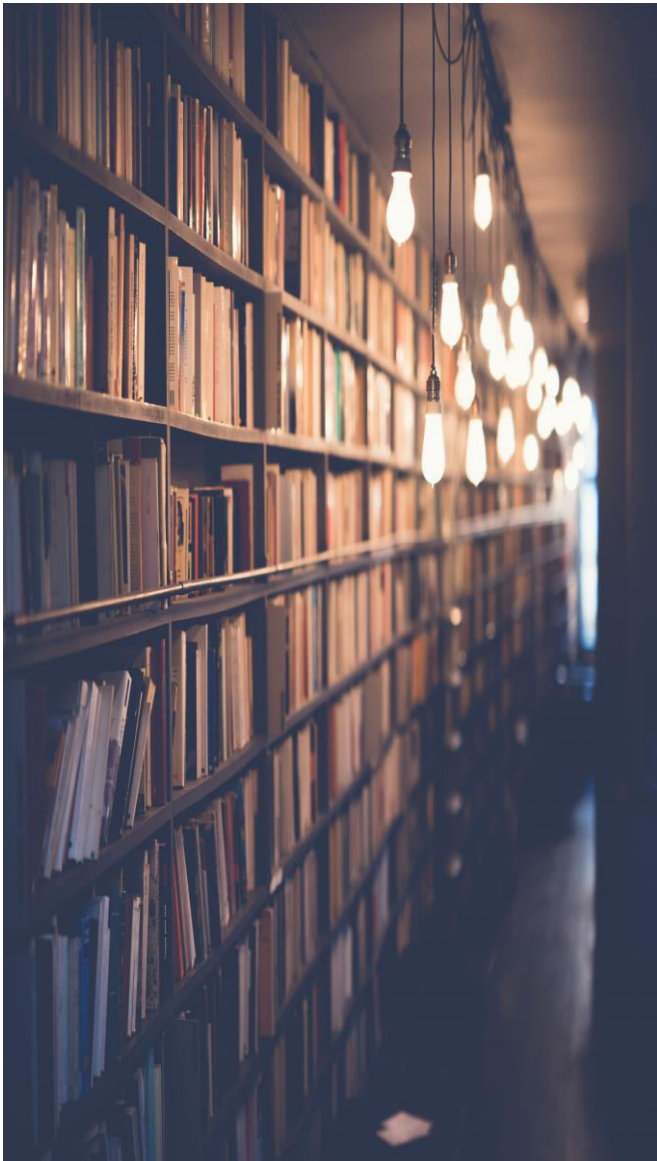# SQL PROJECT: Library Management System

ABSTRACT

The Library Management System project aims to optimize the management of library resources, including books, customers, employees, and library operations. It provides a comprehensive database structure with six main tables: Branch, Employee, Books, Customer, IssueStatus, and ReturnStatus. Each table is designed to store specific information essential for efficient library operations.

TOPIC :Library Management System

You are going to build a project based on Library Management System. It keeps track of all information about books in the library, their cost, status and total number of books available in the library.

Create a database named library and following TABLES in the database:

1. Branch
2. Employee
3. Books
4. Customer
5. IssueStatus
6. ReturnStatus

Attributes for the tables:

1. Branch

- **Branch_no - Set as PRIMARY KEY**
- **Manager_Id**
- **Branch_address**
- **Contact_no**

2. Employee

- **Emp_Id – Set as PRIMARY KEY**
- **Emp_name**
- **Position**
- **Salary**
- **Branch_no - Set as FOREIGN KEY and it refer Branch_no in Branch table**

3. Books

- **ISBN - Set as PRIMARY KEY**
- **Book_title**
- **Category**
- **Rental_Price**
- **Status [Give yes if book available and no if book not available]**
- **Author**
- **Publisher**

4. Customer

- **Customer_Id - Set as PRIMARY KEY**
- **Customer_name**
- **Customer_address**
- **Reg_date**

5. IssueStatus

- **Issue_Id - Set as PRIMARY KEY**
- **Issued_cust – Set as FOREIGN KEY and it refer customer_id in CUSTOMER table Issued_book_name**
- **Issue_date**
- **Isbn_book – Set as FOREIGN KEY and it should refer isbn in BOOKS table**

6. ReturnStatus

- **Return_Id - Set as PRIMARY KEY**
- **Return_cust**
- **Return_book_name**
- **Return_date**
- **Isbn_book2 - Set as FOREIGN KEY and it should refer isbn in BOOKS table**

Display all the tables and Write the queries for the following :

1. Retrieve the book title, category, and rental price of all available books.
2. List the employee names and their respective salaries in descending order of salary.
3. Retrieve the book titles and the corresponding customers who have issued those books.
4. Display the total count of books in each category.
5. Retrieve the employee names and their positions for the employees whose salaries are above Rs.50,000.
6. List the customer names who registered before 2022-01-01 and have not issued any books yet.
7. Display the branch numbers and the total count of employees in each branch.
8. Display the names of customers who have issued books in the month of June 2023.
9. Retrieve book_title from book table containing history.
10.Retrieve the branch numbers along with the count of employees for branches having more than 5 employees
11. Retrieve the names of employees who manage branches and their respective branch addresses.
12. Display the names of customers who have issued books with a rental price higher than Rs. 25.

