### **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.

CREATE DATABASE LIBRARY;

USE LIBRARY;

CREATE TABLE Branch(

Branch\_No INT PRIMARY KEY,

Manager Id INT,

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Branch_Address VARCHAR(255),
Contact_No INT
);
CREATE TABLE Employee (
Emp_Id INT PRIMARY KEY,
Emp_Name VARCHAR(100),
Position VARCHAR(50),
Salary DECIMAL(10, 2),
Branch_No INT,
FOREIGN KEY (Branch_No) REFERENCES Branch(Branch_No)
);
CREATE TABLE Books (
ISBN INT PRIMARY KEY,
Book_Title VARCHAR(255),
Category VARCHAR(100),
Rental_Price DECIMAL(10, 2),
Status VARCHAR(3) CHECK (Status IN ('Yes', 'No')) NOT NULL,
Author VARCHAR(100),
Publisher VARCHAR(100)
);
CREATE TABLE Customer (
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Customer_Id INT PRIMARY KEY,
Customer_Name VARCHAR(100),
Customer_Address VARCHAR(255),
Reg_Date DATE
);
CREATE TABLE IssueStatus (
Issue_Id INT PRIMARY KEY,
Issued_Cust INT,
Issued_Book_Name VARCHAR(255),
Issue_Date DATE,
ISBN_Book INT,
FOREIGN KEY (Issued_Cust) REFERENCES Customer(Customer_Id),
FOREIGN KEY (Isbn_book) REFERENCES Books(ISBN)
);
CREATE TABLE ReturnStatus (
Return_Id INT PRIMARY KEY,
Return_Cust INT,
Return_Book_Name VARCHAR(255),
Return_Date DATE,
ISBN Book2 INT,
FOREIGN KEY (Return_Cust) REFERENCES Customer(Customer_Id),
FOREIGN KEY (Isbn_book2) REFERENCES Books(ISBN)
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INSERT INTO Branch (Branch No, Manager Id, Branch Address, Contact No)
VALUES
  (1, 111, '123 Elm Street, New York, NY', 212555123),
  (2, 222, '456 Maple Avenue, Los Angeles, CA', 323555234),
  (3, 333, '789 Pine Road, Chicago, IL', 312555345),
  (4, 444, '321 Oak Street, Houston, TX', 713555456),
  (5, 555, '654 Cedar Avenue, Phoenix, AZ', 602555567);
INSERT INTO Employee (Emp_Id, Emp_Name, Position, Salary, Branch_No)
VALUES
  (111, 'John Doe', 'Manager', 55000.00, 1),
  (202, 'Jane Smith', 'Assistant Manager', 45000.00, 2),
  (203, 'Michael Brown', 'Librarian', 40000.00, 3),
  (204, 'Emily Davis', 'Clerk', 35000.00, 4),
  (222, 'William Wilson', 'Manager', 56000.00, 5),
  (206, 'Alice Johnson', 'Senior Librarian', 50000.00, 3),
  (207, 'Bob Miller', 'Librarian', 42000.00, 3),
  (208, 'Charlie Taylor', 'Assistant Librarian', 40000.00, 3),
  (209, 'David Anderson', 'Clerk', 35000.00, 3),
  (210, 'Eve Martinez', 'Janitor', 30000.00, 3),
  (211, 'Michael Brown', 'Librarian', 42000.00, 2),
  (212, 'Emily Davis', 'Clerk', 36000.00, 2),
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(213, 'William Wilson', 'Janitor', 30000.00, 2),
  (214, 'Olivia Taylor', 'Assistant Librarian', 40000.00, 2),
  (215, 'James Anderson', 'IT Support', 45000.00, 2);
INSERT INTO Books (ISBN, Book Title, Category, Rental Price, Status, Author, Publisher)
VALUES
  (1001, 'The C Programming Language', 'Programming', 25.99, 'Yes', 'Brian W. Kernighan
Dennis M. Ritchie', 'Prentice Hall'),
  (1002, 'Head First Java', 'Programming', 26.50, 'No', 'Kathy Sierra Bert Bates', 'O Reilly
Media'),
  (1003, 'The Great Gatsby', 'Fiction', 3.75, 'Yes', 'F. Scott Fitzgerald', 'Scribner'),
  (1004, 'Introduction to Algorithms', 'Computer Science', 48.99, 'No', 'Thomas H. Cormen', 'MIT
Press'),
  (1005, '1984', 'Dystopian', 4.25, 'Yes', 'George Orwell', 'Signet Classics'),
  (1006, 'The History of the Ancient World', 'History', 74.99, 'Yes', 'Susan Wise Bauer', 'W. W.
Norton & Company'),
  (1007, 'Guns, Germs, and Steel', 'History', 16.50, 'No', 'Jared Diamond', 'W. W. Norton &
Company'),
  (1008, 'The Silk Roads: A New History of the World', 'History', 22.25, 'Yes', 'Peter Frankopan',
'Vintage Books');
INSERT INTO Customer (Customer Id, Customer Name, Customer Address, Reg Date)
VALUES
  (301, 'Alice Johnson', '789 Birch Lane, Seattle, WA', '2024-01-15'),
  (302, 'Bob Miller', '456 Oak Drive, Austin, TX', '2024-02-10'),
  (303, 'Charlie Taylor', '123 Pine Avenue, Boston, MA', '2024-03-05'),
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(305, 'Eve Martinez', '654 Cedar Street, Nashville, TN', '2024-05-12'),
  (306, 'EMMA MARIA', '432 SAND FRANCISCO, USA', '2020-01-15'),
  (307, 'TEKIE SEMAHAR', '775 JEBEL ALI, UAE', '2022-10-14'),
  (308, 'JOHN LUKKA', '22 BLUE BERRY ROAD, CO', '2021-10-14');
INSERT INTO IssueStatus (Issue Id, Issued Cust, Issued Book Name, Issue Date, ISBN Book)
VALUES
  (401, 301, 'The C Programming Language', '2024-06-01', 1001),
  (402, 302, '1984', '2023-06-15', 1005),
  (403, 303, 'Head First Java', '2024-07-01', 1002),
  (404, 304, 'The Great Gatsby', '2023-06-10', 1003),
  (405, 305, 'Introduction to Algorithms', '2024-08-01', 1004);
INSERT INTO ReturnStatus (Return_Id, Return_Cust, Return_Book_Name, Return_Date,
ISBN_Book2)
VALUES
  (501, 301, 'The C Programming Language', '2024-06-20', 1001),
  (502, 302, '1984', '2024-06-25', 1005),
  (503, 303, 'Head First Java', '2024-07-15', 1002),
  (504, 304, 'The Great Gatsby', '2024-07-20', 1003),
  (505, 305, 'Introduction to Algorithms', '2024-08-15', 1004);
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(304, 'David Anderson', '321 Elm Road, Denver, CO', '2024-04-01'),

