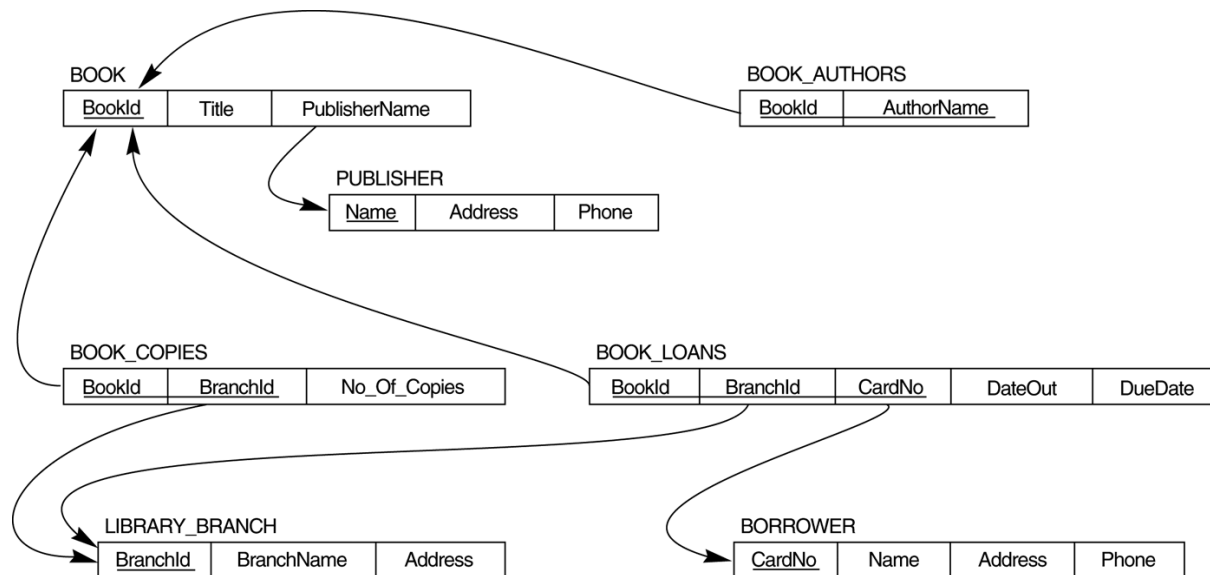# SQL EXERCISE

Given a database schema for a library management system (represented by the picture below), retrieve the required information using SQL language:

1. How many copies of the book titled The Lost Tribe are owned by the library branch whose name is "Sharpstown"?

   SELECT BOOK.Title, BOOK_COPIES.No_Of_Copies, LIBRARY_BRANCH.BranchName

   FROM BOOK

   LEFT JOIN BOOK_COPIES ON BOOK.BookId=BOOK_COPIES.BranchId.BookId

   LEFT JOIN LIBRARY_BRANCH ON LIBRARY_BRANCH.BranchId=BOOK_COPIES.BranchId

   WHERE BOOK.Title='The List Tribe'

   AND LIBRARY_BRANCH.BranchName='Sharpstown';

2. How many copies of the book titled The Lost Tribe are owned by each library branch?

SELECT BOOK.Title, BOOK_COPIES.No_Of_Copies, BOOK_COPIES.BranchId

FROM BOOK

LEFT JOIN BOOK_COPIES on BOOK.BookId = BOOK_COPIES.BookId

WHERE BOOK.Title='The Lost Tribe';

3. Retrieve the names   of all borrowers who do not have any books checked out .

SELECT BORROWER.Name

LEFT JOIN BOOK_LOANS ON BORROWER.CardNo=BOOK_LOANS.CardNo

WHERE BOOK_LOANS.DateOut IS NULL;

4. For each book that   is loaned out from the "Sharpstown" branch and whose DueDate is today, retrieve the book title, the borrower's name, and the borrower's address.

SELECT BOOK.Title, BORROWER.Name, Borrower.Address

FROM BOOK_LOANS

```
LEFT JOIN BOOK ON BOOK.BookId=BOOK_LOANS.BookId

LEFT JOIN BORROWER ON BORROWER.CardNo=BOOK_LOANS.CardNo

LEFT JOIN LIBRARY_BRANCH ON LIBRARY_BRANCH.BranchId=BOOK_LOANS.BranchId

WHERE LIBRARY_BRANCH.BranchName='Sharpstown'

AND BOOK_LOANS.DueDate='2021-10-17';
```

5. For each library   branch, retrieve the branch name and the total number of books loaned out from that branch.

```
SELECT LIBRARY_BRANCH.BranchName, COUNT(BOOK_LOANS.BookId)

FROM BOOK_LOANS

LEFT JOIN BOOK_LOANS ON LIBRARY_BRANCH.BranchId=BOOK_LOANS.BranchId

WHERE BOOK_LOANS.DateOut IS NOT NULL;
```

6. Retrieve the   names, addresses, and number of books checked out for all borrowers who have more than five books checked out.

```
SELECT BORROWER.Name, BORROWER.Address, COUNT(BOOK_LOANS.CardNo)

FROM BOOK_LOANS

LEFT JOIN BORROWER ON BORROWER.CardNo=BOOK_LOANS.CardNo

GROUP BY BOOK_LOANS.CardNo

WHERE BOOK_LOANS.DateOut IS NOT NULL

AND COUNT(BOOK_LOANS.CardNo) > 5;
```

7. For each book authored (or co-authored) by "Stephen King", retrieve the title and the number of copies owned by the library branch whose name is "Central"

```
SELECT BOOK.Title, BOOK_COPIES.No_Of_Copies

FROM BOOK_COPIES

LEFT JOIN BOOK ON BOOK.BookId=BOOK_COPIES.BookId

LEFT JOIN BOOK_AUTHORS ON BOOK_AUTHORS.BookId=BOOK.BookId

LEFT JOIN LIBRARY_BRANCH ON BOOK_COPIES.BranchId= LIBRARY_BRANCH.BranchId

WHERE BOOK_AUTHORS LIKE '%Stephen King%'

AND LIBRARY_BRANCH.BranchName='Central';
```