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:

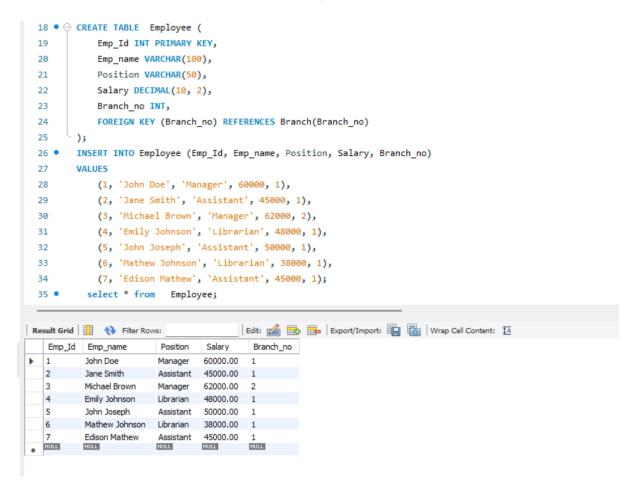
- 1. Branch
- Branch no
 - Set as PRIMARY KEY
 - Manager_Id
 - Branch_address
 - Contact_no

```
3 ● ⊖ CREATE TABLE Branch (
            Branch_no INT PRIMARY KEY,
  4
  5
            Manager_Id INT,
            Branch address VARCHAR(100),
  6
            Contact_no VARCHAR(20)
  7
  8
      );
 9 • INSERT INTO Branch (Branch_no, Manager_Id, Branch_address, Contact_no)
10
        VALUES
            (1, 101, '123 Main St, City A', '123-456-7890'),
11
            (2, 102, '456 Oak Ave, City B', '456-789-0123'),
12
            (3, 103, '111 Oak Ave, City B', '234-876-0123'),
            (4, 104, '222 Oak Ave, City B', '567-532-0123');
14
15
          select * from branch;
16 •
17
                                       | Edit: 🕍 🖶 | Export/Import: 📳 🐻 | Wrap Cell Content: 🏗
Branch_no Manager_Id Branch_address
                                       Contact_no
                       123 Main St, City A
                                       123-456-7890
                      456 Oak Ave, City B 456-789-0123
  2
            102
                      111 Oak Ave, City B 234-876-0123
            103
            104
                      222 Oak Ave, City B 567-532-0123
NULL
```

2. Employee

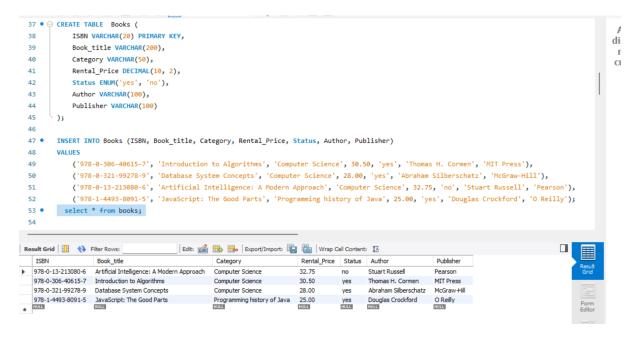
- Emp_Id Set as PRIMARY KEY
- Emp_name
- Position

- 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

```
54
55 • \ominus CREATE TABLE Customer (
            Customer_Id INT PRIMARY KEY,
56
            Customer_name VARCHAR(100),
            Customer_address VARCHAR(100),
58
59
            Reg_date DATE
        );
60
61 •
        INSERT INTO Customer (Customer Id, Customer name, Customer address, Reg date)
        VALUES
62
            (1, 'Alice Johnson', '789 Elm St, City A', '2022-03-15'),
63
            (2, 'Bob Williams', '567 Pine Ave, City B', '2020-12-10'),
            (3, 'Eve Brown', '890 Cedar Rd, City A', '2023-01-20');
            select * from Customer;
66 •
67
68 • ⊖ CREATE TABLE IssueStatus (
            Issue_Id INT PRIMARY KEY,
69
            Issued_cust INT,
            Issued_book_name VARCHAR(200),
71
                                        | Edit: 🚄 📆 🖶 | Export/Import: 🏣 👸 | Wrap Cell Content: 🖽
Customer_Id Customer_name Customer_address
                                             Reg_date
  1
              Alice Johnson
                            789 Elm St, City A
                                             2022-03-15
  2
             Bob Williams
                          567 Pine Ave, City B 2020-12-10
              Eve Brown
                            890 Cedar Rd, City A
                                             2023-01-20
NULL
```