COMPLETE PROGRAM

/*Topic : Library Management System */

CREATE DATABASE LIBRARY;

USE LIBRARY;

CREATE TABLE BRANCH

(Branch_no Varchar(15) PRIMARY KEY,

Manager_Id varchar(15) NOT NULL,

Branch_address VARCHAR (150),

Contact_no Bigint UNIQUE NOT NULL);

<mark>SELECT*FROM BRANCH;</mark>

INSERT INTO BRANCH (Branch_no, Manager_Id,Branch_address, Contact_no)

VALUES ('B-101', 'M1','British Council Library,Hyderabad-500063','4023483333'),

('B-102', 'M2','British Council Library,New Delhi-110001','4023333333'),

('B-103', 'M3','British Council Library,Ahmedabad-380006','4012483333'),

('B-104', 'M4','British Council Library,Bengaluru-560001','4023483883');

CREATE TABLE EMPLOYEE

(Emp_Id varchar(15) **PRIMARY KEY**,

Emp_name VARCHAR (30) NOT NULL,

Position VARCHAR (30) NOT NULL,

Salary Decimal (10,2) NOT NULL,

Branch_no varchar(15), **FOREIGN KEY**(Branch_no) references BRANCH(Branch_no)on delete cascade);

<mark>SELECT*FROM EMPLOYEE;</mark>

INSERT INTO EMPLOYEE (Emp_Id,Emp_name ,Position, Salary,Branch_no)

VALUES('EMP-1','JISHA VARGHESE','Senior Associate Librarian','60000','B-101'),

('EMP-2','SINOY SUNNY','Library Clerk','30000','B-101'),

('EMP-3','JUVANA MARY','Library Technician','68000','B-101'),

('EMP-4','JOBEY VARGHESE','Library Assistant','30000','B-101'),

('EMP-5','LINDA ANTONY','Childrens Librarian','40000','B-101'),

('EMP-6','DHANYA SUNNY','Senior Library IT Specialist','80000','B-101'),

('EMP-7','SUDEEP FRANCO','Library Clerk','30000','B-102'),

('EMP-8','SHINNY SUNNY','Library Assistant','60000','B-102'),

('EMP-9','MANU PAUL','Childrens Librarian','40000','B-102'),

('EMP-10','ALEENA ANTONY','Library IT Specialist','70000','B-102'),

('EMP-11','DIVYA MOHAN','Reference Librarian','65000','B-102'),

('EMP-12','ANJALI YADHAV','Cataloguer','20000','B-102'),

('EMP-13','DILEEP KUMAR','Archivist','30000','B-102'),

('EMP-14','RAJESH ROHAN','Library Clerk','30000','B-103'),

('EMP-15','ROHIT SHARMA','Library Assistant','60000','B-103'),

('EMP-16','MEGNA ANTONY','Childrens Librarian','40000','B-103'),

('EMP-17','RICHIE THOMAS','Library IT Specialist','70000','B-103'),

('EMP-18','JENNY LUKOSE','Library Clerk','30000','B-104'),

('EMP-19','ALEX VARKEY','Senior Library Assistant','60000','B-104'),

('EMP-20','PETER MILLER','Childrens Librarian','40000','B-104');

CREATE TABLE BOOKS

(ISBN varchar(20) PRIMARY KEY,

Book_title VARCHAR (120) NOT NULL,

Category VARCHAR (20) NOT NULL,

Rental_Price DECIMAL (10,2),

Status CHAR (3) NOT NULL,

Author VARCHAR (30),

Publisher VARCHAR (100));

select*from Books;

INSERT INTO BOOKS (ISBN, Book_title,Category,Rental_Price,Status,Author,Publisher)

VALUES ('ISBN-001','Alices Adventures in Wonderland','Childrens',15,'YES','Lewis Carroll','Macmillan'),

('ISBN-002','The Tale of Peter Rabbit','Childrens',25,'YES','Beatrix Potter','Frederick Warne & Co'),

('ISBN-003','Winnie the Pooh','Childrens',20,'YES','A.A. Milne','Methuen'),

('ISBN-004','Harry Potter and the Sorcerers Stone','Childrens',50,'NO','J.K. Rowling','Bloomsbury'),

('ISBN-005','The Secret Garden','Childrens',40,'YES','Frances Burnett','Green Press'),

('ISBN-006','The Magic Forest','Childrens',45,'YES','Lewis Carroll','Macmillan'),

('ISBN-007','The Cat in the Hat','Childrens',22,'YES','Dr. Seuss','Random House');

INSERT INTO BOOKS (ISBN, Book_title,Category,Rental_Price,Status,Author,Publisher)

VALUES ('ISBN-008','Early India:From the Origins to AD 1300','HISTORY',40,'YES','Romila Thapar','University of California Press'),

('ISBN-009','India After Gandhi','HISTORY',70,'NO','Ramachandra Guha','HarperCollins'),

('ISBN-010','The Discovery of India','HISTORY',120,'YES','Jawaharlal Nehru','Penguin Books'),

('ISBN-011','The Last Mughal','HISTORY',24,'YES','William Dalrymple','Bloomsbury'),

('ISBN-012','Freedom at Midnight','HISTORY',24,'YES','Larry Collins','HarperCollins'),

('ISBN-013','Ancient India: New Research','HISTORY',100,'YES','Upinder Singh','Oxford University Press'),

('ISBN-014','The Great Indian Novel','HISTORY',150,'YES','Shashi Tharoor','Penguin Books');

INSERT INTO BOOKS (ISBN, Book_title,Category,Rental_Price,Status,Author,Publisher)

VALUES ('ISBN-015','The Planets','SCIENCE',22,'NO','Dava Sobel','Viking'),

('ISBN-016','Lonely Planets:The Natural Philosophy of Alien Life','SCIENCE',70,'YES','David Grinspoon','Harper Perennial'),

('ISBN-017','The Universe in a Nutshell','SCIENCE',125,'YES','Stephen Hawking','Bantam Books'),

('ISBN-018','Quantum Mechanics and Path Integrals','SCIENCE',158,'YES','Richard P. Feynman','Dover Publications'),

('ISBN-019','The Martian','SCIENCE',67,'YES','Andy Weir','Crown Publishing Group'),

('ISBN-020','Black Holes and Time Warps','SCIENCE',100,'NO','Kip S. Thorne','W.W. Norton & Co.'),

('ISBN-021','Astrobiology: A Very Short Introduction','SCIENCE',23,'YES','David C. Catling','Oxford University Press');

INSERT INTO BOOKS (ISBN, Book_title,Category,Rental_Price,Status,Author,Publisher)

