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 the following TABLES in the database:
1. Branch
2. Employee
3. Books
4. Customer
5. IssueStatus
6. ReturnStatus

1.Branch Table: Stores information about different branches of the library, including branch numbers, manager IDs, addresses, and contact numbers.

2.Employee Table: Manages details of library staff, such as employee IDs, names, positions, salaries, and the branch to which they are assigned.

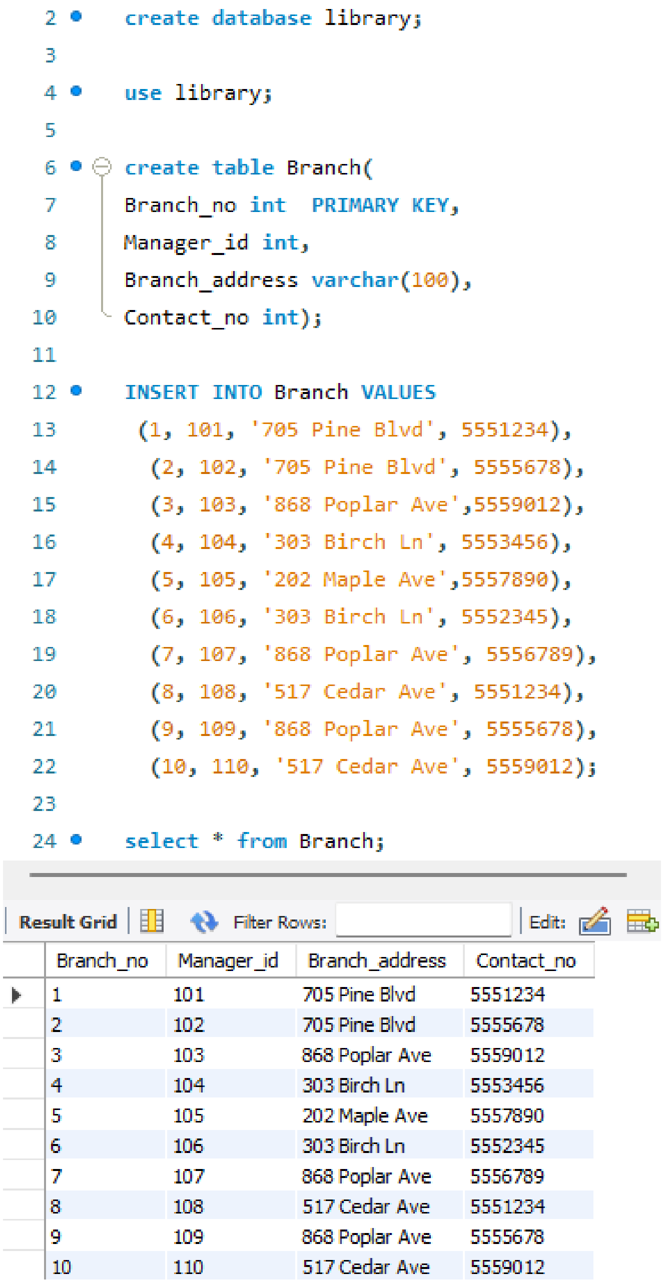
3.Books Table: Contains details about the books available in the library, including ISBN, book title, category, rental price, availability status, author, and publisher.

4.Customer Table: Stores information about library patrons, including customer IDs, names, addresses, and registration dates.

5.IssueStatus Table: Records details about book issuances, including issuance IDs, customer IDs, issued book names, and issuance dates.

6.ReturnStatus Table: Manages information about book returns, including return IDs, customer IDs, returned book names, return dates, and ISBNs.

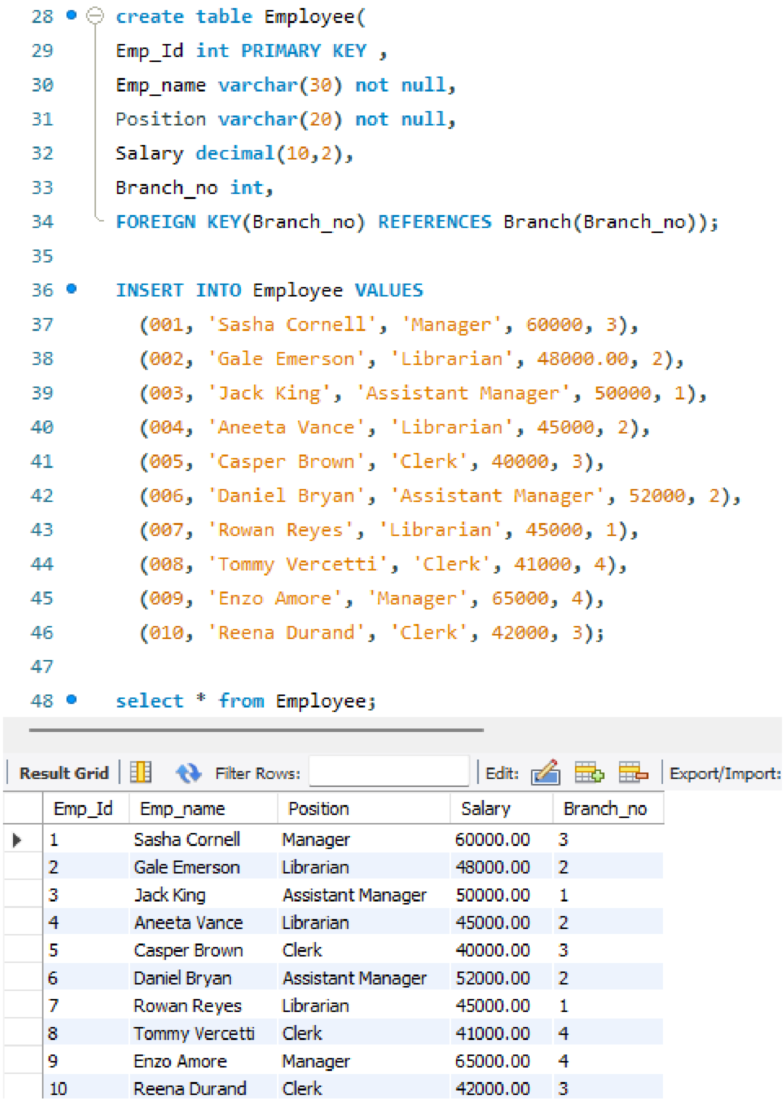
Table Branch:



```
create database library;

use library;

create table Branch(
Branch_no int  PRIMARY KEY,
Manager_id int,
Branch_address varchar(100),
Contact_no int);

INSERT INTO Branch VALUES
 (1, 101, '705 Pine Blvd', 5551234),
  (2, 102, '705 Pine Blvd', 5555678),
  (3, 103, '868 Poplar Ave',5559012),
  (4, 104, '303 Birch Ln', 5553456),
  (5, 105, '202 Maple Ave',5557890),
  (6, 106, '303 Birch Ln', 5552345),
  (7, 107, '868 Poplar Ave', 5556789),
  (8, 108, '517 Cedar Ave', 5551234),
  (9, 109, '868 Poplar Ave', 5555678),
  (10, 110, '517 Cedar Ave', 5559012);

select * from Branch;
```

Branch_no	Manager_id	Branch_address	Contact_no
1	101	705 Pine Blvd	5551234
2	102	705 Pine Blvd	5555678
3	103	868 Poplar Ave	5559012
4	104	303 Birch Ln	5553456
5	105	202 Maple Ave	5557890
6	106	303 Birch Ln	5552345
7	107	868 Poplar Ave	5556789
8	108	517 Cedar Ave	5551234
9	109	868 Poplar Ave	5555678
10	110	517 Cedar Ave	5559012

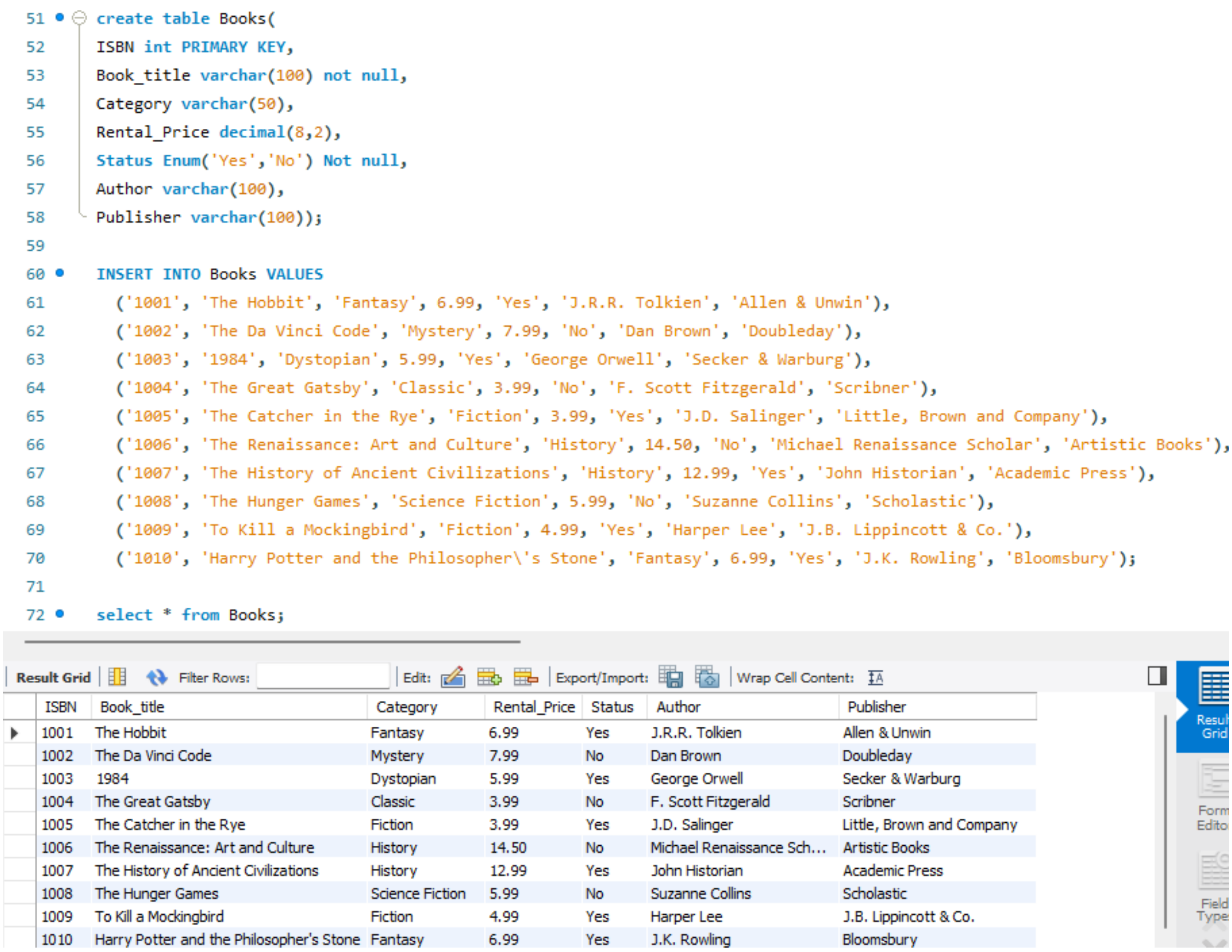
Table Employee:



```sql
create table Employee(
Emp_Id int PRIMARY KEY ,
Emp_name varchar(30) not null,
Position varchar(20) not null,
Salary decimal(10,2),
Branch_no int,
FOREIGN KEY(Branch_no) REFERENCES Branch(Branch_no));

INSERT INTO Employee VALUES
  (001, 'Sasha Cornell', 'Manager', 60000, 3),
  (002, 'Gale Emerson', 'Librarian', 48000.00, 2),
  (003, 'Jack King', 'Assistant Manager', 50000, 1),
  (004, 'Aneeta Vance', 'Librarian', 45000, 2),
  (005, 'Casper Brown', 'Clerk', 40000, 3),
  (006, 'Daniel Bryan', 'Assistant Manager', 52000, 2),
  (007, 'Rowan Reyes', 'Librarian', 45000, 1),
  (008, 'Tommy Vercetti', 'Clerk', 41000, 4),
  (009, 'Enzo Amore', 'Manager', 65000, 4),
  (010, 'Reena Durand', 'Clerk', 42000, 3);

select * from Employee;
```

Emp_Id	Emp_name	Position	Salary	Branch_no
1	Sasha Cornell	Manager	60000.00	3
2	Gale Emerson	Librarian	48000.00	2
3	Jack King	Assistant Manager	50000.00	1
4	Aneeta Vance	Librarian	45000.00	2
5	Casper Brown	Clerk	40000.00	3
6	Daniel Bryan	Assistant Manager	52000.00	2
7	Rowan Reyes	Librarian	45000.00	1
8	Tommy Vercetti	Clerk	41000.00	4
9	Enzo Amore	Manager	65000.00	4
10	Reena Durand	Clerk	42000.00	3

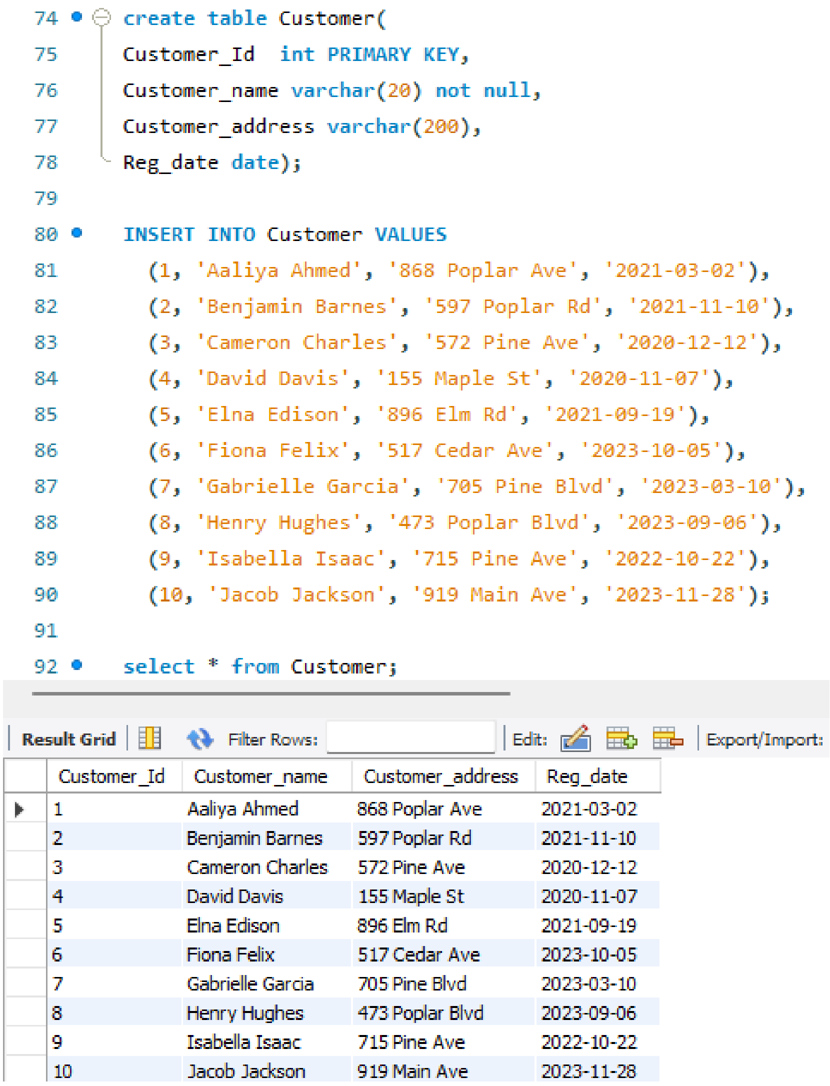
Table Books:



```sql
create table Books(
ISBN int PRIMARY KEY,
Book_title varchar(100) not null,
Category varchar(50),
Rental_Price decimal(8,2),
Status Enum('Yes','No') Not null,
Author varchar(100),
Publisher varchar(100));

INSERT INTO Books VALUES
  ('1001', 'The Hobbit', 'Fantasy', 6.99, 'Yes', 'J.R.R. Tolkien', 'Allen & Unwin'),
  ('1002', 'The Da Vinci Code', 'Mystery', 7.99, 'No', 'Dan Brown', 'Doubleday'),
  ('1003', '1984', 'Dystopian', 5.99, 'Yes', 'George Orwell', 'Secker & Warburg'),
  ('1004', 'The Great Gatsby', 'Classic', 3.99, 'No', 'F. Scott Fitzgerald', 'Scribner'),
  ('1005', 'The Catcher in the Rye', 'Fiction', 3.99, 'Yes', 'J.D. Salinger', 'Little, Brown and Company'),
  ('1006', 'The Renaissance: Art and Culture', 'History', 14.50, 'No', 'Michael Renaissance Scholar', 'Artistic Books'),
  ('1007', 'The History of Ancient Civilizations', 'History', 12.99, 'Yes', 'John Historian', 'Academic Press'),
  ('1008', 'The Hunger Games', 'Science Fiction', 5.99, 'No', 'Suzanne Collins', 'Scholastic'),
  ('1009', 'To Kill a Mockingbird', 'Fiction', 4.99, 'Yes', 'Harper Lee', 'J.B. Lippincott & Co.'),
  ('1010', 'Harry Potter and the Philosopher\'s Stone', 'Fantasy', 6.99, 'Yes', 'J.K. Rowling', 'Bloomsbury');

select * from Books;
```

