Mysql Comprehensive Assessment

Topic: Library Management System

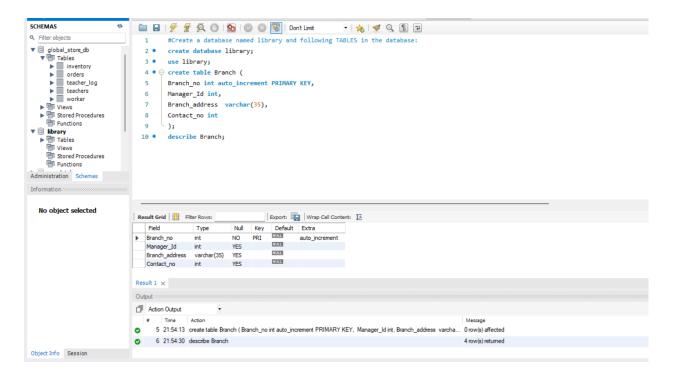
You are going to build a project based on the Library Management System. It keeps track of all information about books in the library, their cost, status and total number of books available in the library.

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

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

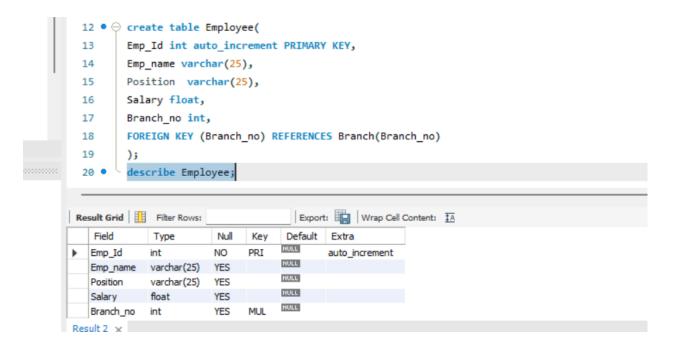
Attributes for the tables:

- 1. Branch
- Branch_no
 - Set as PRIMARY KEY
 - Manager_Id
 - Branch_address
 - Contact_no



2. Employee

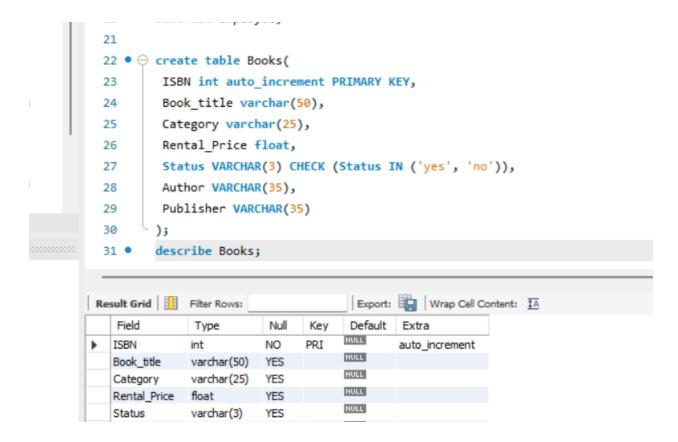
- Emp_Id Set as PRIMARY KEY
- Emp_name
- Position
- Salary
- Branch_no
 - Set as FOREIGN KEY and it refer Branch_no in Branch table



3. Books

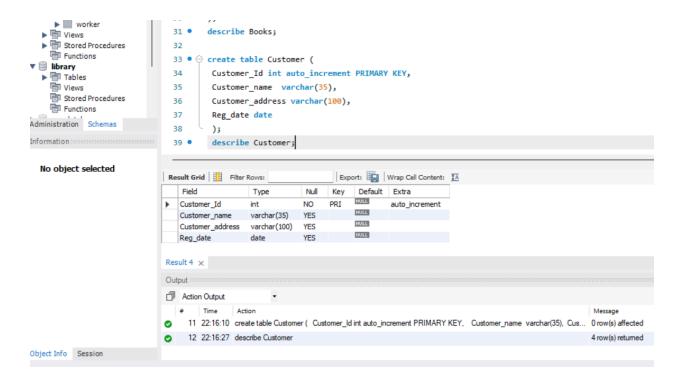
• ISBN

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



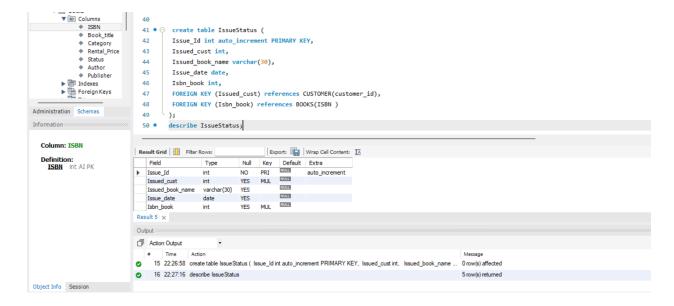
4. Customer

- Customer Id
 - Set as PRIMARY KEY
 - Customer_name
 - Customer_address
 - Reg_date