VALUES ('ISBN-022','Artificial Intelligence: A Modern Approach','TECHNOLOGY',180,'YES','Stuart Russell','Pearson Education'),

('ISBN-023','Deep Learning','TECHNOLOGY',170,'YES','Ian Goodfellow','MIT Press'),

('ISBN-024','Introduction to Algorithms','TECHNOLOGY',125,'YES','Thomas H. Cormen','The MIT Press'),

('ISBN-025','Hackers','TECHNOLOGY',24,'YES','Steven Levy','O Reilly Media'),

('ISBN-026','Elon Musk','TECHNOLOGY',125,'NO','Ashlee Vance','Ecco'),

```sql
('ISBN-027','Algorithms to Live By','TECHNOLOGY',60,'YES','Brian Christian','W.W. Norton & Co.'),

('ISBN-028','Data Science for Business','TECHNOLOGY',150,'YES','Foster Provost','O Reilly Media');


INSERT INTO BOOKS (ISBN, Book_title,Category,Rental_Price,Status,Author,Publisher)

VALUES ('ISBN-029','Pride and Prejudice','FICTION',20,'NO','Jane Austen','T. Egerton'),

('ISBN-030','War and Peace','FICTION',170,'YES','Leo Tolstoy','The Russian Messenger'),

('ISBN-031','The Hobbit','FICTION',125,'NO','J.R.R. Tolkien','Allen & Unwin'),

('ISBN-032','The Lord of the Rings','FICTION',124,'YES','J.R.R. Tolkien','Allen & Unwin'),

('ISBN-033','The Catcher in the Rye','FICTION',20,'NO','J.D. Salinger','Little Brown and Company'),

('ISBN-034','The Great Gatsby','FICTION',160,'NO','F. Scott Fitzgerald','Charles Scribners Sons'),

('ISBN-035','Catch-22','FICTION',18,'YES','Joseph Heller','Simon & Schuster'),

('ISBN-036','Brave New World','FICTION',15,'YES','Aldous Huxley','Chatto & Windus');


INSERT INTO BOOKS (ISBN, Book_title,Category,Rental_Price,Status,Author,Publisher)

VALUES ('ISBN-037','The Silent Patient','MYSTERY',20,'NO','Alex Michaelides','Celadon Books'),

('ISBN-038','The Secret Place','MYSTERY',170,'YES','Tana French','Viking Books'),

('ISBN-039','Dark Places','MYSTERY',125,'YES','Gillian Flynn','Crown Publishing');


INSERT INTO BOOKS (ISBN, Book_title,Category,Rental_Price,Status,Author,Publisher)

VALUES('ISBN-040','The Collected Poems','POETRY',24,'YES','Sylvia Plath','Harper & Row'),

('ISBN-041','The Raven','POETRY',125,'NO','Edgar Allan Poe','The American Review'),

('ISBN-042','Leaves of Grass','POETRY',60,'YES','Walt Whitman','David McKay');


INSERT INTO BOOKS (ISBN, Book_title,Category,Rental_Price,Status,Author,Publisher)

VALUES('ISBN-043','Kalam: Wings of Fire','BIOGRAPHY',200,'YES','A.P.J. Abdul Kalam','Universities Press'),

('ISBN-044','Gandhi: An Autobiography','BIOGRAPHY',200,'NO','Mahatma Gandhi','Navajivan Publishing'),

('ISBN-045','Dhoni: Captain Cool','BIOGRAPHY',20,'YES','Gulu Ezekiel','Westland'),
```

('ISBN-046','Mary Kom: Unbreakable','BIOGRAPHY',20,'YES','Mary Kom','HarperCollins India');

CREATE TABLE CUSTOMER

(Customer_Id varchar(15) PRIMARY KEY,

Customer_name VARCHAR (50) NOT NULL,

Customer_address VARCHAR (100) NOT NULL,

Reg_date DATE);

<mark>select * from Customer;</mark>

INSERT INTO CUSTOMER (Customer_Id,Customer_name,Customer_address,Reg_date)

VALUES ('C-001','PINKY DON','401 Bhoomika flat,New Delhi','2022-01-01'),

('C-002','XAVIER TOM','500 Galexy building,New Delhi','2023-06-01'),

('C-003','TONY MONE','Gandhi road villa 3,New Delhi','2020-08-12'),

('C-004','HARDIK PANDEY','Stat gallery 402,New Delhi','2022-01-20'),

('C-005','BABUL BEN','villa 4 gandhi building,New Delhi','2020-12-01'),

('C-006','BINEESH SINGH','403 bloosom villa,Hyderabad','2023-06-12'),

('C-007','RANVEER JOHAR','DECA Building,Hyderabad','2022-01-01'),

('C-008','KRITHIK ARORA','7 star building,Hyderabad','2021-01-13'),

('C-009','MANISHA PAUL','unicorn building,Hyderabad','2023-06-23'),

('C-010','DEVIKA BASU','Lotus star building 403,Hyderabad','2022-01-01'),

('C-011','AMEER SINGH','Hilltop Heights 34,Ahmedabad','2022-01-01'),

('C-012','JAI VEER YADAV','Lakeview Manor -55,Ahmedabad','2021-08-12'),

('C-013','PANDEY SINGH','Sunshine Towers 31,Ahmedabad','2023-06-08'),

('C-014','KAREN JOHN','Serenity Gardens 222,Ahmedabad','2022-01-01'),

('C-015','JOHNNY BEN','Tranquil Woods Apartments 22,Ahmedabad','2022-01-01'),

('C-016','ISSAC PAUL','Green Meadows Apartments 11,Bengaluru','2019-09-20'),

('C-017','SHOBHA KIRAN','Ocean View Apartments 22,Bengaluru','2023-06-17'),

('C-018','ALIYA AMER','Pinecrest Apartments 99,Bengaluru','2024-01-01'),

('C-019','KRITHIKA RAM','Skyline Towers 33E,Bengaluru','2024-02-20'),

('C-020','ROHIT SHEGAL','Royal Palms Estates 112S,Bengaluru','2024-03-12');

