

INTRODUCTION

The Library Management System is a database project developed using SQL to efficiently manage and organize the operations of a library. The main objective of this project is to maintain detailed records of books, members, and book transactions such as issue and return, while ensuring quick data retrieval and minimal manual effort.

Task 1. Create a New Book Record

```
-- "978-1-60129-456-2', 'To Kill a Mockingbird', 'Classic', 6.00, 'yes', 'Harper Lee', 'J.B. Lippincott & Co.')
```

```
insert into books2  
(isbn, book_title, category, rental_price, status, author, publisher)  
values  
('978-1-60129-456-2', 'To Kill a Mockingbird', 'Classic', 6.00, 'yes', 'Harper Lee', 'J.B. Lippincott & Co.');
```

Task 2: Update an Existing Member's Address

```
update members  
set member_address = '125 Main St'  
where member_address ='123 Main St';
```

Task 3: Delete a Record from the Issued Status Table

Objective: Delete the record with issued id = 'IS121' from the issued status table.

```
delete from issued_status  
where issued_id = 'IS121';
```

Task 4: Retrieve All Books Issued by a Specific Employee

Objective: Select all books issued by the employee with emp id = 'E101'.

```
select *  
from issued_status as a  
join employees as b  
on a.issued_emp_id = b.emp_id  
where emp_id = 'E101';
```

Task 5: List Members Who Have Issued More Than One Book Objective: Use GROUP BY to find members who have issued more than one book

```
SELECT  
    issued_emp_id,  
    COUNT(*)  
FROM issued_status  
GROUP BY 1  
HAVING COUNT(*) > 1;
```

Task 6: Create Summary Tables: Used CTAS to generate new tables based on query results - each book and total book issued cnt

```
create table books_issued as  
select a.book_title,a.isbn,count(issued_id) as no_issued_book  
from books2 as a  
join issued_status as ist  
on a.isbn = ist.issued_book_isbn  
group by a.book_title,a.isbn;
```

Task 7. Retrieve All Books in a Specific Category

```
select * from books2  
where category = 'classic';
```

Task 8: Find Total Rental Income by Category

```
select bk.category, sum(rental_price*no_issued_book) as total_profit,count(*)  
from books2 as bk  
join books_issued as bi  
on bk.isbn = bi.isbn  
group by bk.category  
order by total_profit desc;
```

Task 9. List Employees with Their Branch Manager's Name and their branch details

```
select emp.emp_id, emp.emp_name, emp.position, emp.salary, br.* ,emp2.emp_name as manager_name  
from employees as emp  
join branch as br  
on emp.branch_id=br.branch_id  
join employees as emp2  
on br.manager_id=emp2.emp_id;
```

Task 10. Create a Table of Books with Rental Price Above a Certain Threshold

```
create table expensive_book as  
select * from books2  
where rental_price>'7.00';
```



THANK YOU