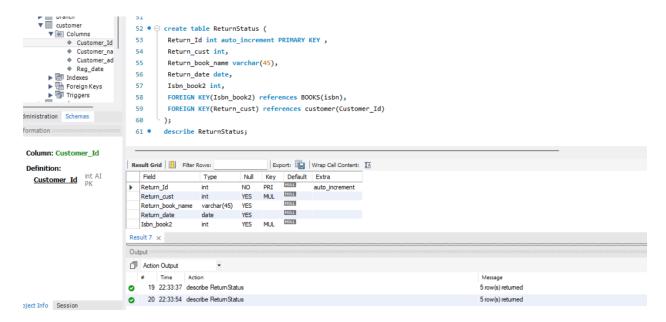
5. IssueStatus

- · 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



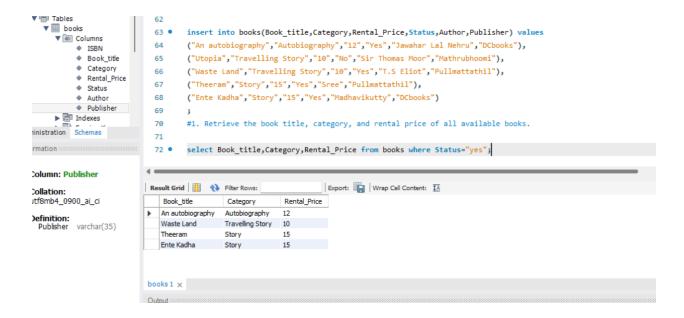
6. ReturnStatus

- 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

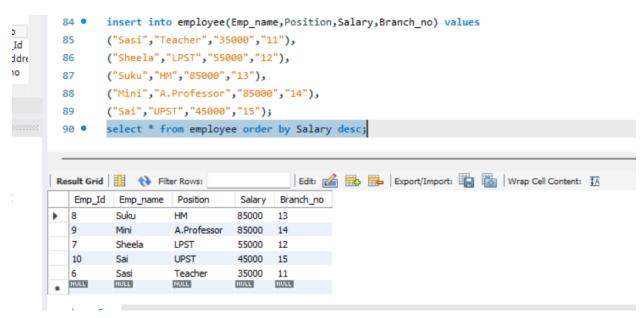


Display all the tables and Write the queries for the following:

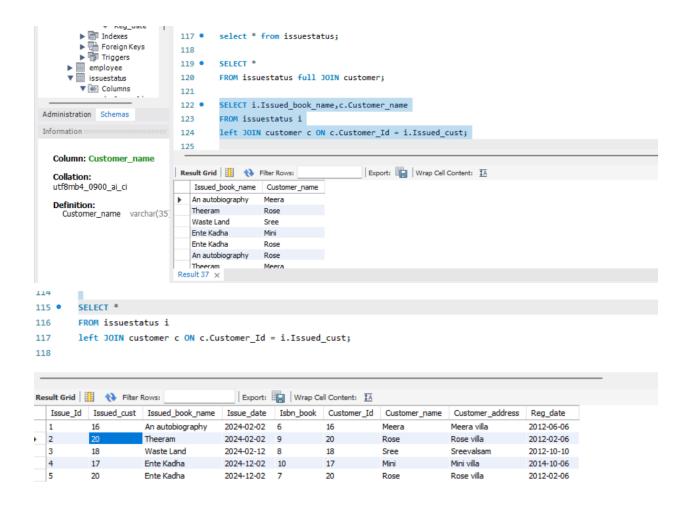
1. Retrieve the book title, category, and rental price of all available books.



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.



