai', 5, 5, 1),  ('2024-12-15', 45000, 'Selesai', 6, 6, 6),  ('2024-12-16', 70000, 'Selesai', 7, 7, 2),  ('2024-12-17', 95000, 'Selesai', 8, 8, 10),  ('2024-12-18', 100000, 'Selesai', 9, 9, 9),  ('2024-12-19', 120000, 'Selesai', 10, 10, 11),  ('2024-12-20', 55000, 'Selesai', 11, 11, 12),  ('2024-12-21', 65000, 'Selesai', 12, 12, 13),  ('2024-12-22', 50000, 'Selesai', 13, 13, 14),  ('2024-12-23', 45000, 'Selesai', 14, 14, 15),  ('2024-12-24', 80000, 'Selesai', 15, 15, 16),  ('2024-12-25', 95000, 'Selesai', 16, 16, 17),  ('2024-12-26', 50000, 'Selesai', 17, 17, 18),  ('2024-12-27', 65000, 'Selesai', 18, 18, 19),  ('2024-12-28', 75000, 'Selesai', 19, 19, 20),  ('2024-12-29', 55000, 'Selesai', 20, 20, 1); |
| --- | --- |

**TRANSACTION**

START TRANSACTION;

INSERT INTO pesanan (tanggal\_pesanan, total\_harga, status\_pesanan, id\_pelanggan, id\_karyawan, id\_meja)

VALUES ('2024-12-30', 90000, 'Selesai', 5, 2, 3);

SET @id\_pesanan = LAST\_INSERT\_ID();

INSERT INTO detail\_pesanan (id\_pesanan, id\_menu, jumlah\_pesanan, subtotal)

VALUES (@id\_pesanan, 4, 2, 40000),

(@id\_pesanan, 7, 1, 50000);

UPDATE meja SET status\_meja = 'Terisi' WHERE id\_meja = 3;

COMMIT;

Laporan Dan Transaksi

SELECT

p.id\_pesanan AS 'ID Pesanan',

p.tanggal\_pesanan AS 'Tanggal Pesanan',

pl.nama\_pelanggan AS 'Nama Pelanggan',

k.nama\_karyawan AS 'Nama Karyawan',

m.nama\_menu AS 'Nama Menu',

dp.jumlah\_pesanan AS 'Jumlah Pesanan',

dp.subtotal AS 'Subtotal',

p.total\_harga AS 'Total Harga',

me.nomor\_meja AS 'Nomor Meja',

me.status\_meja AS 'Status Meja',

p.status\_pesanan AS 'Status Pesanan'

FROM

pesanan p

JOIN

pelanggan pl ON p.id\_pelanggan = pl.id\_pelanggan

JOIN

karyawan k ON p.id\_karyawan = k.id\_karyawan

JOIN

detail\_pesanan dp ON p.id\_pesanan = dp.id\_pesanan

JOIN

menu m ON dp.id\_menu = m.id\_menu

JOIN

meja me ON p.id\_meja = me.id\_meja

ORDER BY

p.tanggal\_pesanan DESC;



**Skenario apabila ada kesalahan maka seluruh transaksi batal**

**Pembatalan Pesanan**

-- Mulai transaksi

START TRANSACTION;

1. Hapus detail pesanan dari tabel `detail\_pesanan`

DELETE FROM detail\_pesanan WHERE id\_pesanan = 5;

