Assignment 2: Design a database schema for a library system, including tables, fields, and constraints like NOT NULL, UNIQUE, and CHECK. Include primary and foreign keys to establish relationships between tables.

Database schema for library management system:

gender_staff
- id INT NOT NULL AUTO_INCREMENT
- staff_id INT NOT NULL
- gender_person VARCHAR(10) DEFAULT 'Unknown' NULL
- PRIMARY KEY (id)
- FOREIGN KEY (staff_id) REFERENCES staff(id)

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staff_records
- staff_id INT NOT NULL AUTO_INCREMENT
- password VARCHAR(255) NOT NULL
- staff_name VARCHAR(100) NOT NULL
- staff_mail VARCHAR(255) NOT NULL UNIQUE
- staff_mobile_no VARCHAR(15) NOT NULL UNIQUE
- PRIMARY KEY (staff_id)
- CHECK (LENGTH(password) >= 8)

admin/operator
- admin_id INT NOT NULL AUTO_INCREMENT
- password VARCHAR(255) NOT NULL
- PRIMARY KEY (admin_id)

books_table
- book_id INT NOT NULL AUTO_INCREMENT
- book_detail_id INT NOT NULL
- author_id INT NOT NULL
- title VARCHAR(255) NOT NULL
- PRIMARY KEY (book_id)
- FOREIGN KEY (author_id) REFERENCES authors(author_id)
- FOREIGN KEY (book_detail_id) REFERENCES book_details(book_detai

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reader_report
- reader_report_id INT NOT NULL AUTO_INCREMENT
- user_id INT NOT NULL
- book_id INT NULL
- issue TEXT NOT NULL
- PRIMARY KEY (reader_report_id)
- FOREIGN KEY (user_id) REFERENCES
- FOREIGN KEY (book_id) REFERENCES books(book_id)

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transactions
- transaction_id INT NOT NULL AUTO_INCREMENT
- user_id INT NOT NULL
- due_date DATE NOT NULL
- PRIMARY KEY (transaction_id)
- FOREIGN KEY (user_id) REFERENCES users(user_id)

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borrowed_transactions
- id INT NOT NULL AUTO_INCREMENT
- book_id INT NOT NULL
- tranaction_id INT NOT NULL
- FOREIGN KEY (book_id) REFERENCES books(book_id)
- FOREIGN KEY (transaction_id) REFERENCES transactions (transaction_id)

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reader_table
- user_id INT NOT NULL AUTO_INCREMENT
- password VARCHAR(255) NOT NULL
- first_name VARCHAR(100) NOT NULL UNIQUE
- last_name VARCHAR(100) NOT NULL UNIQUE
- email VARCHAR(255) NOT NULL UNIQUE
- phone_no VARCHAR(15) NOT NULL UNIQUE
- address TEXT NULL
- PRIMARY KEY (user_id)
- CHECK (CHAR_LENGTH(passw >= 8)

reader_activity
- reader_activity_id INT NOT NULL AUTO_INCREMENT
- book_id INT NOT NULL
- user_id INT NOT NULL
- reserve_date DATE NOT NULL
- return_date DATE NULL
- due_date DATE NOT NULL
- borrowed BOOLEAN NOT NULL
- fine DECIMAL(10, 2) DEFAULT 0.00
- PRIMARY KEY (reader_activity_id)
- FOREIGN KEY (user_id) REFERENCES users(user_id)

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book_details
- book_detail_id INT NOT NULL AUTO_INCREMENT
- publication_date DATE NOT NULL
- PRIMARY KEY (book_detail_id)

author
- author_id INT NOT NULL AUTO_INCREMENT
- name VARCHAR(255) NOT NULL
- PRIMARY KEY (author_id)

borrows
- issued_date
- due_date()
- returned_date()
- fine

M — N Mandatory participation (M:N)

N Mandatory participation (0:N)