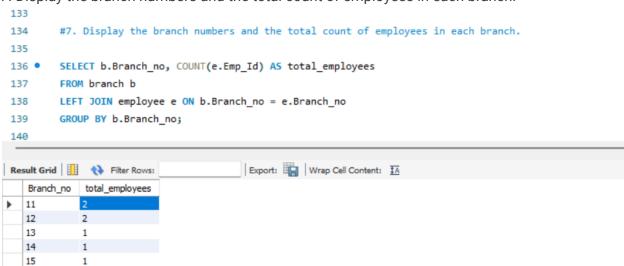
5. Retrieve the employee names and their positions for the employees whose salaries are above Rs.50,000.



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



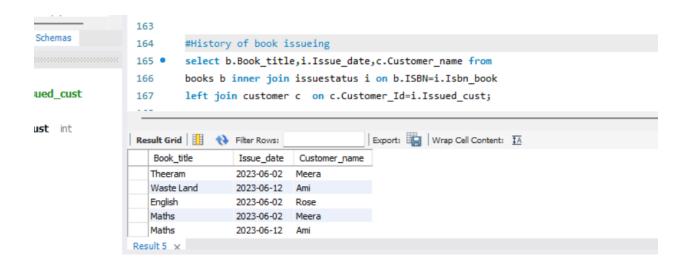
7. Display the branch numbers and the total count of employees in each branch.



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

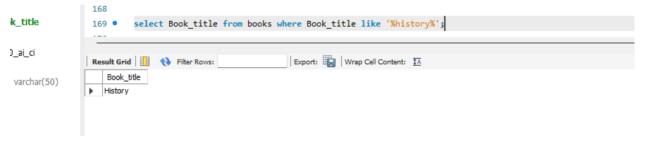
```
140
         141
                  #8. Display the names of customers who have issued books in the month of June 2023.
         142
         143 •
                 insert into issuestatus(Issued_cust,Issued_book_name,Issue_date,Isbn_book) values
         144
                  (20, "An autobiography", "2023-06-02",6),
_Id
d_cust
         145
                  (16, "Theeram", "2023-06-02",9),
d_book
         146
                  (19,"Waste Land","2023-06-12",8);
         147
book
         148 •
                  SELECT DISTINCT c.Customer_name
eys
                  FROM customer c
         149
                  JOIN issuestatus i ON c.Customer_Id = i.Issued_cust
         150
                  WHERE MONTH(i.Issue_date) = 6 AND YEAR(i.Issue_date) = 2023;
         151
         153
        Export: Wrap Cell Content: IA
            Customer_name
         ▶ Meera
            Ami
            Rose
```

9. Retrieve book_title from a book table containing history.



```
155
156
        #9. Retrieve book_title from a book table containing history.
157
        insert into books(Book_title,Category,Rental_Price,Status,Author,Publisher) values
158 •
        ("Utopia2", "History", "10", "No", "Sir Thomas Moor", "Mathrubhoomi"),
159
        ("Columbus", "History", "10", "Yes", "T.S Eliot", "Pullmattathil");
160
161
162 •
         select Book_title from books where Category="History";
163
Result Grid
                                          Export: Wrap Cell Content: TA
             Filter Rows:
   Book_title
  Utopia2
  Columbus
```

Title name containing word history.



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

```
branch
                        166 •
                               insert into employee(Emp_name,Position,Salary,Branch_no) values
 ▼ 🐼 Columns
                        167
                                ("Salu", "Teacher", "35000", "11"),

    Branch no

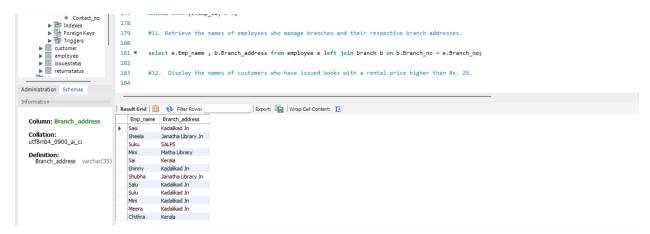
    Manager Id

                                ("Sulu","LPST","55000","11"),
                        168
    ♦ Branch_addre
                                ("Mini","HM","85000","11"),
                       169

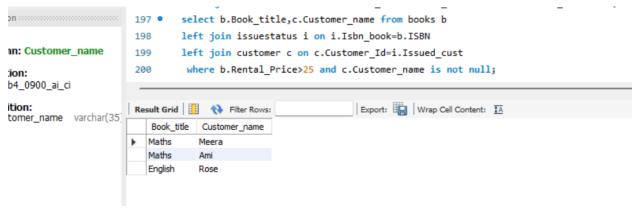
    Contact_no

                       170
                                ("Meera", "A.Professor", "85000", "1"),
 ▶ 🛅 Indexes
 ▶ ➡ Foreign Keys
                       171
                                ("Chithra", "UPST", "45000", "15");
 ▶ 📅 Triggers
                       172
 customer
                       173 •
                                SELECT b.Branch_no,b.Branch_address, COUNT(e.Emp_Id) AS employee_count
employee
 issuestatus
                        174
                                 FROM branch b
returnstatus
                       175
                                JOIN employee e ON b.Branch_no = e.Branch_no
                        176
                                GROUP BY b.Branch_no
ration Schemas
                                HAVING COUNT(e.Emp_Id) > 5;
                       177
ion:
                        178
                                #11. Retrieve the names of employees who manage branches and their respective branch addresses.
                        179
mn: Branch_address
                        Export: Wrap Cell Content: IA
tion:
nb4_0900_ai_ci
                          Branch_no Branch_address employee_count
                       11
                                    Kadalikad Jn
anch_address varchar(35)
```