2. Hapus pesanan dari tabel `pesanan`

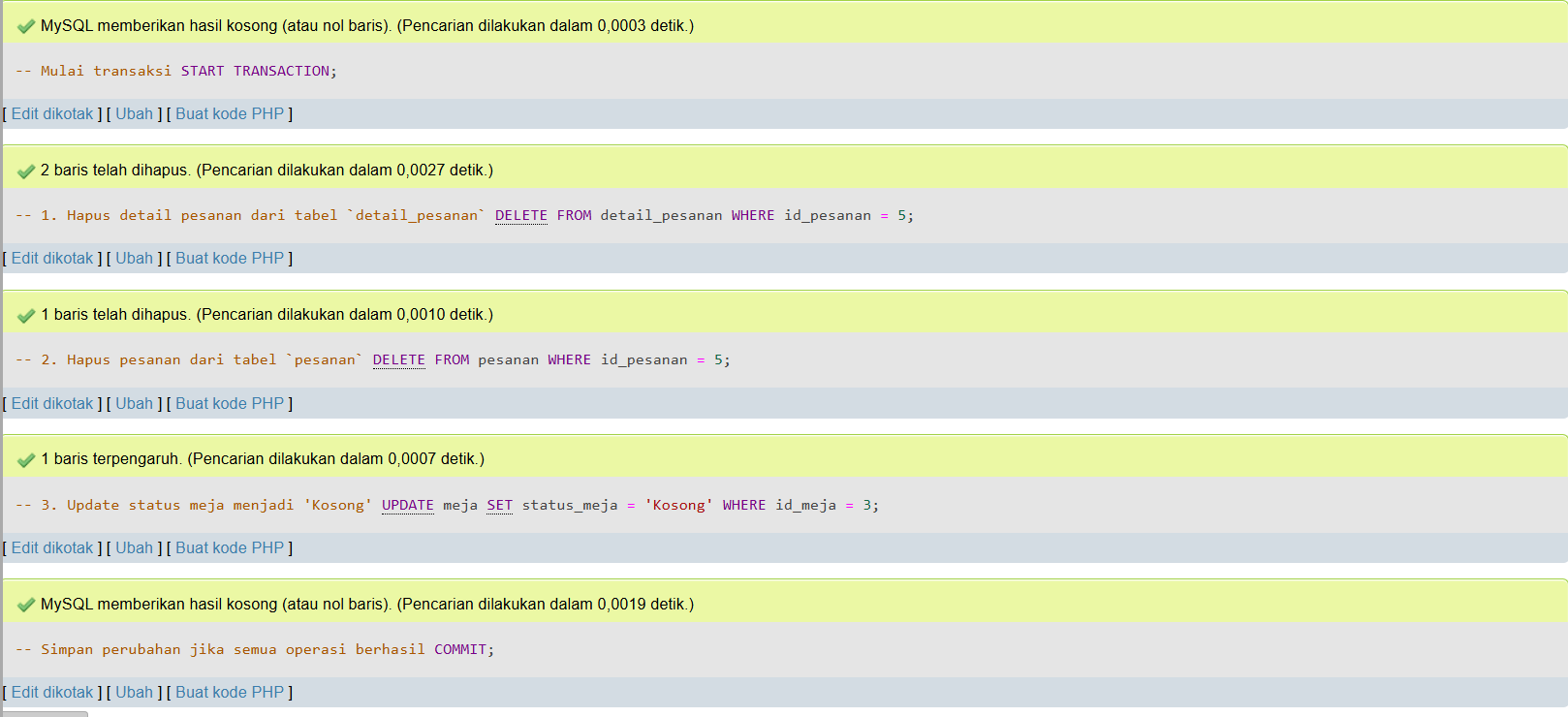
DELETE FROM pesanan WHERE id\_pesanan = 5;

3. Update status meja menjadi 'Kosong'

UPDATE meja SET status\_meja = 'Kosong' WHERE id\_meja = 3;

Simpan perubahan jika semua operasi berhasil

COMMIT;

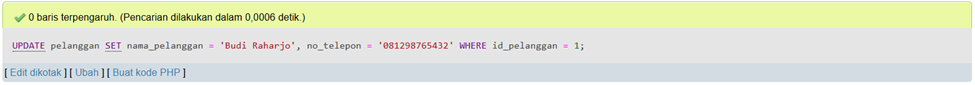


Update Data Pelanggan

UPDATE pelanggan

SET nama\_pelanggan = 'Budi Raharjo', no\_telepon = '081298765432'

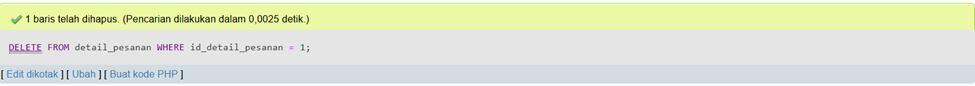
WHERE id\_pelanggan = 1;



Delete Detail Pesanan

DELETE FROM detail\_pesanan

WHERE id\_detail\_pesanan = 1;



**LINK GITHUB:**

https://github.com/rezaginting2312/Tubes\_Basdat

Dokumentasi Kerja Kelompok:

