Library Management System (MYSQL PROJECT)

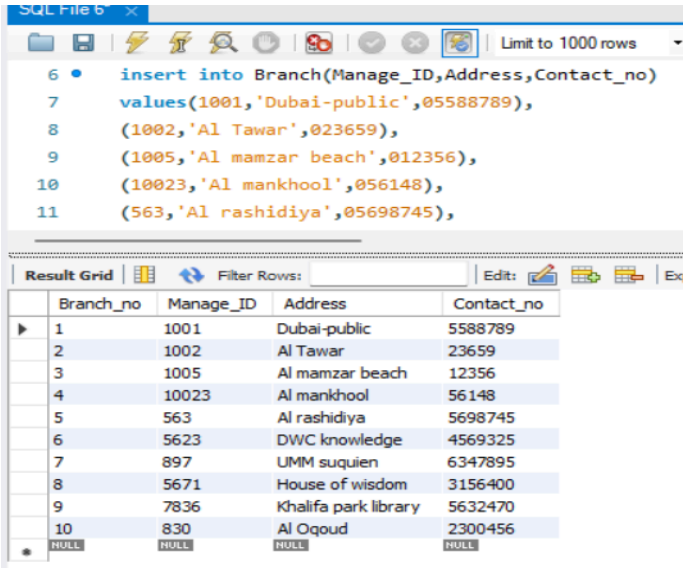
Create a database named library and following TABLES in the database:

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

. Branch .

- Branch_no - Set as PRIMARY KEY
- Manager_Id
- Branch_address
- Contact_no

```
create database Library;
use Library;
create table Branch( Branch_no int auto_increment primary key,
Manage_ID int,Address varchar
(200), Contact_no int);
```



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

```
create table  Employe(
Emp_Id int auto_increment primary key,
Emp_name  varchar(50),
Position_area varchar(50),
Salary decimal(10,3),
 Branch_no int,foreign key (Branch_no) references Branch(Branch_no));
```

```
44      ('Sajna','Librarian',25000,10);
45 •    select*from Employe;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

Emp_Id	Emp_name	Position_area	Salary	Branch_no
1	Basheer-Uv	Manager	75000.000	1
2	Maimoona_nazar	Asst_Manager	55000.000	2
3	Sijas s	Branch Manager	45000.000	3
4	Arunjith	Librarian	45000.000	4
5	Luca	Childrens_librarian	52000.000	5
6	Faizal	Teeans_manager	65000.000	6
7	Aslam	Branch_coordinator	360000.000	7
8	Kiran	Classsic_librarian	96000.000	8
9	Jaffer	Branch_manager	450000.000	9
10	Sajna	Librarian	25000.000	10
NULL	NULL	NULL	NULL	NULL

Employe 3 | Apply

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

```
create table Books(

 ISBN int primary key,

Book_title varchar(250) not null,

Category  varchar(50),

Rental_Price  decimal(10,2),

Status enum('yes','no') default 'yes',

Author  varchar(100),

Publisher varchar (255) );
```

```
68 •  desc Books;
69
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Field	Type	Null	Key	Default	Extra
ISBN	varchar(255)	NO	PRI	NULL	
Book_title	varchar(250)	NO		NULL	
Category	varchar(50)	YES		NULL	
Rental_Price	decimal(10,2)	YES		NULL	
Status	enum('yes','no')	YES		yes	
Author	varchar(100)	YES		NULL	
Publisher	varchar(255)	YES		NULL	

Result 2 | Read Only

Output

Action Output

#	Time	Action
1	10:29:08	use Library
2	10:29:14	select *from Branch LIMIT 0, 1000
3	18:14:06	insert into Books(ISBN,Book_title,Category,Rental_Price,Status,Author,Publisher) values ('789-456-321','The G...
4	18:14:45	insert into Books(ISBN,Book_title,Category,Rental_Price,Status,Author,Publisher) values ('789-456-321','The G...
5	18:15:05	desc Books