ISBN	Book_title	Category	Rental_Price	Status	Author	Publisher
1001	The Hobbit	Fantasy	6.99	Yes	J.R.R. Tolkien	Allen & Unwin
1002	The Da Vinci Code	Mystery	7.99	No	Dan Brown	Doubleday
1003	1984	Dystopian	5.99	Yes	George Orwell	Secker & Warburg
1004	The Great Gatsby	Classic	3.99	No	F. Scott Fitzgerald	Scribner
1005	The Catcher in the Rye	Fiction	3.99	Yes	J.D. Salinger	Little, Brown and Company
1006	The Renaissance: Art and Culture	History	14.50	No	Michael Renaissance Sch...	Artistic Books
1007	The History of Ancient Civilizations	History	12.99	Yes	John Historian	Academic Press
1008	The Hunger Games	Science Fiction	5.99	No	Suzanne Collins	Scholastic
1009	To Kill a Mockingbird	Fiction	4.99	Yes	Harper Lee	J.B. Lippincott & Co.
1010	Harry Potter and the Philosopher's Stone	Fantasy	6.99	Yes	J.K. Rowling	Bloomsbury

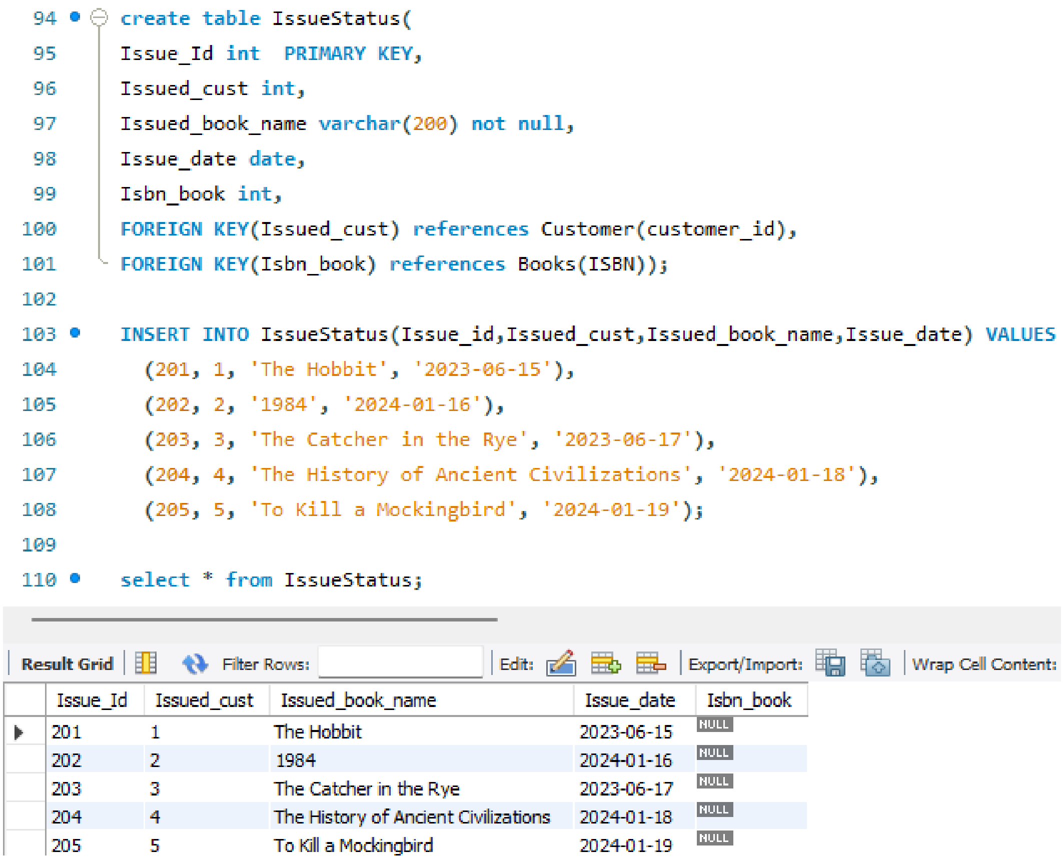
Table Customer:



```sql
create table Customer(
Customer_Id  int PRIMARY KEY,
Customer_name varchar(20) not null,
Customer_address varchar(200),
Reg_date date);

INSERT INTO Customer VALUES
  (1, 'Aaliya Ahmed', '868 Poplar Ave', '2021-03-02'),
  (2, 'Benjamin Barnes', '597 Poplar Rd', '2021-11-10'),
  (3, 'Cameron Charles', '572 Pine Ave', '2020-12-12'),
  (4, 'David Davis', '155 Maple St', '2020-11-07'),
  (5, 'Elna Edison', '896 Elm Rd', '2021-09-19'),
  (6, 'Fiona Felix', '517 Cedar Ave', '2023-10-05'),
  (7, 'Gabrielle Garcia', '705 Pine Blvd', '2023-03-10'),
  (8, 'Henry Hughes', '473 Poplar Blvd', '2023-09-06'),
  (9, 'Isabella Isaac', '715 Pine Ave', '2022-10-22'),
  (10, 'Jacob Jackson', '919 Main Ave', '2023-11-28');

select * from Customer;
```

Customer_Id	Customer_name	Customer_address	Reg_date
1	Aaliya Ahmed	868 Poplar Ave	2021-03-02
2	Benjamin Barnes	597 Poplar Rd	2021-11-10
3	Cameron Charles	572 Pine Ave	2020-12-12
4	David Davis	155 Maple St	2020-11-07
5	Elna Edison	896 Elm Rd	2021-09-19
6	Fiona Felix	517 Cedar Ave	2023-10-05
7	Gabrielle Garcia	705 Pine Blvd	2023-03-10
8	Henry Hughes	473 Poplar Blvd	2023-09-06
9	Isabella Isaac	715 Pine Ave	2022-10-22
10	Jacob Jackson	919 Main Ave	2023-11-28

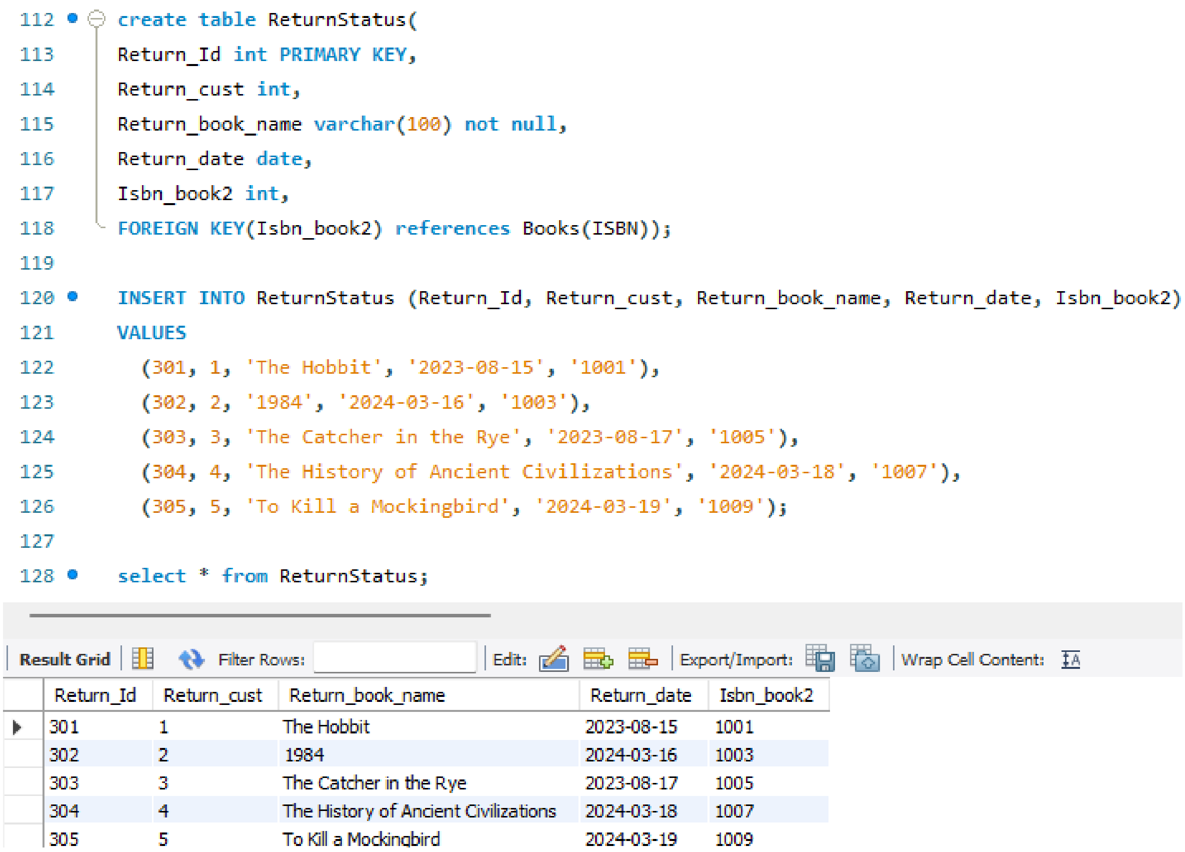
Table IssueStatus:



```sql
create table IssueStatus(
Issue_Id int  PRIMARY KEY,
Issued_cust int,
Issued_book_name varchar(200) not null,
Issue_date date,
Isbn_book int,
FOREIGN KEY(Issued_cust) references Customer(customer_id),
FOREIGN KEY(Isbn_book) references Books(ISBN));

INSERT INTO IssueStatus(Issue_id,Issued_cust,Issued_book_name,Issue_date) VALUES
  (201, 1, 'The Hobbit', '2023-06-15'),
  (202, 2, '1984', '2024-01-16'),
  (203, 3, 'The Catcher in the Rye', '2023-06-17'),
  (204, 4, 'The History of Ancient Civilizations', '2024-01-18'),
  (205, 5, 'To Kill a Mockingbird', '2024-01-19');

select * from IssueStatus;
```

Issue_Id	Issued_cust	Issued_book_name	Issue_date	Isbn_book
201	1	The Hobbit	2023-06-15	NULL
202	2	1984	2024-01-16	NULL
203	3	The Catcher in the Rye	2023-06-17	NULL
204	4	The History of Ancient Civilizations	2024-01-18	NULL
205	5	To Kill a Mockingbird	2024-01-19	NULL

Table ReturnStatus:

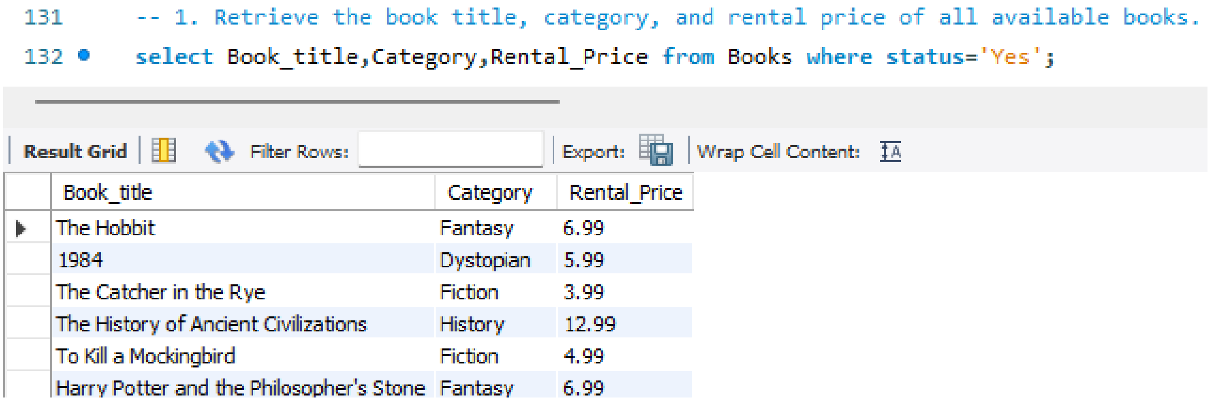


```
create table ReturnStatus(
Return_Id int PRIMARY KEY,
Return_cust int,
Return_book_name varchar(100) not null,
Return_date date,
Isbn_book2 int,
FOREIGN KEY(Isbn_book2) references Books(ISBN));

INSERT INTO ReturnStatus (Return_Id, Return_cust, Return_book_name, Return_date, Isbn_book2)
VALUES
  (301, 1, 'The Hobbit', '2023-08-15', '1001'),
  (302, 2, '1984', '2024-03-16', '1003'),
  (303, 3, 'The Catcher in the Rye', '2023-08-17', '1005'),
  (304, 4, 'The History of Ancient Civilizations', '2024-03-18', '1007'),
  (305, 5, 'To Kill a Mockingbird', '2024-03-19', '1009');

select * from ReturnStatus;
```

Return_Id	Return_cust	Return_book_name	Return_date	Isbn_book2
301	1	The Hobbit	2023-08-15	1001
302	2	1984	2024-03-16	1003
303	3	The Catcher in the Rye	2023-08-17	1005
304	4	The History of Ancient Civilizations	2024-03-18	1007
305	5	To Kill a Mockingbird	2024-03-19	1009

Queries:

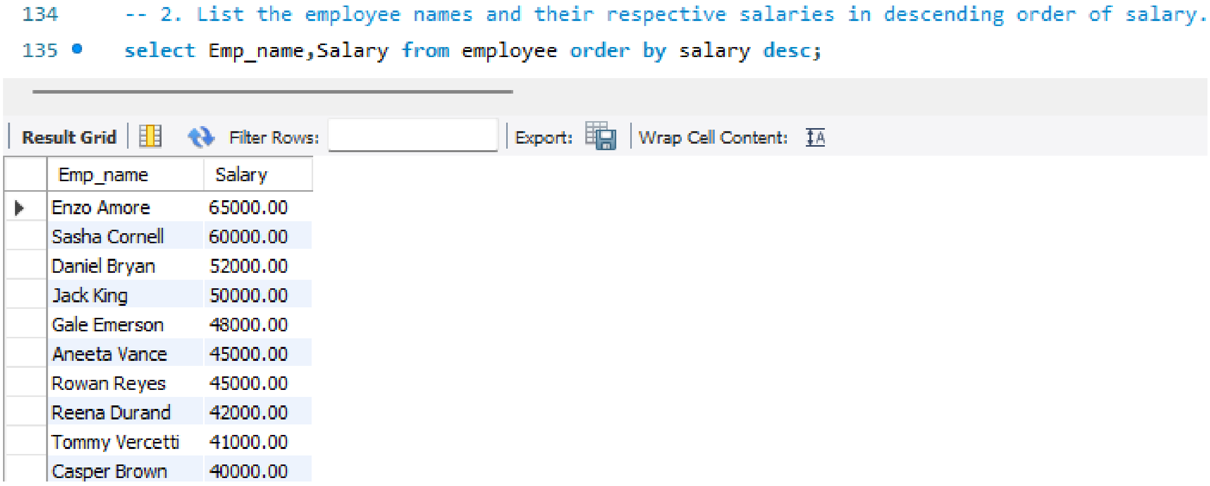
1)



```sql
-- 1. Retrieve the book title, category, and rental price of all available books.
select Book_title,Category,Rental_Price from Books where status='Yes';
```

Book_title	Category	Rental_Price
The Hobbit	Fantasy	6.99
1984	Dystopian	5.99
The Catcher in the Rye	Fiction	3.99
The History of Ancient Civilizations	History	12.99
To Kill a Mockingbird	Fiction	4.99
Harry Potter and the Philosopher's Stone	Fantasy	6.99

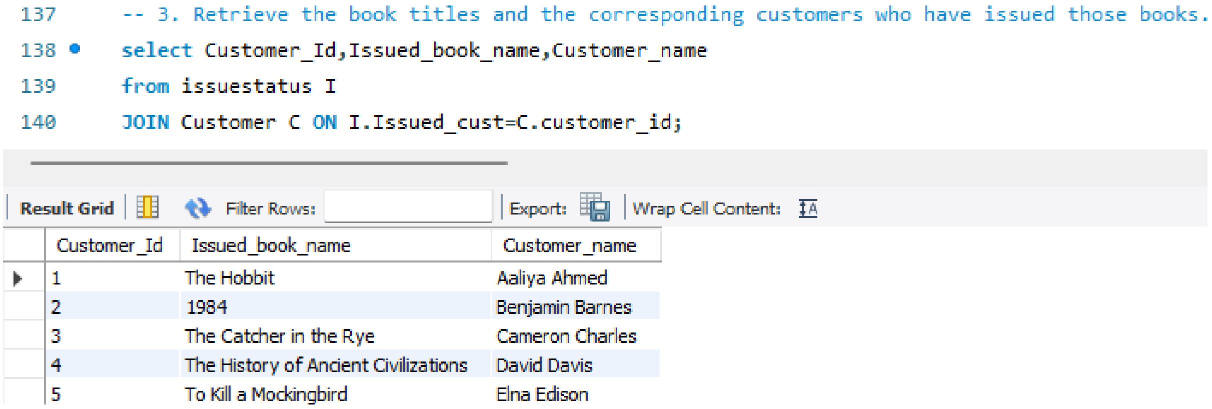
2)



```sql
-- 2. List the employee names and their respective salaries in descending order of salary.
select Emp_name,Salary from employee order by salary desc;
```

