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_id 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

```
CREATE DATABASE Library;
3 •
    USE Library;
4 • ⊖ CREATE TABLE Branch (
5
          Branch_no INT PRIMARY KEY,
          Manager_Id INT,
6
7
          Branch_address VARCHAR(255),
          Contact_no VARCHAR(15)
8
9
     );
10 • ⊖ CREATE TABLE Employee (
           Emp_Id INT PRIMARY KEY,
11
12
           Emp name VARCHAR(255),
           Position VARCHAR(100),
13
14
           Salary DECIMAL(10, 2),
15
           Branch_no INT,
           FOREIGN KEY (Branch_no) REFERENCES Branch(Branch_no)
16
17
     ٠);
```

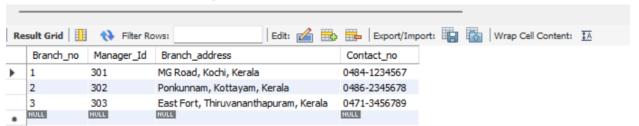
```
18 • ○ CREATE TABLE Books (
19
           ISBN VARCHAR(25) PRIMARY KEY,
           Book title VARCHAR(255),
20
21
           Category VARCHAR(100),
           Rental_Price DECIMAL(10, 2),
22
23
           Status ENUM('yes', 'no'),
           Author VARCHAR(255),
24
25
           Publisher VARCHAR(255)
26
       );
27 ● ○ CREATE TABLE Customer (
            Customer Id INT PRIMARY KEY,
28
29
            Customer name VARCHAR(255),
            Customer_address VARCHAR(255),
 30
             Reg date DATE
31
32
       · );
33 • ⊝ CREATE TABLE IssueStatus (
34
          Issue Id INT PRIMARY KEY,
35
          Issued cust id INT,
          Issued book name VARCHAR(255),
36
37
          Issue date DATE,
38
          Isbn book VARCHAR(25),
          FOREIGN KEY (Issued_cust_id) REFERENCES Customer(Customer_Id),
39
40
          FOREIGN KEY (Isbn book) REFERENCES Books(ISBN)
41
     · );
42 • ○ CREATE TABLE ReturnStatus (
43
           Return Id INT PRIMARY KEY,
           Return_cust INT,
44
45
           Return book name VARCHAR(255),
           Return date DATE,
46
47
           Isbn book2 VARCHAR(25),
           FOREIGN KEY (Return_cust) REFERENCES Customer(Customer_Id),
48
           FOREIGN KEY (Isbn_book2) REFERENCES Books(ISBN)
49
50
      -);
```

```
51 •
         INSERT INTO Branch (Branch no, Manager Id, Branch address, Contact no) VALUES
         (1, 301, 'MG Road, Kochi, Kerala', '0484-1234567'),
 52
         (2, 302, 'Ponkunnam, Kottayam, Kerala', '0486-2345678'),
 53
         (3, 303, 'East Fort, Thiruvananthapuram, Kerala', '0471-3456789');
 54
 55
 56 •
         INSERT INTO Employee (Emp_Id, Emp_name, Position, Salary, Branch_no) VALUES
         (1, 'Anupama Nair', 'Manager', 70000, 1),
 57
         (2, 'Rahul Thomas', 'Librarian', 45000, 2),
 58
         (3, 'Sreelakshmi Menon', 'Assistant', 32000, 2),
 59
         (4, 'Mathew George', 'Manager', 75000, 2),
 60
         (5, 'Deepika Raghavan', 'Librarian', 48000, 3),
 61
 62
         (6, 'Thomas Stephen', 'Assistant', 20000, 2),
         (7, 'Latha Mahesh', 'Manager', 65000, 3),
 63
         (8, 'Kurian George', 'Librarian', 55000, 2),
 64
         (9, 'Surya Nair', 'Staff', 25000, 2);
 65
68 •
      INSERT INTO Books (ISBN, Book_title, Category, Rental_Price, Status, Author, Publisher) VALUES
      ('978-93-86160-01-4', 'The God of Small Things', 'Fiction', 30.00, 'yes', 'Arundhati Roy', 'Penguin India'),
69
      ('978-81-7991-067-0', 'The White Tiger', 'Fiction', 40.00, 'yes', 'Aravind Adiga', 'HarperCollins India'),
70
      ('978-81-7223-651-4', 'The Village of the Sea', 'Children', 20.00, 'yes', 'J. K. Rowling', 'Scholastic India'),
71
      ('978-93-82767-50-2', 'Kerala: A Portrait', 'Travel', 40.00, 'yes', 'Vikram Sarabhai', 'HarperCollins India'),
72
73
      ('978-81-265-1792-8', 'Sapiens', 'Non-Fiction', 25.00, 'no', 'Yuval Noah Harari', 'Harvill Secker'),
74
      ('978-93-86229-10-2', 'The Immortal of the Himalayas', 'Biography', 45.00, 'no', 'Ravi Shukla', 'Juggernaut Books'),
75
      ('978-81-7824-117-0', 'In Search of Lost Time', 'Classic', 50.00, 'yes', 'Marcel Proust', 'Penguin Books India'),
76
      ('978-1-56619-909-4', 'A Brief History of Time', 'Non-Fiction', 20.00, 'yes', 'Stephen Hawking', 'Bantam'),
77
      ('978-89-87643-98-5','A Peoples History of the United States','History',40.00,'yes',' Howard Zinn','Harper Perennial Modern Classics');
         INSERT INTO Customer (Customer Id, Customer name, Customer address, Reg date) VALUES
79 •
80
         (1, 'Rahul Menon', 'Kochi, Kerala', '2021-06-10'),
         (2, 'Cathy Joseph', 'Kochi, Kerala', '2020-02-15'),
81
         (3, 'Akhil S Nair', 'Thiruvananthapuram, Kerala', '2023-04-20'),
82
         (4, 'Sneha Iyer', 'Kottayam, Kerala', '2019-12-05'),
83
         (5, 'Vivek Jacob', 'Kochi, Kerala', '2020-08-30'),
84
         (6, 'Lakshmi Menon', 'Thiruvananthapuram, Kerala', '2022-06-19'),
85
         (7, 'Anu Joseph', 'Kochi, Kerala', '2023-08-15'),
86
         (8, 'Kashi Nair', 'Thiruvananthapuram, Kerala', '2021-09-21'),
87
         (9, 'Ipe Abraham', 'Kottayam, Kerala', '2019-12-25'),
88
         (10, 'Varun John', 'Kochi, Kerala', '2021-05-05');
89
```