Customer

- Customer_Id - Set as PRIMARY KEY
- Customer_name
- Customer_address
- Reg_date

```
create table Customer (Customer_id int primary key ,

Customer_Name varchar (250),

Customer_Add varchar (100), Reg_Date date);
```

```
71  create table Customer (Customer_id int primary key ,
72  Customer_Name varchar (250),
73  Customer_Add varchar (100),
74  Reg_Date date);
75  desc Customer;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Field	Type	Null	Key	Default	Extra
Customer_id	int	NO	PRI	NULL	
Customer_Name	varchar(250)	YES		NULL	
Customer_Add	varchar(100)	YES		NULL	
Reg_Date	date	YES		NULL	

Result 4 | Read Only

Output

Action Output

#	Time	Action	Me
3	18:14:06	insert into Books(ISBN,Book_title,Category,Rental_Price,Status,Author,Publisher) values ('789-456-321','The ...	Err
4	18:14:45	insert into Books(ISBN,Book_title,Category,Rental_Price,Status,Author,Publisher) values ('789-456-321','The ...	9 ro
5	18:15:05	desc Books	7 ro
6	18:17:13	select * from Books LIMIT 0, 1000	9 ro
7	18:19:53	create table Customer (Customer_id int primary key , Customer_Name varchar (250), Customer_Add varchar (1...	0 ro
8	18:20:11	desc Customer	4 ro

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

create table IssueStatus(Issue_Id INT PRIMARY KEY, Issued_custid int, Issued_book_name VARCHAR(255), Issue_date DATE, Isbn_book varchar (250), FOREIGN KEY (Issued_custid) references Customer (Customer_id), FOREIGN KEY (Isbn_book) REFERENCES Books(ISBN));

desc IssueStatus;

```
89    Issued_custid int,
90    Issued_book_name VARCHAR(255),
91    Issue_date DATE,
92    Isbn_book  varchar (250),
93    FOREIGN KEY (Issued_custid) references Customer (Customer_id),
94    FOREIGN KEY (Isbn_book) REFERENCES Books(ISBN));
95    desc Customer;
96    desc IssueStatus;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

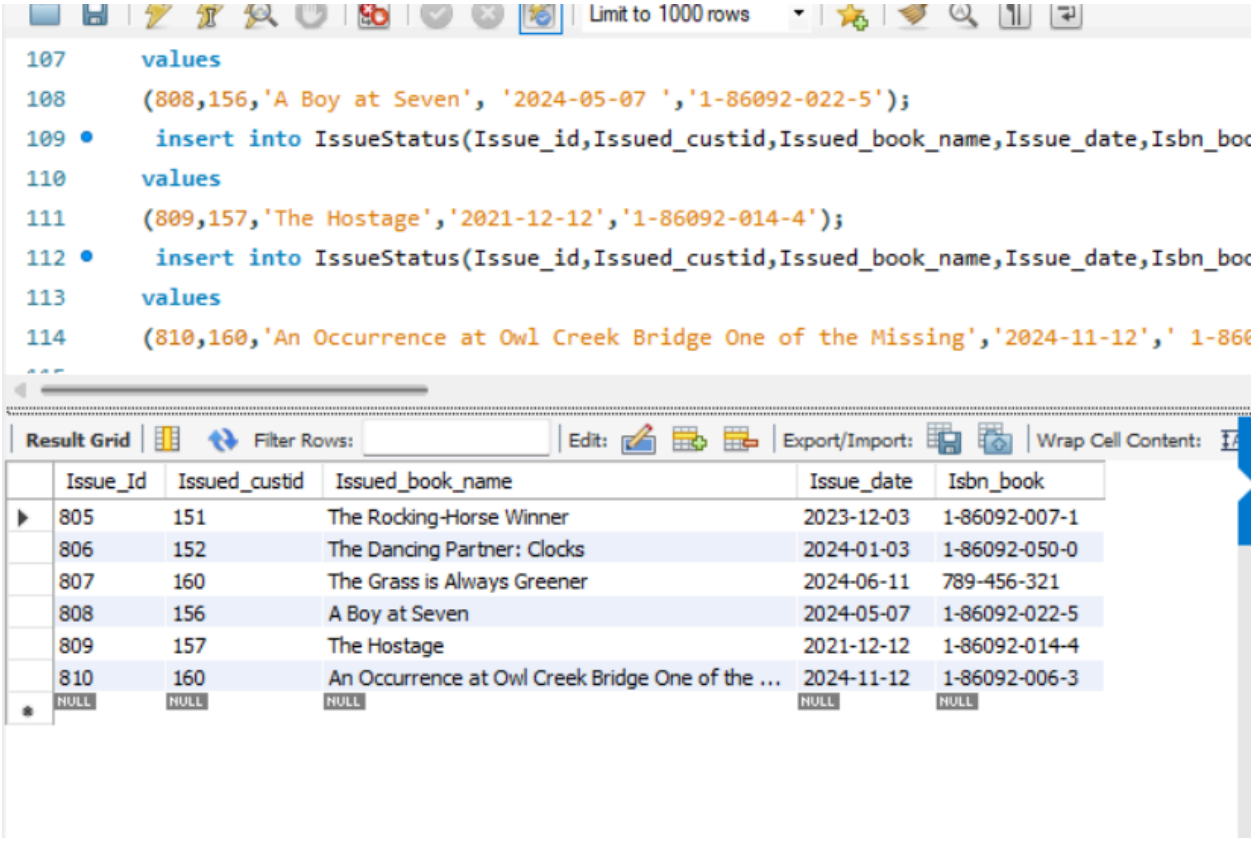
Field	Type	Null	Key	Default	Extra
Issue_Id	int	NO	PRI	NULL	
Issued_custid	int	YES	MUL	NULL	
Issued_book_name	varchar(255)	YES		NULL	
Issue_date	date	YES		NULL	
Isbn_book	varchar(250)	YES	MUL	NULL	