Emp_name	Salary
Enzo Amore	65000.00
Sasha Cornell	60000.00
Daniel Bryan	52000.00
Jack King	50000.00
Gale Emerson	48000.00
Aneeta Vance	45000.00
Rowan Reyes	45000.00
Reena Durand	42000.00
Tommy Vercetti	41000.00
Casper Brown	40000.00

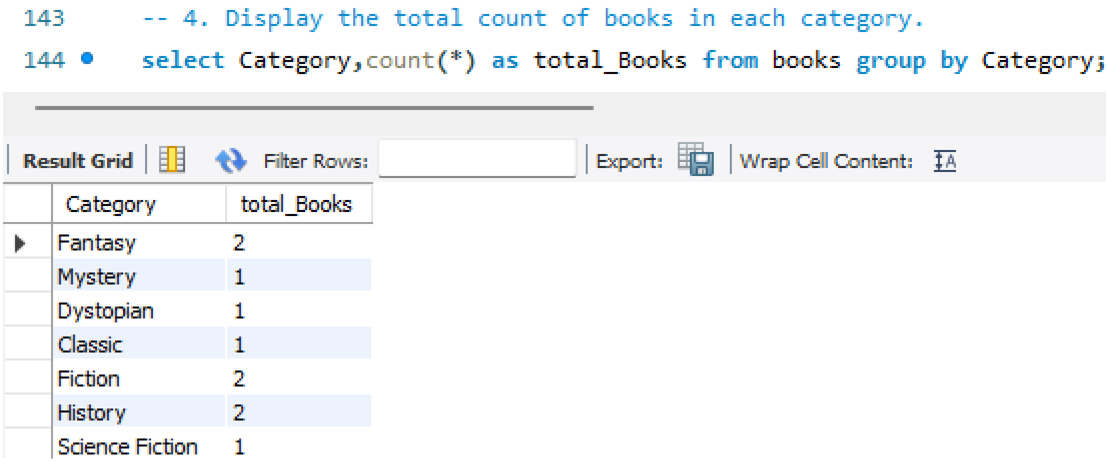
3)



```sql
-- 3. Retrieve the book titles and the corresponding customers who have issued those books.
select Customer_Id,Issued_book_name,Customer_name
from issuestatus I
JOIN Customer C ON I.Issued_cust=C.customer_id;
```

Customer_Id	Issued_book_name	Customer_name
1	The Hobbit	Aaliya Ahmed
2	1984	Benjamin Barnes
3	The Catcher in the Rye	Cameron Charles
4	The History of Ancient Civilizations	David Davis
5	To Kill a Mockingbird	Elna Edison

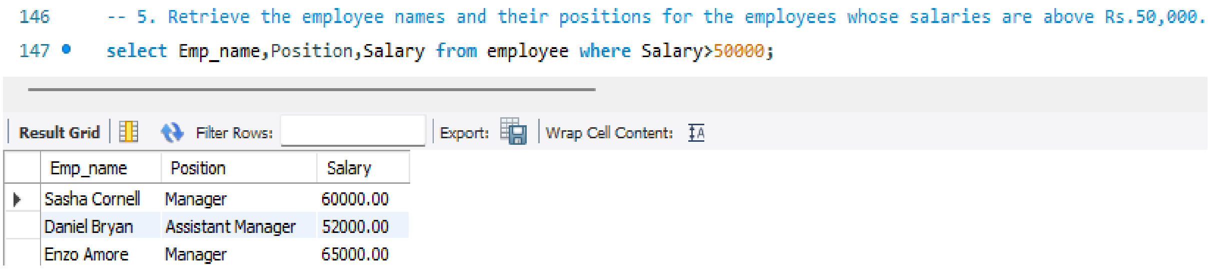
4)



```
-- 4. Display the total count of books in each category.
select Category,count(*) as total_Books from books group by Category;
```

Category	total_Books
Fantasy	2
Mystery	1
Dystopian	1
Classic	1
Fiction	2
History	2
Science Fiction	1

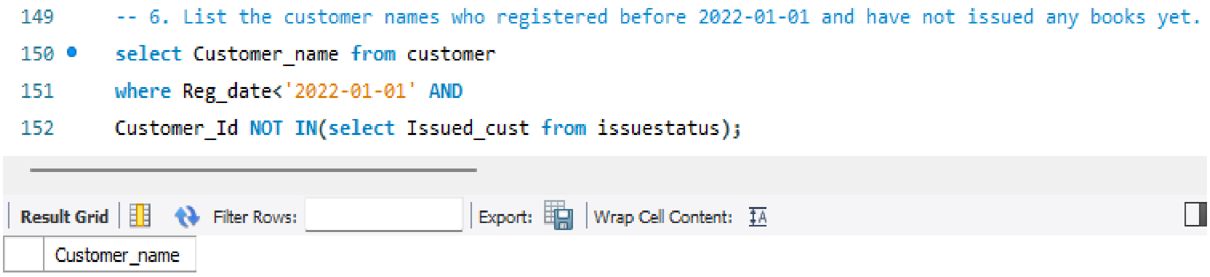
5)



```
-- 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;
```

Emp_name	Position	Salary
Sasha Cornell	Manager	60000.00
Daniel Bryan	Assistant Manager	52000.00
Enzo Amore	Manager	65000.00

