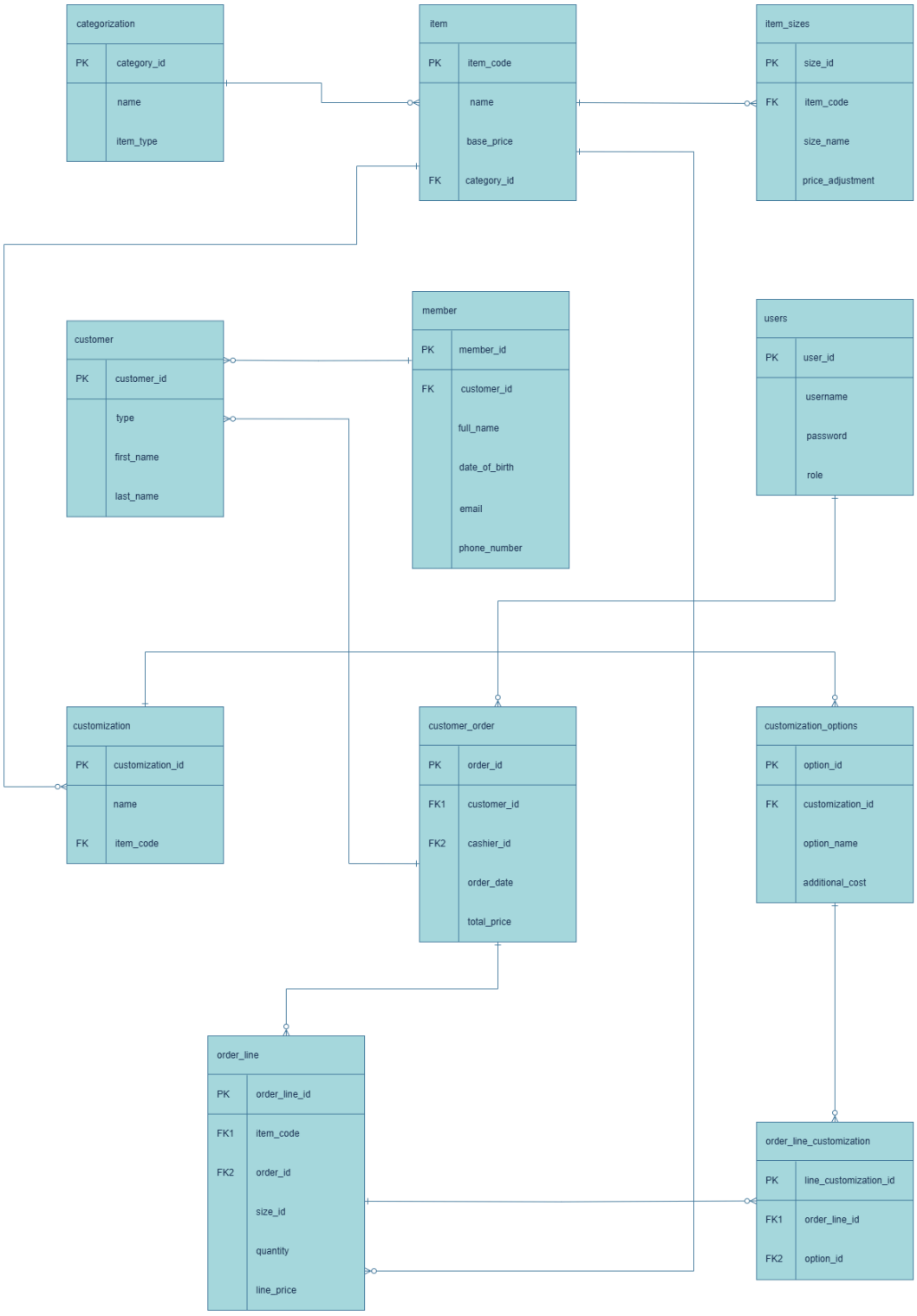
DATABASE DESIGN & ERD

DATABASE NAME: cafedemo

ERD



CREATE SCRIPTS

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CREATE TABLE CUSTOMER (
   customer_id INTEGER GENERATED ALWAYS AS IDENTITY PRIMARY KEY,
   type VARCHAR(10) CHECK (type IN ('Member', 'Guest')) NOT NULL,
   first_name VARCHAR(50) NOT NULL,
   last_name VARCHAR(50) -- Nullable for guests
);

CREATE TABLE MEMBER (
   member_id VARCHAR(5) PRIMARY KEY,
   customer_id INTEGER NOT NULL,
   full_name VARCHAR(100) NOT NULL,
   date_of_birth DATE,
   email VARCHAR(100), -- Nullable, but one of email or phone_number must be present
   phone_number BIGINT,
   CONSTRAINT member_fk FOREIGN KEY (customer_id) REFERENCES
CUSTOMER(customer_id) ON DELETE CASCADE,
   CONSTRAINT email_or_phone_required CHECK (email IS NOT NULL OR phone_number IS
NOT NULL)
);