CREATE TABLE ISSUE_STATUS

(Issue_Id varchar(15) PRIMARY KEY,

Issued_cust VARCHAR(15), FOREIGN KEY(Issued_cust) references CUSTOMER(Customer_Id)on delete cascade,

Issued_book_name VARCHAR (200),

Issue_date DATE,

Isbn_book VARCHAR(20), FOREIGN KEY (Isbn_book) references BOOKS(ISBN)on delete cascade);

select * from issue_status;

INSERT INTO ISSUE_STATUS (Issue_Id, Issued_cust, Issued_book_name, Issue_date, Isbn_book)

VALUES ('I-001', 'C-001', 'The Great Gatsby', '2023-06-01', 'ISBN-034'),

('I-002', 'C-001', 'The Catcher in the Rye', '2023-06-01', 'ISBN-033'),

('I-003', 'C-002', 'The Secret Place', '2023-06-02', 'ISBN-038'),

('I-004', 'C-002', 'The Silent Patient', '2023-06-02', 'ISBN-037'),

('I-005', 'C-004', 'Hackers', '2023-06-10', 'ISBN-025'),

('I-006', 'C-004', 'Quantum Mechanics and Path Integrals', '2023-06-10', 'ISBN-018'),

('I-007', 'C-006', 'Artificial Intelligence: A Modern Approach', '2023-06-12', 'ISBN-022'),

('I-008', 'C-006', 'Deep Learning', '2023-06-12', 'ISBN-023'),

('I-009', 'C-006', 'Introduction to Algorithms', '2023-06-12', 'ISBN-024'),

('I-010', 'C-007', 'Elon Musk', '2023-06-15', 'ISBN-026'),

('I-011', 'C-007', 'Algorithms to Live By', '2023-06-15', 'ISBN-027'),

('I-012', 'C-009', 'Data Science for Business', '2023-06-23', 'ISBN-028'),

('I-013', 'C-009', 'Pride and Prejudice', '2023-06-23', 'ISBN-029'),

('I-014', 'C-010', 'War and Peace', '2023-06-24', 'ISBN-030'),

('I-015', 'C-010', 'The Hobbit', '2023-06-24', 'ISBN-031'),

('I-016', 'C-011', 'The Lord of the Rings', '2023-06-25', 'ISBN-032'),

('I-017', 'C-011', 'The Martian', '2023-06-25', 'ISBN-019'),

('I-018', 'C-013', 'Astrobiology: A Very Short Introduction', '2023-06-26', 'ISBN-021'),

('I-019', 'C-013', 'Brave New World', '2023-06-26', 'ISBN-036'),

('I-020', 'C-014', 'The Collected Poems', '2023-06-27', 'ISBN-040'),

('I-021', 'C-014', 'Leaves of Grass', '2023-06-27', 'ISBN-042'),

('I-022', 'C-015', 'Kalam: Wings of Fire', '2023-06-28', 'ISBN-043'),

('I-023', 'C-015', 'Dhoni: Captain Cool', '2023-06-28', 'ISBN-045'),

('I-024', 'C-017', 'Winnie the Pooh', '2023-06-29', 'ISBN-003'),

('I-025', 'C-017', 'Harry Potter and the Sorcerers Stone', '2023-06-29', 'ISBN-004'),

('I-026', 'C-018', 'The Secret Garden', '2023-06-30', 'ISBN-005'),

('I-027', 'C-018', 'The Magic Forest', '2023-06-30', 'ISBN-006'),

('I-028', 'C-019', 'The Cat in the Hat', '2023-07-01', 'ISBN-007'),

('I-029', 'C-019', 'The Tale of Peter Rabbit', '2023-07-01', 'ISBN-002'),

('I-030', 'C-020', 'Early India:From the Origins to AD 1300', '2023-07-02', 'ISBN-008'),

('I-031', 'C-020', 'India After Gandhi', '2023-07-02', 'ISBN-009'),

('I-032', 'C-020', 'The Discovery of India', '2023-07-02', 'ISBN-010');

CREATE TABLE Return_Status

(Return_Id varchar(15) PRIMARY KEY NOT NULL,

Return_cust VARCHAR(15), FOREIGN KEY(Return_cust) REFERENCES CUSTOMER(Customer_Id)on delete cascade,

Return_book_name VARCHAR (200),

Return_date DATE,

Isbn_book2 VARCHAR(20), FOREIGN KEY(Isbn_book2) references BOOKS(ISBN)on delete cascade);

select*from return_status;

INSERT INTO Return_Status (Return_Id, Return_cust, Return_book_name, Return_date, Isbn_book2)

VALUES ('R-001', 'C-001', 'The Great Gatsby', '2023-06-15', 'ISBN-034'),

('R-002', 'C-002', 'The Secret Place', '2023-06-20', 'ISBN-038'),

('R-003', 'C-002', 'The Silent Patient', '2023-06-20', 'ISBN-037'),

('R-004', 'C-004', 'Hackers', '2023-06-25', 'ISBN-025'),

('R-005', 'C-006', 'Artificial Intelligence: A Modern Approach', '2023-06-30', 'ISBN-022'),

('R-006', 'C-006', 'Deep Learning', '2023-06-30', 'ISBN-023'),

('R-007', 'C-007', 'Elon Musk', '2023-07-01', 'ISBN-026'),

('R-008', 'C-009', 'Data Science for Business', '2023-07-05', 'ISBN-028'),

('R-009', 'C-010', 'War and Peace', '2023-07-10', 'ISBN-030'),

('R-010', 'C-011', 'The Lord of the Rings', '2023-07-15', 'ISBN-032'),

('R-011', 'C-011', 'The Martian', '2023-07-15', 'ISBN-019'),

('R-012', 'C-013', 'Astrobiology: A Very Short Introduction', '2023-07-20', 'ISBN-021'),