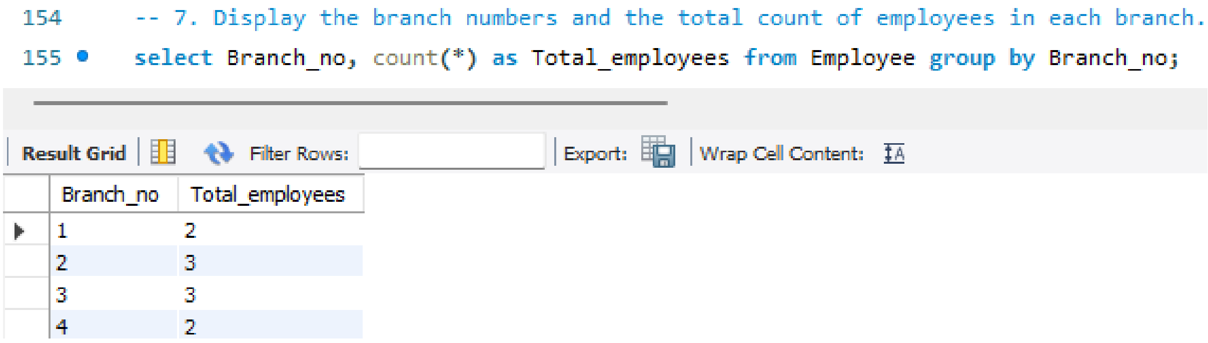
6)



```
-- 6. List the customer names who registered before 2022-01-01 and have not issued any books yet.
select Customer_name from customer
where Reg_date<'2022-01-01' AND
Customer_Id NOT IN(select Issued_cust from issuestatus);
```

Customer_name

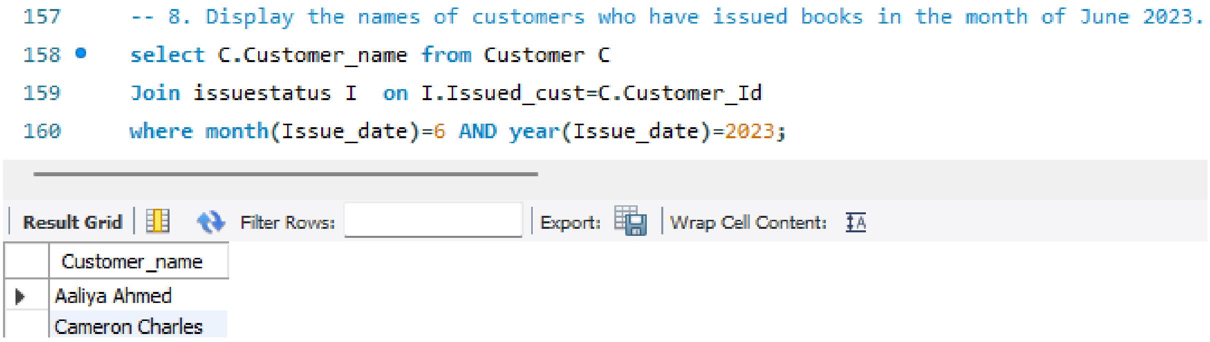
7)



```
-- 7. Display the branch numbers and the total count of employees in each branch.
select Branch_no, count(*) as Total_employees from Employee group by Branch_no;
```

Branch_no	Total_employees
1	2
2	3
3	3
4	2

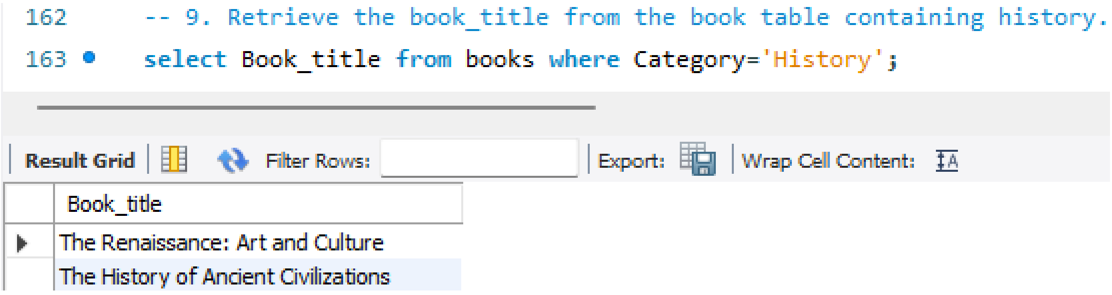
8)



```
-- 8. Display the names of customers who have issued books in the month of June 2023.
select C.Customer_name from Customer C
Join issuestatus I  on I.Issued_cust=C.Customer_Id
where month(Issue_date)=6 AND year(Issue_date)=2023;
```

Customer_name
Aaliya Ahmed
Cameron Charles

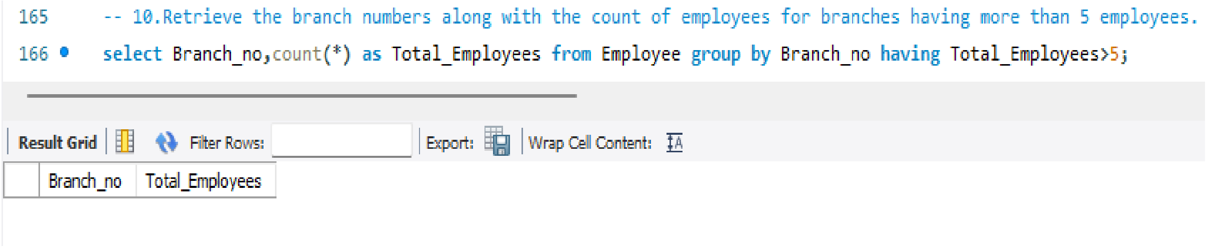
9)



```
-- 9. Retrieve the book_title from the book table containing history.
select Book_title from books where Category='History';
```

Book_title
The Renaissance: Art and Culture
The History of Ancient Civilizations

10)



```
-- 10.Retrieve the branch numbers along with the count of employees for branches having more than 5 employees.
select Branch_no,count(*) as Total_Employees from Employee group by Branch_no having Total_Employees>5;
```

Branch_no	Total_Employees

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