Result 7

Output

Action Output

#	Time	Action
16	18:44:01	create table IssueStatus(Issue_Id INT PRIMARY KEY, Issued_custid int, Issued_book_name VARCHAR(255...
17	18:45:53	create table IssueStatus(Issue_Id INT PRIMARY KEY, Issued_custid int, Issued_book_name VARCHAR(255...
18	18:47:25	create table IssueStatus(Issue_Id INT PRIMARY KEY, Issued_custid int, Issued_book_name VARCHAR(255...
19	18:47:52	create table IssueStatus(Issue_Id INT PRIMARY KEY, Issued_custid int, Issued_book_name VARCHAR(255...
20	18:48:12	desc Customer
21	18:48:48	desc IssueStatus



```
Limit to 1000 rows
107     values
108     (808,156,'A Boy at Seven', '2024-05-07 ','1-86092-022-5');
109      insert into IssueStatus(Issue_id,Issued_custid,Issued_book_name,Issue_date,Isbn_boo
110     values
111     (809,157,'The Hostage','2021-12-12','1-86092-014-4');
112      insert into IssueStatus(Issue_id,Issued_custid,Issued_book_name,Issue_date,Isbn_boo
113     values
114     (810,160,'An Occurrence at Owl Creek Bridge One of the Missing','2024-11-12',' 1-866
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

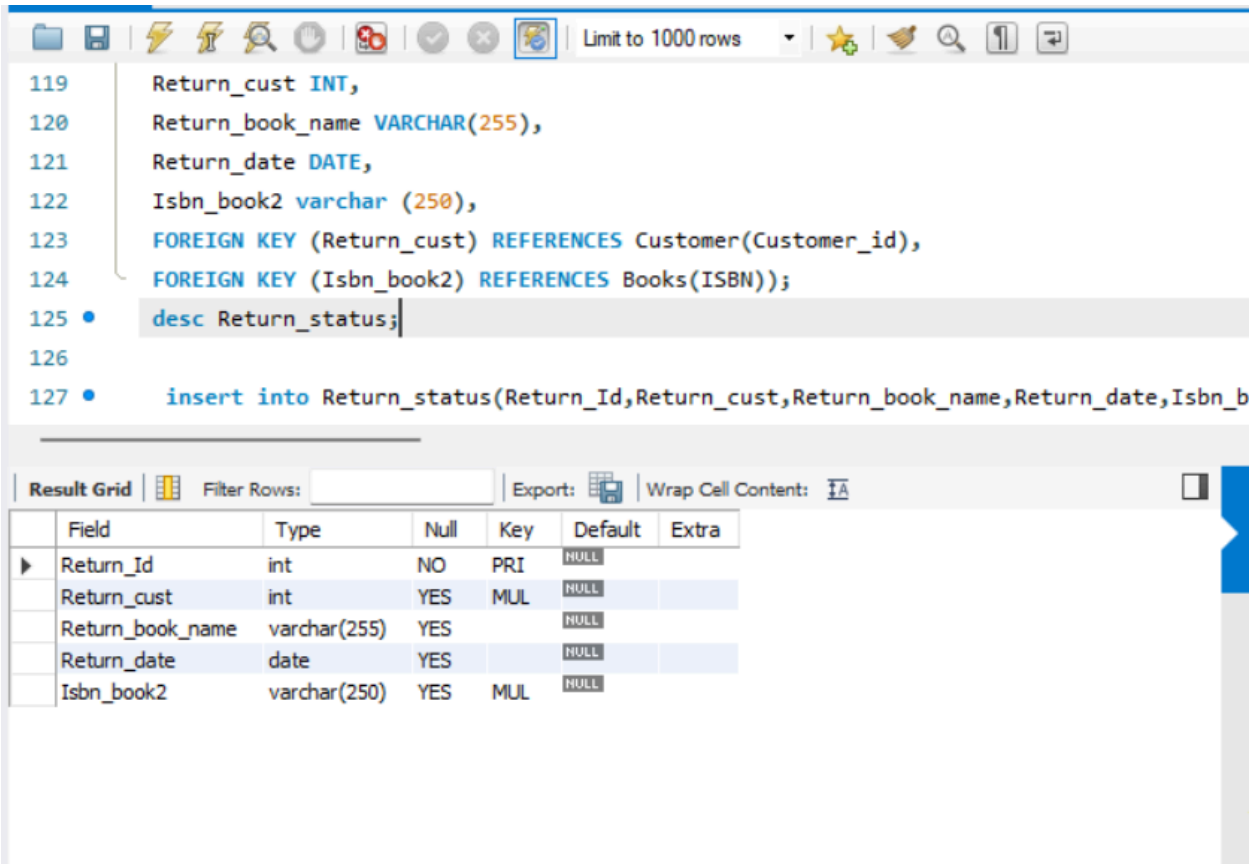
Issue_Id	Issued_custid	Issued_book_name	Issue_date	Isbn_book
805	151	The Rocking-Horse Winner	2023-12-03	1-86092-007-1
806	152	The Dancing Partner: Clocks	2024-01-03	1-86092-050-0
807	160	The Grass is Always Greener	2024-06-11	789-456-321
808	156	A Boy at Seven	2024-05-07	1-86092-022-5
809	157	The Hostage	2021-12-12	1-86092-014-4
810	160	An Occurrence at Owl Creek Bridge One of the ...	2024-11-12	1-86092-006-3
NULL	NULL	NULL	NULL	NULL

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 table Return_status(Return_Id INT PRIMARY KEY, Return_cust INT, Return_book_name VARCHAR(255), Return_date DATE,  Isbn_book2 varchar (250), FOREIGN KEY (Return_cust) REFERENCES Customer(Customer_id), FOREIGN KEY (Isbn_book2) REFERENCES Books(ISBN));
```

```
desc Return_status;
```



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

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

```
SELECT Book_title, Category, Rental_Price
FROM Books
WHERE Status = 'yes';
```

```
138
139 •   SELECT Book_title, Category, Rental_Price
140     FROM Books
141     WHERE Status = 'yes';
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Book_title	Category	Rental_Price
An Occurrence at Owl Creek Bridge One of the ...	Adventure	6.50
The Dancing Partner: Clocks	Comedy	5.00
The Hostage	Adventure	8.00
The Open Boat	Classic	5.00
The Grass is Always Greener	Modern Times	10.00

Books 7 × Read Only

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

SELECT Emp_name, Salary
FROM Employe
ORDER BY Salary DESC;

```
143 •   SELECT Emp_name, Salary
144     FROM Employe
145     ORDER BY Salary DESC;
146
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Emp_name	Salary
Jaffer	450000.000
Aslam	360000.000
Kiran	96000.000
Basheer-Uv	75000.000
Faizal	65000.000
Maimoona_nazar	55000.000
Luca	52000.000
Sijas s	45000.000
Arunjith	45000.000
Sajna	25000.000

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

```
SELECT Books.Book_title, Customer.Customer_Name
FROM Books
JOIN IssueStatus ON Books.ISBN = IssueStatus.Isbn_book
JOIN Customer ON IssueStatus.Issued_custid = Customer.Customer_Id;
```

```
146
147 •  SELECT Books.Book_title, Customer.Customer_Name
148    FROM Books
149    JOIN IssueStatus ON Books.ISBN = IssueStatus.Isbn_book
150    JOIN Customer ON IssueStatus.Issued_custid = Customer.Customer_Id;
151
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Book_title	Customer_Name
The Rocking-Horse Winner	Malathi_s
The Dancing Partner: Clocks	Aira Dilshad
The Grass is Always Greener	Kalyani
A Boy at Seven	Maimoona
The Hostage	Sijas
An Occurrence at Owl Creek Bridge One of the ...	Kalyani

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

```
SELECT Category, COUNT(*) AS Total_Books
FROM Books
GROUP BY Category;
```

```
151
152 •    SELECT Category, COUNT(*) AS Total_Books
153      FROM Books
154      GROUP BY Category;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Category	Total_Books
Adventure	1
Classic	3
Crime	2
Comedy	1
Adventure	1
Modern Times	1

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

SELECT Emp_name, Position_area
FROM Employe
WHERE Salary > 50000;