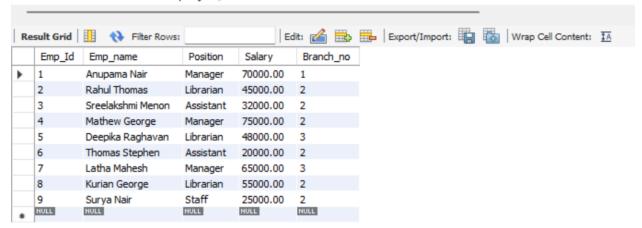
```
INSERT INTO IssueStatus (Issue_Id, Issued_cust_id, Issued_book_name, Issue_date, Isbn_book) VALUES
91
        (1, 1, 'The God of Small Things', '2023-05-01', '978-93-86160-01-4'),
92
        (2, 2, 'The White Tiger', '2023-05-02', '978-81-7991-067-0'),
93
        (3, 3, 'The Village of the Sea', '2023-06-05', '978-81-7223-651-4'),
94
        (4, 4, 'Kerala: A Portrait', '2023-05-10', '978-93-82767-50-2'),
95
        (5, 9, 'The Immortal of the Himalayas', '2023-06-10', '978-93-86229-10-2'),
96
        (6, 7, 'A Brief History of Time', '2024-06-02', '978-1-56619-909-4');
97
98
99
        INSERT INTO ReturnStatus (Return Id, Return cust, Return book name, Return date, Isbn book2) VALUES
        (1, 1, 'The God of Small Things', '2023-05-15', '978-93-86160-01-4'),
100
        (2, 2, 'The White Tiger', '2023-05-12', '978-81-7991-067-0'),
101
        (3, 3, 'The Village of the Sea', '2023-05-20', '978-81-7223-651-4'),
102
        (4, 9, 'The Immortal of the Himalayas', '2023-06-25', '978-93-86229-10-2');
103
```

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

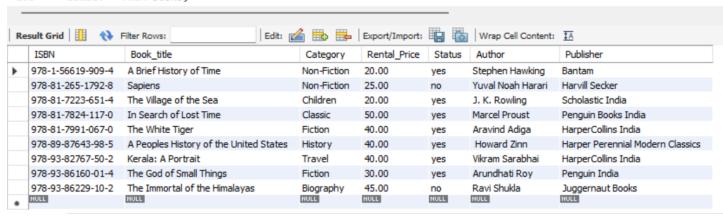
103 • SELECT * FROM Branch;



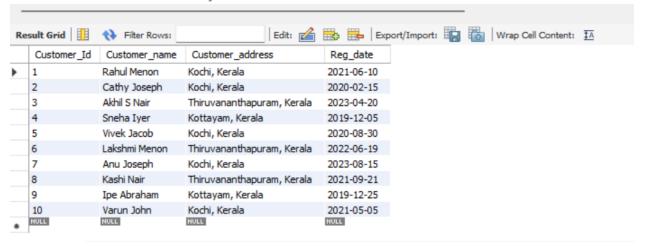
107 • SELECT * FROM Employee;



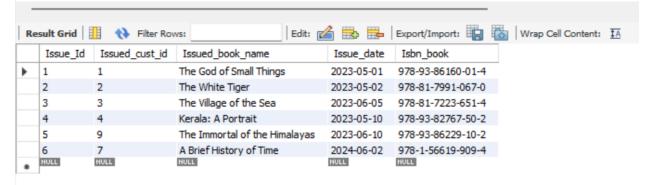
108 • SELECT * FROM Books;