('R-013', 'C-014', 'The Collected Poems', '2023-07-25', 'ISBN-040'),

('R-014', 'C-014', 'Leaves of Grass', '2023-07-25', 'ISBN-042'),

('R-015', 'C-015', 'Kalam: Wings of Fire', '2023-07-30', 'ISBN-043'),

('R-016', 'C-017', 'Winnie the Pooh', '2023-08-01', 'ISBN-003'),

('R-017', 'C-018', 'The Secret Garden', '2023-08-05', 'ISBN-005'),

('R-018', 'C-019', 'The Cat in the Hat', '2023-08-10', 'ISBN-007'),

('R-019', 'C-020', 'Early India:From the Origins to AD 1300', '2023-08-15', 'ISBN-008'),

('R-020', 'C-020', 'India After Gandhi', '2023-08-15', 'ISBN-009');

SHOW TABLES FROM LIBRARY;

/* 1. Retrieve the book title, category, and rental price of all available books. */

SELECT Book_title,category,rental_price from books;

```
232        ------------ Display all the tables and Write the queries for the following ------------
233        /* 1. Retrieve the book title, category, and rental price of all available books. */
234 •      SELECT Book_title,category,rental_price from books;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: A

Book_title	category	rental_price
Alices Adventures in Wonderland	Childrens	15.00
The Tale of Peter Rabbit	Childrens	25.00
Winnie the Pooh	Childrens	20.00
Harry Potter and the Sorcerers Stone	Childrens	50.00
The Secret Garden	Childrens	40.00
The Magic Forest	Childrens	45.00
The Cat in the Hat	Childrens	22.00
Early India:From the Origins to AD 1300	HISTORY	40.00
India After Gandhi	HISTORY	70.00
The Discovery of India	HISTORY	120.00
The Last Mughal	HISTORY	24.00
Freedom at Midnight	HISTORY	24.00
Ancient India: New Research	HISTORY	100.00
The Great Indian Novel	HISTORY	150.00
The Planets	SCIENCE	22.00
Lonely Planets:The Natural Philosophy ...	SCIENCE	70.00
The Universe in a Nutshell	SCIENCE	125.00
Quantum Mechanics and Path Integrals	SCIENCE	158.00
The Martian	SCIENCE	67.00
Black Holes and Time Warps	SCIENCE	100.00
Astrobiology: A Very Short Introduction	SCIENCE	23.00
Artificial Intelligence: A Modern Approach	TECHNO...	180.00
Deep Learning	TECHNO...	170.00
Introduction to Algorithms	TECHNO...	125.00
Hackers	TECHNO...	24.00
Elon Musk	TECHNO...	125.00
Algorithms to Live By	TECHNO...	60.00
Data Science for Business	TECHNO...	150.00
Pride and Prejudice	FICTION	20.00
War and Peace	FICTION	170.00
The Hobbit	FICTION	125.00
The Lord of the Rings	FICTION	124.00
The Catcher in the Rye	FICTION	20.00
The Great Gatsby	FICTION	160.00
Catch-22	FICTION	18.00
Brave New World	FICTION	15.00
The Silent Patient	MYSTERY	20.00

The Secret Place	MYSTERY	170.00
Dark Places	MYSTERY	125.00
The Collected Poems	POETRY	24.00
The Raven	POETRY	125.00
Leaves of Grass	POETRY	60.00
Kalam: Wings of Fire	BIOGRAPHY	200.00
Gandhi: An Autobiography	BIOGRAPHY	200.00
Dhoni: Captain Cool	BIOGRAPHY	20.00
Mary Kom: Unbreakable	BIOGRAPHY	20.00

books 16 ×

Output

Action Output ▾

#	Time	Action	Message
✓ 39	19:45:42	SHOW TABLES FROM LIBRARY	6 row(s) returned
✓ 40	19:53:50	SELECT Book_title,category,rental_price from books LIMIT 0, 1000	46 row(s) returned
✓ 41	20:02:10	SELECT Book_title,category,rental_price from books LIMIT 0, 1000	46 row(s) returned

/*2. List the employee names and their respective salaries in descending order of salary.*/

SELECT Emp_name,salary from employee group by EMP_name,salary order by salary desc;

```
237      /*2. List the employee names and their respective salaries in descending order of salary.*/
238  •   SELECT Emp_name,salary from employee group by EMP_name,salary order by salary desc;
239
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Emp_name	salary
DHANYA SUNNY	80000.00
ALEENA ANTONY	70000.00
RICHIE THOMAS	70000.00
JUVANA MARY	68000.00
DIVYA MOHAN	65000.00
JISHA VARGHESE	60000.00
ROHIT SHARMA	60000.00
ALEX VARKEY	60000.00
SHINNY SUNNY	60000.00
MEGNA ANTONY	40000.00
PETER MILLER	40000.00
LINDA ANTONY	40000.00
MANU PAUL	40000.00
DILEEP KUMAR	30000.00
RAJESH ROHAN	30000.00

	JENNY LUKOSE	30000.00
	SINOY SUNNY	30000.00
	JOBEY VARGHESE	30000.00
	SUDEEP FRANCO	30000.00
	ANJALI YADHAV	20000.00

employee 4 ✕

Output

Action Output ▾

	#	Time	Action	Message
✓	1	09:01:46	SHOW TABLES FROM LIBRARY	6 row(s) returned
✓	2	09:30:06	SELECT Emp_name,salary from employee group by EMP_name,salary order by salary desc LI...	20 row(s) returned

/* 3. Retrieve the book titles and the corresponding customers who have issued those books. */