CREATE TABLE USERS (
   user_id INTEGER GENERATED ALWAYS AS IDENTITY PRIMARY KEY,
   username VARCHAR(20) UNIQUE NOT NULL,
   password VARCHAR(255) NOT NULL,
   role VARCHAR(10) CHECK (role IN ('Admin', 'Manager', 'Cashier')) NOT NULL
);

CREATE TABLE CATEGORIZATION (
   category_id INTEGER GENERATED ALWAYS AS IDENTITY PRIMARY KEY,
   name VARCHAR(20) CHECK (name IN ('Espresso Drinks', 'Blended Drinks', 'Tea',
                                    'Pastries', 'Cakes', 'Sandwiches', 'Pastas',
                                    'T-Shirts', 'Bags', 'Mugs', 'Others')) NOT NULL,
   item_type VARCHAR(15) CHECK (item_type IN ('Drink', 'Food', 'Merchandise')) NOT NULL
);

CREATE TABLE ITEM (
   item_code VARCHAR(20) PRIMARY KEY, -- Use item_code as the primary key
   name VARCHAR(50) NOT NULL,
   base_price NUMERIC(6,2) NOT NULL CHECK (base_price >= 0),
   category_id INTEGER NOT NULL,
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  CONSTRAINT item_fk FOREIGN KEY (category_id) REFERENCES
CATEGORIZATION(category_id) ON DELETE CASCADE
);

CREATE TABLE CUSTOMIZATION (
  customization_id INTEGER GENERATED ALWAYS AS IDENTITY PRIMARY KEY,
  name VARCHAR(50) NOT NULL,
  item_code VARCHAR(20) NOT NULL,
  CONSTRAINT customization_fk FOREIGN KEY (item_code) REFERENCES ITEM(item_code)
ON DELETE CASCADE
);

CREATE TABLE CUSTOMIZATION_OPTIONS (
  option_id INTEGER GENERATED ALWAYS AS IDENTITY PRIMARY KEY,
  customization_id INTEGER NOT NULL,
  option_name VARCHAR(50) NOT NULL,
  additional_cost NUMERIC(6,2) DEFAULT 0 CHECK (additional_cost >= 0),
  CONSTRAINT options_fk FOREIGN KEY (customization_id) REFERENCES
CUSTOMIZATION(customization_id) ON DELETE CASCADE
);

CREATE TABLE CUSTOMER_ORDER (
  order_id INTEGER GENERATED ALWAYS AS IDENTITY PRIMARY KEY,
  order_date DATE DEFAULT CURRENT_DATE NOT NULL,
  customer_id INTEGER,
  cashier_id INTEGER NOT NULL,
  total_price NUMERIC(8,2) DEFAULT 0.00 NOT NULL,
  CONSTRAINT order_customer_fk FOREIGN KEY (customer_id) REFERENCES
CUSTOMER(customer_id),
  CONSTRAINT order_user_fk FOREIGN KEY (cashier_id) REFERENCES USERS(user_id)
);

CREATE TABLE ORDER_LINE (
  order_line_id INTEGER GENERATED ALWAYS AS IDENTITY PRIMARY KEY,
  order_id INTEGER NOT NULL,
  item_code VARCHAR(20) NOT NULL,
  size_id INTEGER, -- Nullable for items that don't have sizes
  quantity INTEGER NOT NULL CHECK (quantity > 0),
  line_price NUMERIC(8,2) NOT NULL CHECK (line_price >= 0),
  CONSTRAINT order_line_fk_order FOREIGN KEY (order_id) REFERENCES
CUSTOMER_ORDER(order_id) ON DELETE CASCADE,
  CONSTRAINT order_line_fk_item FOREIGN KEY (item_code) REFERENCES ITEM(item_code)
);
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CREATE TABLE ORDER_LINE_CUSTOMIZATION (
   line_customization_id INTEGER GENERATED ALWAYS AS IDENTITY PRIMARY KEY,
   order_line_id INTEGER NOT NULL,
   option_id INTEGER NOT NULL,
   CONSTRAINT line_customization_fk_order_line FOREIGN KEY (order_line_id)
REFERENCES ORDER_LINE(order_line_id) ON DELETE CASCADE,
   CONSTRAINT line_customization_fk_option FOREIGN KEY (option_id) REFERENCES
CUSTOMIZATION_OPTIONS(option_id) ON DELETE CASCADE
);

CREATE TABLE ITEM_SIZES (
   size_id SERIAL PRIMARY KEY,
   item_code VARCHAR(20) NOT NULL,
   size_name VARCHAR(20) NOT NULL,
   price_adjustment NUMERIC(6,2) DEFAULT 0.00,
   CONSTRAINT item_sizes_fk FOREIGN KEY (item_code) REFERENCES ITEM(item_code) ON
DELETE CASCADE
);
```