CREATE TABLE PUBLISHER (NAME VARCHAR2 (20) PRIMARY KEY, PHONE INTEGER, ADDRESS VARCHAR2 (20));

CREATE TABLE BOOK (BOOK_ID INTEGER PRIMARY KEY, TITLE VARCHAR2 (20), PUB_YEAR VARCHAR2 (20), PUBLISHER_NAME REFERENCES PUBLISHER (NAME) ON DELETE CASCADE);

CREATE TABLE BOOK_AUTHORS (AUTHOR_NAME VARCHAR2 (20), BOOK_ID REFERENCES BOOK (BOOK_ID) ON DELETE CASCADE, PRIMARY KEY (BOOK_ID, AUTHOR_NAME));

CREATE TABLE LIBRARY_BRANCH (BRANCH_ID INTEGER PRIMARY KEY, BRANCH_NAME VARCHAR2 (50), ADDRESS VARCHAR2 (50));

CREATE TABLE BOOK_COPIES (NO_OF_COPIES INTEGER, BOOK_ID REFERENCES BOOK (BOOK_ID) ON DELETE CASCADE, BRANCH_ID REFERENCES LIBRARY_BRANCH (BRANCH_ID) ON DELETE CASCADE, PRIMARY KEY (BOOK_ID, BRANCH_ID));

CREATE TABLE CARD (CARD_NO INTEGER PRIMARY KEY);

CREATE TABLE BOOK_LENDING (DATE_OUT DATE, DUE_DATE DATE, BOOK_ID REFERENCES BOOK (BOOK_ID) ON DELETE CASCADE, BRANCH_ID REFERENCES LIBRARY_BRANCH (BRANCH_ID) ON DELETE CASCADE, CARD_NO REFERENCES CARD (CARD_NO) ON DELETE CASCADE, PRIMARY KEY (BOOK_ID, BRANCH_ID, CARD_NO));

Insertion of Values to Tables
INSERT INTO PUBLISHER VALUES (‘MCGRAW-HILL’, 9911223344, ‘BANGALORE’);
Insert as many as required rows
INSERT INTO BOOK VALUES (1,‘DBMS’,‘JAN-2018’, ‘MCGRAW-HILL’);
Insert as many as required rows
INSERT INTO BOOK_AUTHORS VALUES (‘NAVATHE’, 1);
Insert as many as required rows
INSERT INTO LIBRARY_BRANCH VALUES (10,‘EKTA NAGAR’,‘BANGALORE’);
Insert as many as required rows
INSERT INTO BOOK_COPIES VALUES (10, 1, 10);
Insert as many as required rows
INSERT INTO CARD VALUES (100);
Insert the required rows
INSERT INTO BOOK_LENDING VALUES (‘01-JAN-17’, ‘01-JUN-17’, 1, 10, 101);
Insert as many as required rows

Queries:

1. Retrieve details of all books in the library – id, title, name of publisher, authors, number of copies in each branch, etc.
SELECT B.BOOK_ID, B.TITLE, B.PUBLISHER_NAME, A.AUTHOR_NAME, C.NO_OF_COPIES, L.BRANCH_ID FROM BOOK B, BOOK_AUTHORS A, BOOK_COPIES C, LIBRARY_BRANCH L
WHERE B.BOOK_ID=A.BOOK_ID
AND B.BOOK_ID=C.BOOK_ID
AND L.BRANCH_ID=C.BRANCH_ID;

2. Get the particulars of borrowers who have borrowed more than 3 books, but from Jan 2017 to Jun 2017.
SELECT CARD_NO
FROM BOOK_LENDING

```
WHERE DATE_OUT BETWEEN '01-JAN-2017' AND '01-JUL-2017'
GROUP BY CARD_NO
HAVING COUNT (*)>3;
```

3. Delete a book in BOOK table. Update the contents of other tables to reflect this data manipulation operation.

```
DELETE FROM BOOK
WHERE BOOK_ID=3;
```

4. Partition the BOOK table based on year of publication. Demonstrate its working with a simple query.

```
CREATE VIEW V_PUBLICATION AS
SELECT PUB_YEAR FROM BOOK;
```

5. Create a view of all books and its number of copies that are currently available in the Library.

```
CREATE VIEW V_BOOKS AS
SELECT B.BOOK_ID, B.TITLE, C.NO_OF_COPIES
FROM BOOK B, BOOK_COPIES C, LIBRARY_BRANCH L
WHERE B.BOOK_ID=C.BOOK_ID AND C.BRANCH_ID=L.BRANCH_ID;
```