SELECT Issued_book_name, (SELECT Customer_name FROM CUSTOMER WHERE Customer_Id = ISSUE_STATUS.Issued_cust) AS Customer_name FROM ISSUE_STATUS;

```
240      /* 3. Retrieve the book titles and the corresponding customers who have issued those books. */
241
242  •   SELECT Issued_book_name, (SELECT Customer_name FROM CUSTOMER
243          WHERE Customer_Id = ISSUE_STATUS.Issued_cust) AS Customer_name
244          FROM ISSUE_STATUS;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: 𝐼𝐴

Issued_book_name	Customer_name
The Great Gatsby	PINKY DON
The Catcher in the Rye	PINKY DON
The Secret Place	XAVIER TOM
The Silent Patient	XAVIER TOM
Hackers	HARDIK PANDEY
Quantum Mechanics and Path Integrals	HARDIK PANDEY
Artificial Intelligence: A Modern Approach	BINEESH SINGH
Deep Learning	BINEESH SINGH
Introduction to Algorithms	BINEESH SINGH
Elon Musk	RANVEER JOHAR
Algorithms to Live By	RANVEER JOHAR
Data Science for Business	MANISHA PAUL
Pride and Prejudice	MANISHA PAUL
War and Peace	DEVIKA BASU
The Hobbit	DEVIKA BASU

The Lord of the Rings	AMEER SINGH
The Martian	AMEER SINGH
Astrobiology: A Very Short Introduction	PANDEY SINGH
Brave New World	PANDEY SINGH
The Collected Poems	KAREN JOHN
Leaves of Grass	KAREN JOHN
Kalam: Wings of Fire	JOHNNY BEN
Dhoni: Captain Cool	JOHNNY BEN

Winnie the Pooh	SHOBHA KIRAN
Harry Potter and the Sorcerers Stone	SHOBHA KIRAN
The Secret Garden	ALIYA AMER
The Magic Forest	ALIYA AMER
The Cat in the Hat	KRITHIKA RAM
The Tale of Peter Rabbit	KRITHIKA RAM
Early India:From the Origins to AD 1300	ROHIT SHEGAL
India After Gandhi	ROHIT SHEGAL
The Discovery of India	ROHIT SHEGAL

Result 7 ✕

Output

▭ Action Output ▾

#	Time	Action	Message
✓	1 09:39:25	SELECT Issued_book_name, (SELECT Customer_name FROM CUSTOMER WHERE Custo...	32 row(s) returned

/* 4. Display the total count of books in each category. */

SELECT Category, COUNT(*) AS Total_Books FROM BOOKS WHERE STATUS = 'YES'

GROUP BY Category;

```
246        /* 4. Display the total count of books in each category. */
247
248  •     SELECT Category, COUNT(*) AS Total_Books FROM BOOKS WHERE STATUS = 'YES'
249        GROUP BY Category;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: ‡A

Category	Total_Books
Childrens	6
HISTORY	6
SCIENCE	5
TECHNOLOGY	6
FICTION	4
MYSTERY	2
POETRY	2
BIOGRAPHY	3

Result 8 ✕

Output

▭ Action Output ▾

#	Time	Action	Message
✓	1 09:39:25	SELECT Issued_book_name, (SELECT Customer_name FROM CUSTOMER WHERE Customer_Id = ISSUE_ST...	32 row(s) returned
✓	2 09:40:45	SELECT Category, COUNT(*) AS Total_Books FROM BOOKS WHERE STATUS = 'YES' GROUP BY Category LI...	8 row(s) returned

/* 5. Retrieve the employee names and their positions for the employees whose salaries are above Rs.50,000. */

SELECT Emp_name, Position, Salary FROM EMPLOYEE WHERE Salary > 50000;

```
251      /* 5. Retrieve the employee names and their positions for the employees whose salaries are above Rs.50,000. */
252  •   SELECT Emp_name, Position, Salary FROM EMPLOYEE WHERE Salary > 50000;
253
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: 𝐈𝐀

Emp_name	Position	Salary
JISHA VARGHESE	Senior Associate Librarian	60000.00
ALEENA ANTONY	Library IT Specialist	70000.00
DIVYA MOHAN	Reference Librarian	65000.00
ROHIT SHARMA	Library Assistant	60000.00
RICHIE THOMAS	Library IT Specialist	70000.00
ALEX VARKEY	Senior Library Assistant	60000.00
JUVANA MARY	Library Technician	68000.00
DHANYA SUNNY	Senior Library IT Specialist	80000.00
SHINNY SUNNY	Library Assistant	60000.00

EMPLOYEE 9 ✕

Output

Action Output

#	Time	Action	Message
✓	1 09:39:25	SELECT Issued_book_name, (SELECT Customer_name FROM CUSTOMER WHERE Customer_Id = ISSUE_ST...	32 row(s) returned
✓	2 09:40:45	SELECT Category, COUNT(*) AS Total_Books FROM BOOKS WHERE STATUS = 'YES' GROUP BY Category Li...	8 row(s) returned
✓	3 09:43:20	SELECT Emp_name, Position, Salary FROM EMPLOYEE WHERE Salary > 50000 LIMIT 0, 1000	9 row(s) returned

/*6. List the customer names who registered before 2022-01-01 and have not issued any books yet. */

SELECT Customer_name, reg_date FROM CUSTOMER WHERE reg_date < '2022-01-01' AND Customer_Id NOT IN (SELECT Issued_cust FROM ISSUE_STATUS);

```
254      /*6. List the customer names who registered before 2022-01-01 and have not issued any books yet. */
255  •   SELECT Customer_name, reg_date FROM CUSTOMER
256      WHERE reg_date < '2022-01-01' AND Customer_Id
257      NOT IN (SELECT Issued_cust FROM ISSUE_STATUS);
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: 𝐈𝐀

Customer_name	reg_date
TONY MONE	2020-08-12
BABUL BEN	2020-12-01
KRITHIK ARORA	2021-01-13
JAI VEER YADAV	2021-08-12
ISSAC PAUL	2019-09-20