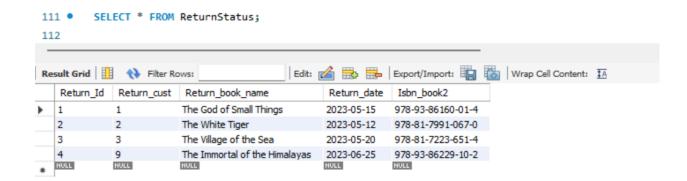


109 • SELECT * FROM Customer;

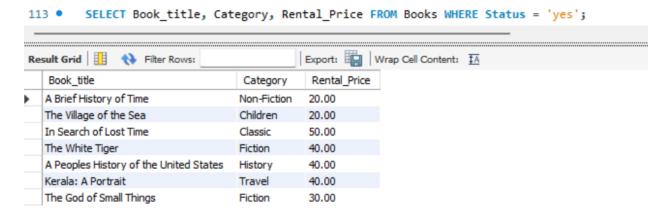


110 • SELECT * FROM IssueStatus;

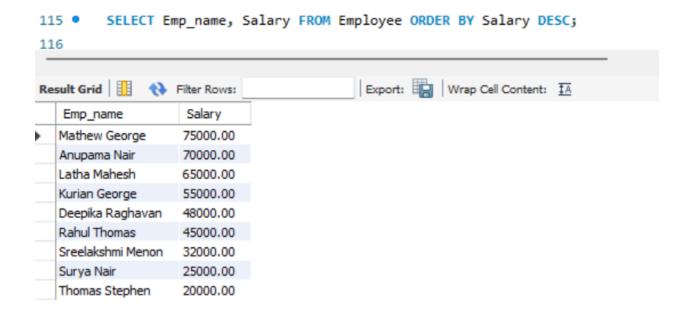




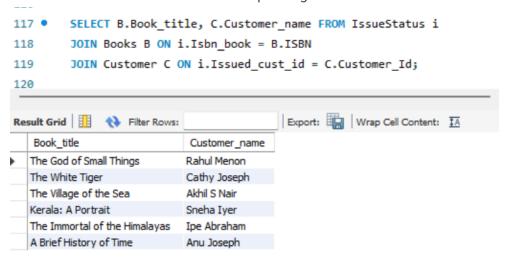
1. Retrieve the book title, category, and rental price of all available books.



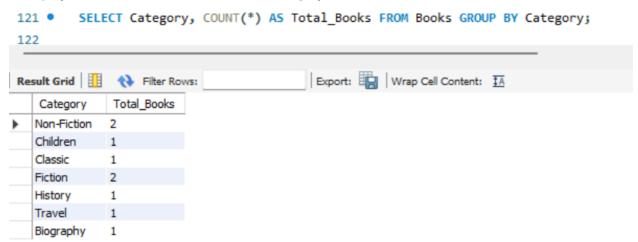
2. List the employee names and their respective salaries in descending order of salary.



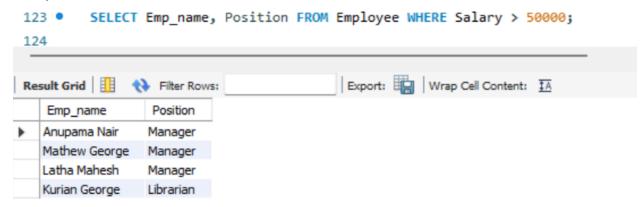
3. Retrieve the book titles and the corresponding customers who have issued those books.



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

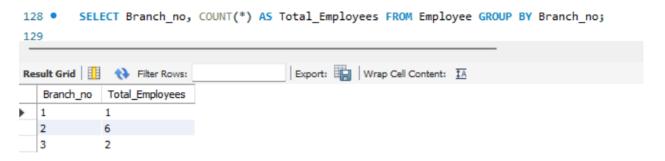


5. Retrieve the employee names and their positions for the employees whose salaries are above Rs.50,000.

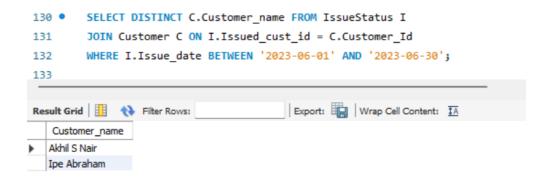


6. List the customer names who registered before 2022-01-01 and have not issued any books yet.

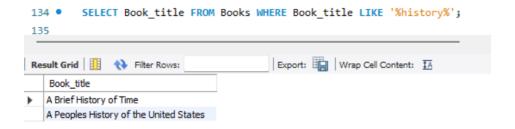
7. Display the branch numbers and the total count of employees in each branch.



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

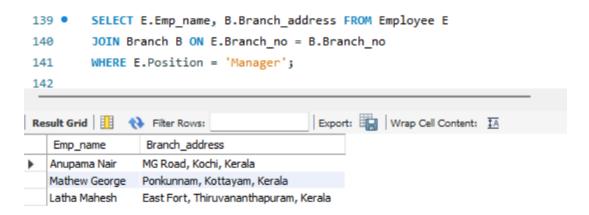


9. Retrieve book_title from book table containing history.



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.

