

Develop an Android App which is capable of supporting basic Library Management functions such as;

Maintaining Books, Membership and Lending details

Your App is expected to create /maintain data in a SQLite database in the device's SD card. The SQL commands listed below, gives you a suitable table structure. Your App must provide the user facilities/ functions [CRUD] to maintain- Book details, Book copy details, Member details, Publisher details, Author details, Lending details, Branch details etc.

Your Task is to;

1. Analyze the requirements and develop appropriate UIs -with buttons
2. Develop code to set up the tables
3. Develop codes to support CRUD functions for each table
4. Integrate the above codes to respective Buttons
5. Make your App attractive, and useful by (if necessary) adding more features appropriately.
6. Test with real (acceptable) data.

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CREATE TABLE Book(
    BOOK_ID VARCHAR(13),
    TITLE    VARCHAR(30),
    PUBLISHER_NAME VARCHAR(20),
    PRIMARY KEY (BOOK_ID));

CREATE TABLE Publisher(
    NAME VARCHAR(20),
    ADDRESS VARCHAR(30),
    PHONE   VARCHAR(10),
    PRIMARY KEY (NAME));

CREATE TABLE Branch(
    BRANCH_ID   VARCHAR(5),
    BRANCH_NAME VARCHAR(20),
    ADDRESS     VARCHAR(30),
    PRIMARY KEY (BRANCH_ID));

CREATE TABLE Member(
    CARD_NO     VARCHAR(10),
    NAME        VARCHAR(20),
    ADDRESS     VARCHAR(30),
    PHONE       VARCHAR(10),
    UNPAID_DUES NUMBER(5,2),
    PRIMARY KEY (CARD_NO));

CREATE TABLE Book_Author(
    BOOK_ID     VARCHAR(13),
    AUTHOR_NAME VARCHAR(20),
    PRIMARY KEY (BOOK_ID, AUTHOR_NAME),
    FOREIGN KEY (BOOK_ID) REFERENCES Book);

CREATE TABLE Book_Copy(
    BOOK_ID   VARCHAR(13),
    BRANCH_ID VARCHAR(5),
    ACCESS_NO VARCHAR(5),
    PRIMARY KEY (ACCESS_NO, BRANCH_ID),
    FOREIGN KEY (BOOK_ID) REFERENCES Book,
    FOREIGN KEY (BRANCH_ID) REFERENCES Branch);

CREATE TABLE Book_Loan(
    ACCESS_NO   VARCHAR(5),
    BRANCH_ID   VARCHAR(5),
    CARD_NO     VARCHAR(5),
    DATE_OUT    DATE,
    DATE_DUE    DATE,
    DATE_RETURNED DATE,
    PRIMARY KEY (ACCESS_NO, BRANCH_ID, CARD_NO, DATE_OUT),
    FOREIGN KEY (ACCESS_NO, BRANCH_ID) REFERENCES Book_Copy,
    FOREIGN KEY (CARD_NO) REFERENCES Member,
    FOREIGN KEY (BRANCH_ID) REFERENCES Branch);

```