CUSTOMER 10 ✕

Output

Action Output

#	Time	Action	Message
✓	1 09:39:25	SELECT Issued_book_name, (SELECT Customer_name FROM CUSTOMER WHERE Customer_Id = ISSUE_ST...	32 row(s) returned
✓	2 09:40:45	SELECT Category, COUNT(*) AS Total_Books FROM BOOKS WHERE STATUS = 'YES' GROUP BY Category Li...	8 row(s) returned
✓	3 09:43:20	SELECT Emp_name, Position, Salary FROM EMPLOYEE WHERE Salary > 50000 LIMIT 0, 1000	9 row(s) returned
✓	4 09:46:07	SELECT Customer_name, reg_date FROM CUSTOMER WHERE reg_date < '2022-01-01' AND Customer_Id NO...	5 row(s) returned

/* 7. Display the branch numbers and the total count of employees in each branch.*/

select Branch_no, count(emp_Id) from employee GROUP BY Branch_no;

```
259      /* 7. Display the branch numbers and the total count of employees in each branch.*/
260  •   select Branch_no, count(emp_Id) from employee GROUP BY Branch_no;
261
```

Branch_no	count(emp_Id)
B-101	6
B-102	7
B-103	4
B-104	3

Result 11 ×

Output

Action Output ▼

#	Time	Action	Message
✓	1	09:39:25	SELECT Issued_book_name, (SELECT Customer_name FROM CUSTOMER WHERE Customer_Id = ISSUE_ST...	32 row(s) returned
✓	2	09:40:45	SELECT Category, COUNT(*) AS Total_Books FROM BOOKS WHERE STATUS = 'YES' GROUP BY Category LI...	8 row(s) returned
✓	3	09:43:20	SELECT Emp_name, Position, Salary FROM EMPLOYEE WHERE Salary > 50000 LIMIT 0, 1000	9 row(s) returned
✓	4	09:46:07	SELECT Customer_name, reg_date FROM CUSTOMER WHERE reg_date < '2022-01-01' AND Customer_Id NO...	5 row(s) returned
✓	5	09:48:00	select Branch_no, count(emp_Id) from employee GROUP BY Branch_no LIMIT 0, 1000	4 row(s) returned

/* 8. Display the names of customers who have issued books in the month of June 2023. */

SELECT DISTINCT CUSTOMER.Customer_name,ISSUE_STATUS.issue_date

FROM CUSTOMER INNER JOIN ISSUE_STATUS ON CUSTOMER.Customer_Id = ISSUE_STATUS.Issued_cust WHERE ISSUE_STATUS.Issue_date BETWEEN '2023-06-01' AND '2023-06-30' group by Customer_name,issue_date ;

```
262        /* 8. Display the names of customers who have issued books in the month of June 2023. */
263
264  ●     SELECT DISTINCT CUSTOMER.Customer_name,ISSUE_STATUS.issue_date
265        FROM CUSTOMER
266        INNER JOIN ISSUE_STATUS ON CUSTOMER.Customer_Id = ISSUE_STATUS.Issued_cust
267        WHERE ISSUE_STATUS.Issue_date BETWEEN '2023-06-01' AND '2023-06-30' group by Customer_name,issue_date ;
```

Customer_name	issue_date
PINKY DON	2023-06-01
XAVIER TOM	2023-06-02
HARDIK PANDEY	2023-06-10
BINEESH SINGH	2023-06-12
RANVEER JOHAR	2023-06-15
MANISHA PAUL	2023-06-23
DEVIKA BASU	2023-06-24
AMEER SINGH	2023-06-25
PANDEY SINGH	2023-06-26
KAREN JOHN	2023-06-27
JOHNNY BEN	2023-06-28
SHOBHA KIRAN	2023-06-29
ALIYA AMER	2023-06-30

Result 13 ✕

Output

Action Output

#	Time	Action	Message
✔ 1	09:50:50	SELECT DISTINCT CUSTOMER.Customer_name,ISSUE_STATUS.issue_date FROM CUSTOMER INNER JOI...	13 row(s) returned

/*9. Retrieve book_title from book table containing history. */

SELECT Book_title, category from books where category ='HISTORY';

------------- OR --------------

SELECT Book_title from books where category ='HISTORY'; --- IF YOU WANT TO DISPLAY BOOK_TITLE ONLY--

```
269     /*9. Retrieve book_title from book table containing history. */
270 •   SELECT Book_title, category from books where category ='HISTORY';
271     ------------   OR  --------------
272 •   SELECT Book_title from books where category ='HISTORY'; --- IF YOU WANT TO DISPLAY BOOK_TITLE ONLY--
273
```

Book_title	category
Early India:From the Origins to AD 1300	HISTORY
India After Gandhi	HISTORY
The Discovery of India	HISTORY
The Last Mughal	HISTORY
Freedom at Midnight	HISTORY
Ancient India: New Research	HISTORY
The Great Indian Novel	HISTORY

books 14 ×

Output

Action Output

#	Time	Action	Message
✓	1	09:50:50	SELECT DISTINCT CUSTOMER.Customer_name,ISSUE_STATUS.issue_date FROM CUSTOMER INNER JOI...	13 row(s) returned
✓	2	09:54:08	SELECT Book_title, category from books where category ='HISTORY' LIMIT 0, 1000	7 row(s) returned

/* 10.Retrieve the branch numbers along with the count of employees for branches having more than 5 employees */

SELECT Branch_no, COUNT(Emp_Id) AS Employee_Count

FROM EMPLOYEE

GROUP BY Branch_no

HAVING COUNT(Emp_Id) > 5;

 /* ----- NOTE : WHERE clause: Filters individual rows based on specified conditions before

          they are grouped or aggregated.