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

```
68 • ⊖ CREATE TABLE IssueStatus (
 69
           Issue_Id INT PRIMARY KEY,
 70
           Issued_cust INT,
           Issued book name VARCHAR(200),
 71
           Issue_date DATE,
72
 73
           Isbn_book VARCHAR(20),
           FOREIGN KEY (Issued_cust) REFERENCES Customer(Customer_Id),
 74
 75
           FOREIGN KEY (Isbn_book) REFERENCES Books(ISBN)
 76
       INSERT INTO IssueStatus (Issue_Id, Issued_cust, Issued_book_name, Issue_date, Isbn_book)
 77 •
 78
           (1, 1, 'Introduction to Algorithms', '2023-05-10', '978-0-306-40615-7'),
 79
           (2, 2, 'Database System Concepts', '2023-06-18', '978-0-321-99278-9'),
 80
           (3, 3, 'JavaScript: The Good Parts', '2023-07-05', '978-1-4493-8091-5');
 81
 82 •
          select * from IssueStatus;
                                     | Edit: 🕍 🖶 | Export/Import: 📳 📸 | Wrap Cell Content: 🔣
2023-05-10 978-0-306-40615-7
          1
                    Introduction to Algorithms
 2
         2
                  Database System Concepts 2023-06-18 978-0-321-99278-9
 3
                   JavaScript: The Good Parts 2023-07-05 978-1-4493-8091-5
          3
```

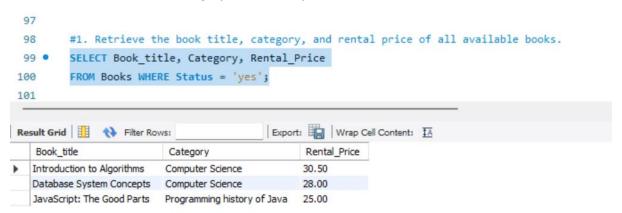
6. ReturnStatus

- 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

```
83 • ○ CREATE TABLE ReturnStatus (
 84
            Return_Id INT PRIMARY KEY,
            Return cust INT,
 85
            Return_book_name VARCHAR(200),
 86
            Return_date DATE,
            Isbn_book2 VARCHAR(20),
 88
            FOREIGN KEY (Return_cust) REFERENCES Customer(Customer_Id),
 89
            FOREIGN KEY (Isbn book2) REFERENCES Books(ISBN)
 90
 91
        INSERT INTO ReturnStatus (Return_Id, Return_cust, Return_book_name, Return_date, Isbn_book2)
 92 •
 93
             (1, 1, 'Introduction to Algorithms', '2023-05-30', '978-0-306-40615-7'),
             (2, 2, 'Database System Concepts', '2023-07-01', '978-0-321-99278-9');
 95
            select * from ReturnStatus;
 97
Edit: 🕳 🖶 Export/Import: 📳 📸 Wrap Cell Content: 🔣
   Return_Id Return_cust Return_book_name
                                             Return_date Isbn_book2
            1
                       Introduction to Algorithms
                                            2023-05-30
                                                        978-0-306-40615-7
                       Database System Concepts
                                            2023-07-01
                                                        978-0-321-99278-9
```

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

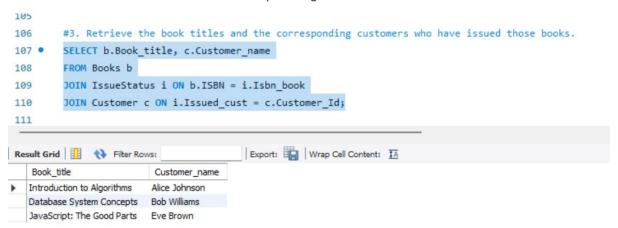
1. Retrieve the book title, category, and rental price of all available books.



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.

```
#4. Display the total count of books in each category.
112
         SELECT Category, COUNT(*) AS Total_Count
113 •
         FROM Books GROUP BY Category;
114
115
116
         #5. Retrieve the employee names and their positions for the employees
Result Grid
             Filter Rows:
                                           Export: Wrap Cell Content: TA
                           Total_Count
   Category
                          3
  Computer Science
  Programming history of Java
                          1
```

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.

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

SELECT DISTINCT c.Customer_name

FROM Customer c

JOIN IssueStatus i ON c.Customer_Id = i.Issued_cust

WHERE YEAR(i.Issue_date) = 2023 AND MONTH(i.Issue_date) = 6;

Result Grid Filter Rows:

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```

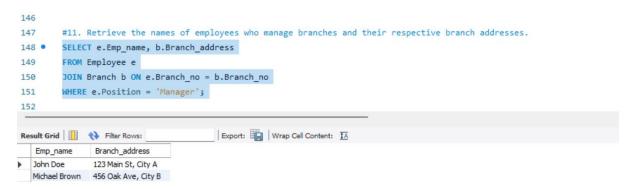
9. Retrieve book_title from book table containing history.



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

141																				
142	#10	.Retr	ieve t	he b	ranch	numb	ers a	long v	with the	count	of	employees	for	branches	having	more	than	5 empl	loyees	
143 •	SEL	ECT Br	ranch_	no,	COUNT	(*) A	S Tot	al_Emp	oloyees											
144	FRO	M Empl	loyee																	
145	GROUP BY Branch_no HAVING COUNT(*) > 5;																			
146																				
Result G	rid 🛮 👖	44	Filter Ro	ws:			E	Export:	Wra	p Cell Cor	tent:	<u>‡A</u>								
Bran	ch_no	Total_	Employe	ees																
1		6																		

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.