### select Book\_Title, category,Rental\_Price from Books;

	Book_Title	category	Rental_Price
١	The C Programming Language	Programming	25.99
	Head First Java	Programming	26.50
	The Great Gatsby	Fiction	3.75
	Introduction to Algorithms	Computer Science	48.99
	1984	Dystopian	4.25
	The History of the Ancient World	History	74.99
	Guns, Germs, and Steel	History	16.50
	The Silk Roads: A New History of the World	History	22.25

# select Salary,Emp\_Name from employee order by salary desc;

	Salary	Emp_Name
١	56000.00	William Wilson
	55000.00	John Doe
	50000.00	Alice Johnson
	45000.00	Jane Smith
	45000.00	James Anderson
	42000.00	Bob Miller
	42000.00	Michael Brown
	40000.00	Michael Brown
	40000.00	Charlie Taylor
	40000.00	Olivia Taylor
	36000.00	Emily Davis
	35000.00	Emily Davis
	35000.00	David Anderson
	30000.00	Eve Martinez
	30000.00	William Wilson

select books.Book\_Title ,customer.Customer\_Name from issuestatus
join books on issuestatus.ISBN\_Book=books.ISBN
join customer on issuestatus.issued\_Cust=customer.customer\_id;

	Book_Title	Customer_Name
١	The C Programming Language	Alice Johnson
	1984	Bob Miller
	Head First Java	Charlie Taylor
	The Great Gatsby	David Anderson
	Introduction to Algorithms	Eve Martinez

### select Issued\_Book\_Name,Issued\_Cust from issuestatus;

	Issued_Book_Name	Issued_Cust
١	The C Programming Language	301
	1984	302
	Head First Java	303
	The Great Gatsby	304
	Introduction to Algorithms	305

# select Category, count(Book\_Title) from books

### group by Category;

	Category	count(Book_Title)
•	Programming	2
	Fiction	1
	Computer Science	1
	Dystopian	1
	History	3

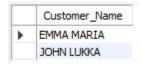
## select Emp\_Name, Position from employee

### where Salary>50000;

	Emp_Name	Position
•	John Doe	Manager
	William Wilson	Manager

#### select Customer\_Name from customer

where Reg\_Date < "2022-01-01";



select Branch\_No, count(\*) as Total\_Emp

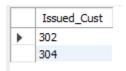
from employee

group by Branch\_No;

	Branch_No	Total_Emp
•	1	1
	2	6
	3	6
	4	1
	5	1

select Issued\_Cust from issuestatus

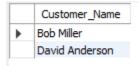
where Issue\_Date between "2023-06-01" and "2023-06-30";



select customer.Customer\_Name from customer

INNER JOIN issuestatus on customer.Customer\_Id=issuestatus.Issued\_Cust

where Issue\_Date between "2023-06-01" and "2023-06-30";



select Book\_Title from books where Category = "history";

	Book_Title
•	The History of the Ancient World
	Guns, Germs, and Steel
	The Silk Roads: A New History of the World

select Branch\_No, count(\*) as count from employee
group by Branch\_No having count(\*)>5;

	Branch_No	count
•	2	6
	3	6

select employee.Emp\_Name ,branch.Branch\_Address from employee inner join branch on employee.Emp\_id=branch.Manager\_Id;

	Emp_Name	Branch_Address
•	John Doe	123 Elm Street, New York, NY
	William Wilson	456 Maple Avenue, Los Angeles, CA

select distinct Customer\_Name from customer
inner join issuestatus on customer.Customer\_Id=issuestatus.Issued\_Cust
join books on issuestatus.ISBN\_Book=books.isbn
where books.Rental\_Price>25;