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.



Score Distribution:

- 1 point for correctly formulating the query of each question ($12 \times 1 = 12$).
- 1 point for providing screenshots of the output for each question (12 x 1 = 12).
- 1 point for timely submission.

Total = 25.

PS: After completing the project upload your project with screenshots in the github and share the link.

Queries Used

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

create database library;

use library;

create table Branch (

Branch no int auto increment PRIMARY KEY,

```
Manager Id int,
Branch address varchar(35),
Contact no int
);
describe Branch;
create table Employee(
Emp Id int auto increment PRIMARY KEY,
Emp_name varchar(25),
Position varchar(25),
Salary float,
Branch no int,
FOREIGN KEY (Branch no) REFERENCES
Branch(Branch no)
);
describe Employee;
create table Books(
ISBN int auto increment PRIMARY KEY,
Book_title varchar(50),
Category varchar(25),
Rental Price float,
Status VARCHAR(3) CHECK (Status IN ('yes', 'no')),
Author VARCHAR(35),
Publisher VARCHAR(35)
);
describe Books;
create table Customer (
Customer Id int auto increment PRIMARY KEY,
```

```
Customer name varchar(35),
Customer_address varchar(100),
Reg date date
);
describe Customer;
create table IssueStatus (
Issue Id int auto increment PRIMARY KEY,
Issued cust int,
Issued book name varchar(30),
Issue date date,
Isbn book int,
FOREIGN KEY (Issued cust) references
CUSTOMER(customer id),
FOREIGN KEY (Isbn book) references BOOKS(ISBN)
);
describe IssueStatus;
create table ReturnStatus (
Return Id int auto increment PRIMARY KEY,
Return cust int,
Return_book_name varchar(45),
Return date date,
Isbn book2 int,
FOREIGN KEY(Isbn_book2) references BOOKS(isbn),
FOREIGN KEY(Return cust) references
customer(Customer Id)
);
describe ReturnStatus;
```

```
insert into
books(Book_title,Category,Rental_Price,Status,Author,Publis
her) values
("An autobiography","Autobiography","12","Yes","Jawahar
Lal Nehru","DCbooks"),
("Utopia","Travelling Story","10","No","Sir Thomas
Moor","Mathrubhoomi"),
("Waste Land","Travelling Story","10","Yes","T.S
Eliot","Pullmattathil"),
("Theeram","Story","15","Yes","Sree","Pullmattathil"),
("Ente
Kadha","Story","15","Yes","Madhavikutty","DCbooks")
;
```

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

select Book_title,Category,Rental_Price from books where Status="yes";

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

```
insert into branch(Manager_Id,Branch_address,Contact_no) values (101,"Kadalikad Jn",1234567810), (102,"Janatha Library Jn",1111111111), (103,"SALPS",222222222), (104,"Matha Library",333333333),
```

```
("105","Kerala",44444444);
select * from branch;
delete from branch where Branch no>15;
insert into employee(Emp name, Position, Salary, Branch no)
values
("Sasi","Teacher","35000","11"),
("Sheela","LPST","55000","12"),
("Suku","HM","85000","13"),
("Mini","A.Professor","85000","14"),
("Sai","UPST","45000","15");
insert into employee(Emp_name,Position,Salary,Branch_no)
values
("Shinny","Teacher","35000","11"),
("Shubha","LPST","55000","12");
select * from employee order by Salary desc;
#3. Retrieve the book titles and the corresponding customers
who have issued those books.
describe issuestatus;
insert into
customer(Customer name, Customer address, Reg date)
values
("Meera","Meera villa","2012-06-06"),
("Mini","Mini villa","2014-10-06"),
("Sree", "Sreevalsam", "2012-10-10"),
("Ami","Aami villa","2017-07-08"),
("Rose","Rose villa","2012-02-06");
select * from customer:
```

```
insert into issuestatus(Issued_cust,Issued_book_name,Issue_date,Isbn _book) values (16,"An autobiography","2024-02-02",6), (20,"Theeram","2024-02-02",9), (18,"Waste Land","2024-02-12",8), (17,"Ente Kadha","2024-12-02",10), (20,"Ente Kadha","2024-12-02",7);
```