          HAVING clause: Filters grouped data, applying conditions to the results of

          aggregate functions after the GROUP BY operation has been performed.---- */

```
274        /* 10.Retrieve the branch numbers along with the count of employees for branches having more than 5 employees */
275  •     SELECT Branch_no, COUNT(Emp_Id) AS Employee_Count
276        FROM EMPLOYEE
277        GROUP BY Branch_no
278        HAVING COUNT(Emp_Id) > 5;
279    ⊖  /* ----- NOTE : WHERE clause: Filters individual rows based on specified conditions before
280                    they are grouped or aggregated.
281                    HAVING clause: Filters grouped data, applying conditions to the results of
282                    aggregate functions after the GROUP BY operation has been performed.---- */
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: 𝐼̲A

Branch_no	Employee_Count
▶ B-101	6
B-102	7

Result 15 ✕

Output

Action Output ▾

#	Time	Action	Message
✓	1	09:50:50	SELECT DISTINCT CUSTOMER.Customer_name,ISSUE_STATUS.issue_date FROM CUSTOMER INNER JOI...	13 row(s) returned
✓	2	09:54:08	SELECT Book_title, category from books where category ='HISTORY' LIMIT 0, 1000	7 row(s) returned
✓	3	09:56:34	SELECT Branch_no, COUNT(Emp_Id) AS Employee_Count FROM EMPLOYEE GROUP BY Branch_no HAVIN...	2 row(s) returned

/* 11. Retrieve the names of employees who manage branches and their respective branch addresses.*/

SELECT BRANCH.Branch_no, EMPLOYEE.EMP_name,BRANCH.Branch_Address FROM EMPLOYEE JOIN BRANCH ON EMPLOYEE.Branch_no = BRANCH.Branch_no;

```
289        /* 11. Retrieve the names of employees who manage branches and their respective branch addresses.*/
290  •     SELECT BRANCH.Branch_no, EMPLOYEE.EMP_name,BRANCH.Branch_Address FROM EMPLOYEE JOIN BRANCH ON
291        EMPLOYEE.Branch_no = BRANCH.Branch_no;
292
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: 𝐼̲A

Branch_no	EMP_name	Branch_Address
▶ B-101	JISHA VARGHESE	British Council Library,Hyderabad-500063
B-101	SINOY SUNNY	British Council Library,Hyderabad-500063
B-101	JUVANA MARY	British Council Library,Hyderabad-500063
B-101	JOBEY VARGHESE	British Council Library,Hyderabad-500063
B-101	LINDA ANTONY	British Council Library,Hyderabad-500063
B-101	DHANYA SUNNY	British Council Library,Hyderabad-500063
B-102	ALEENA ANTONY	British Council Library,New Delhi-110001
B-102	DIVYA MOHAN	British Council Library,New Delhi-110001
B-102	ANJALI YADHAV	British Council Library,New Delhi-110001
B-102	DILEEP KUMAR	British Council Library,New Delhi-110001
B-102	SUDEEP FRANCO	British Council Library,New Delhi-110001
B-102	SHINNY SUNNY	British Council Library,New Delhi-110001

B-102	MANU PAUL	British Council Library,New Delhi-110001
B-103	RAJESH ROHAN	British Council Library,Ahmedabad-380006
B-103	ROHIT SHARMA	British Council Library,Ahmedabad-380006
B-103	MEGNA ANTONY	British Council Library,Ahmedabad-380006
B-103	RICHIE THOMAS	British Council Library,Ahmedabad-380006
B-104	JENNY LUKOSE	British Council Library,Bengaluru-560001
B-104	ALEX VARKEY	British Council Library,Bengaluru-560001
B-104	PETER MILLER	British Council Library,Bengaluru-560001

Result 16 ✕

Output

Action Output ▾

#	Time	Action	Message
✓ 1	09:50:50	SELECT DISTINCT CUSTOMER.Customer_name,ISSUE_STATUS.issue_date FROM CUSTOMER INNER JOI...	13 row(s) returned
✓ 2	09:54:08	SELECT Book_title, category from books where category ="HISTORY" LIMIT 0, 1000	7 row(s) returned
✓ 3	09:56:34	SELECT Branch_no, COUNT(Emp_Id) AS Employee_Count FROM EMPLOYEE GROUP BY Branch_no HAVIN...	2 row(s) returned
✓ 4	09:59:17	SELECT BRANCH.Branch_no, EMPLOYEE.EMP_name,BRANCH.Branch_Address FROM EMPLOYEE JOIN BR...	20 row(s) returned

/* 12. Display the names of customers who have issued books with a rental price higher than Rs. 25. */

SELECT customer.customer_name,BOOKS.Rental_price FROM customer

JOIN issue_status ON customer.customer_id = issue_status.Issued_cust

JOIN books ON issue_status.isbn_book = books.ISBN

WHERE books.rental_price > 25;

```
293     /* 12.  Display the names of customers who have issued books with a rental price higher than Rs. 25. */
294
295 •   SELECT customer.customer_name,BOOKS.Rental_price FROM customer
296      JOIN issue_status ON customer.customer_id = issue_status.Issued_cust
297      JOIN books ON issue_status.isbn_book = books.ISBN
298     WHERE books.rental_price > 25;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

customer_name	Rental_price
SHOBHA KIRAN	50.00
ALIYA AMER	40.00
ALIYA AMER	45.00
ROHIT SHEGAL	40.00
ROHIT SHEGAL	70.00
ROHIT SHEGAL	120.00
HARDIK PANDEY	158.00
AMEER SINGH	67.00
BINEESH SINGH	180.00
BINEESH SINGH	170.00

	BINEESH SINGH	125.00
	RANVEER JOHAR	125.00
	RANVEER JOHAR	60.00
	MANISHA PAUL	150.00
	DEVIKA BASU	170.00
	DEVIKA BASU	125.00
	AMEER SINGH	124.00
	PINKY DON	160.00
	XAVIER TOM	170.00
	KAREN JOHN	60.00
	JOHNNY BEN	200.00

Result 19 ✕

Output

Action Output ▾

#	Time	Action	Message
✅	1	10:05:37	SELECT customer.customer_name,BOOKS.Rental_price FROM customer JOIN issue_status ON customer.cus...	21 row(s) returned