select * from issuestatus;

SELECT*

FROM issuestatus full JOIN customer;

SELECT i.lssued_book_name,c.Customer_name FROM issuestatus i left JOIN customer c ON c.Customer_ld = i.lssued_cust;

- #4. Display the total count of books in each category. select Category,count(Category) as Tot_No from books group by Category;
- #5. Retrieve the employee names and their positions for the employees whose salaries are above Rs.50,000. select Emp_Id,Emp_name,Position,Salary from employee where Salary > 50000 order by salary desc;

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

select * from customer c where c.Reg_date < "2022-01-01" and (select count(*) from issuestatus d where d.lssued_cust= c.Customer ld) =0;

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

SELECT b.Branch_no, COUNT(e.Emp_ld) AS
total_employees
FROM branch b
LEFT JOIN employee e ON b.Branch_no = e.Branch_no
GROUP BY b.Branch_no;

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

issuestatus(Issued_cust,Issued_book_name,Issue_date,Isbn_book) values (20,"An autobiography","2023-06-02",6), (16,"Theeram","2023-06-02",9),

(19,"Waste Land","2023-06-12",8);

insert into

SELECT DISTINCT c.Customer_name
FROM customer c
cross JOIN issuestatus i ON c.Customer_Id = i.lssued_cust

```
WHERE MONTH(i.Issue_date) = 6 AND YEAR(i.Issue_date) =
2023;
#9. Retrieve book title from a book table containing history.
insert into
books(Book title, Category, Rental Price, Status, Author, Publis
her) values
("Utopia2","History","10","No","Sir Thomas
Moor","Mathrubhoomi"),
("Columbus", "History", "10", "Yes", "T.S Eliot", "Pullmattathil");
select Book title from books where Category="History";
#10.Retrieve the branch numbers along with the count of
employees for branches having more than 5 employees
insert into employee(Emp_name,Position,Salary,Branch_no)
values
("Salu","Teacher","35000","11"),
("Sulu","LPST","55000","11"),
("Mini","HM","85000","11"),
("Meera","A.Professor","85000","1"),
("Chithra","UPST","45000","15");
SELECT b.Branch no,b.Branch address, COUNT(e.Emp ld)
AS employee count
FROM branch b
JOIN employee e ON b.Branch no = e.Branch no
```

```
GROUP BY b.Branch_no
HAVING COUNT(e.Emp ld) > 5;
```

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

select e.Emp_name , b.Branch_address from employee e left join branch b on b.Branch_no = e.Branch_no;

#12. Display the names of customers who have issued books with a rental price higher than Rs. 25. insert into books(Book title, Category, Rental Price, Status, Author, Publis her) values ("English", "Sbject", "25", "Yes", "Jawahar Lal Nehru","DCbooks"), ("Maths", "Subject", "25", "No", "Sir Thomas Moor","Mathrubhoomi"), ("History", "History", "25", "Yes", "T.S Eliot", "Pullmattathil"); insert into issuestatus(Issued cust,Issued book name,Issue date,Isbn book) values (20,"English","2023-06-02",13), (16,"Maths","2023-06-02",14), (19,"Maths","2023-06-12",14); update books set Rental Price=30 where Rental Price=25; **SET SQL SAFE UPDATES = 0;** select b.Book title,b.Rental Price,i.Issued cust,c.Customer name from books b

left join issuestatus i on i.lsbn_book=b.ISBN
left join customer c on c.Customer_ld=i.lssued_cust where
b.Rental_Price>25;
select b.Book_title,c.Customer_name from books b
left join issuestatus i on i.lsbn_book=b.ISBN
left join customer c on c.Customer_ld=i.lssued_cust
where b.Rental_Price>25 and c.Customer_name is not null;