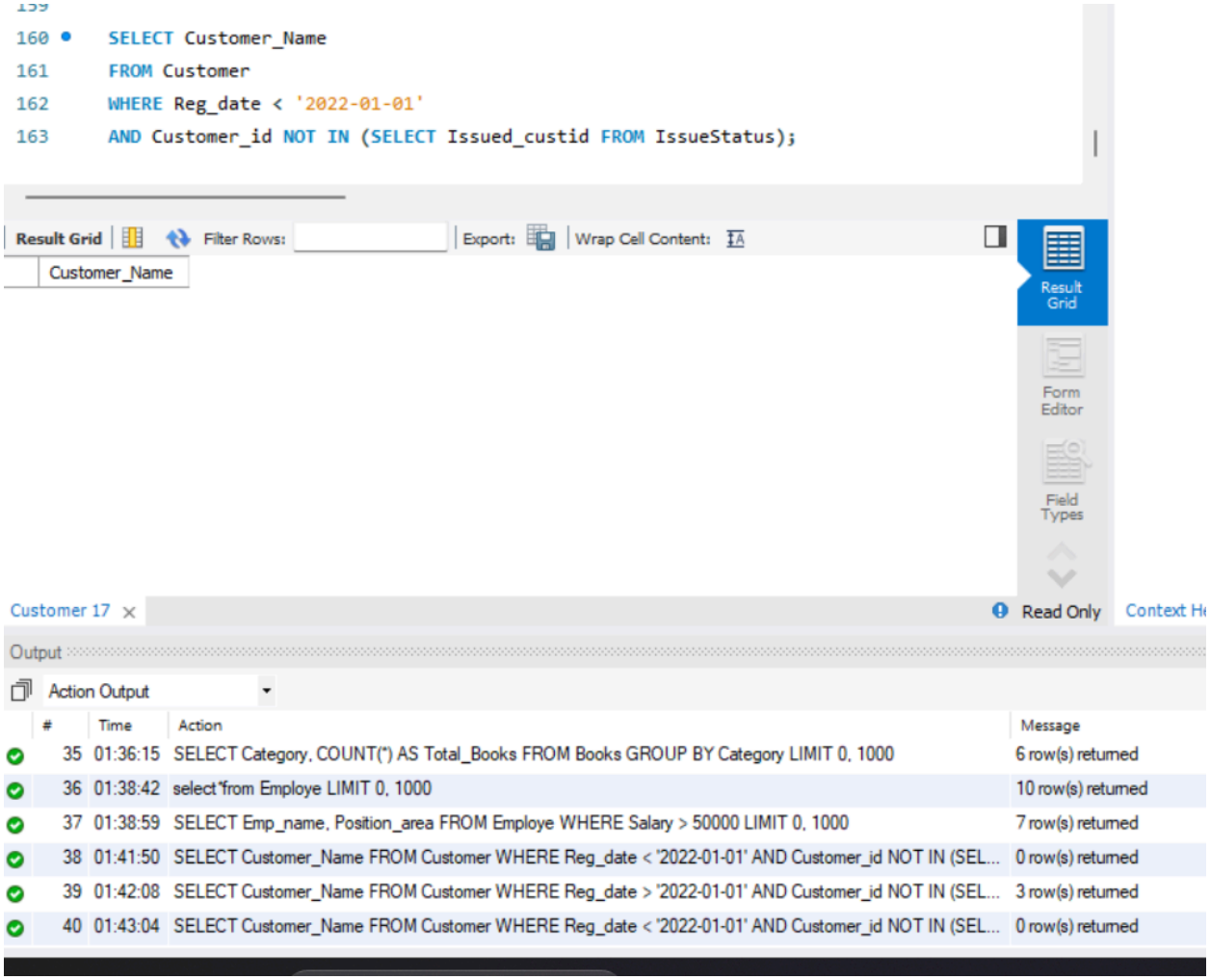
```
155
156 •    SELECT Emp_name, Position_area
157      FROM Employe
158      WHERE Salary > 50000;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Emp_name	Position_area
Basheer-Uv	Manager
Maimoona_nazar	Asst_Manager
Luca	Childrens_librarian
Faizal	Teeans_manager
Aslam	Branch_coordinator
Kiran	Classsic_librarian
Jaffer	Branch_manager

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_custid FROM IssueStatus);
```



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

```
SELECT Branch_no, COUNT(*) AS Total_Employs
FROM Employe
GROUP BY Branch_no;
```

```
165 •  SELECT Branch_no, COUNT(*) AS Total_Employs
166    FROM Employe
167    GROUP BY Branch_no;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Branch_no	Total_Employs
1	1
2	1
3	1
4	1
5	1
6	1
7	1
8	1
9	1
10	1

Result 18

Output

Action Output

#	Time	Action
36	01:38:42	select*from Employe LIMIT 0, 1000
37	01:38:59	SELECT Emp_name, Position_area FROM Employe WHERE Salary > 50000 LIMIT 0, 1000
38	01:41:50	SELECT Customer_Name FROM Customer WHERE Reg_date < '2022-01-01' AND Customer_id NOT IN (SEL...
39	01:42:08	SELECT Customer_Name FROM Customer WHERE Reg_date > '2022-01-01' AND Customer_id NOT IN (SEL...
40	01:43:04	SELECT Customer_Name FROM Customer WHERE Reg_date < '2022-01-01' AND Customer_id NOT IN (SEL...
41	01:45:53	SELECT Branch_no, COUNT(*) AS Total_Employs FROM Employe GROUP BY Branch_no LIMIT 0, 1000

8. Display the names of customers who have issued books in the month of June 2024.

```
SELECT Customer.Customer_Name
FROM Customer
JOIN IssueStatus ON Customer.Customer_id = IssueStatus.Issued_custid
WHERE Issue_date BETWEEN '2024-06-01' AND '2024-06-30';
```

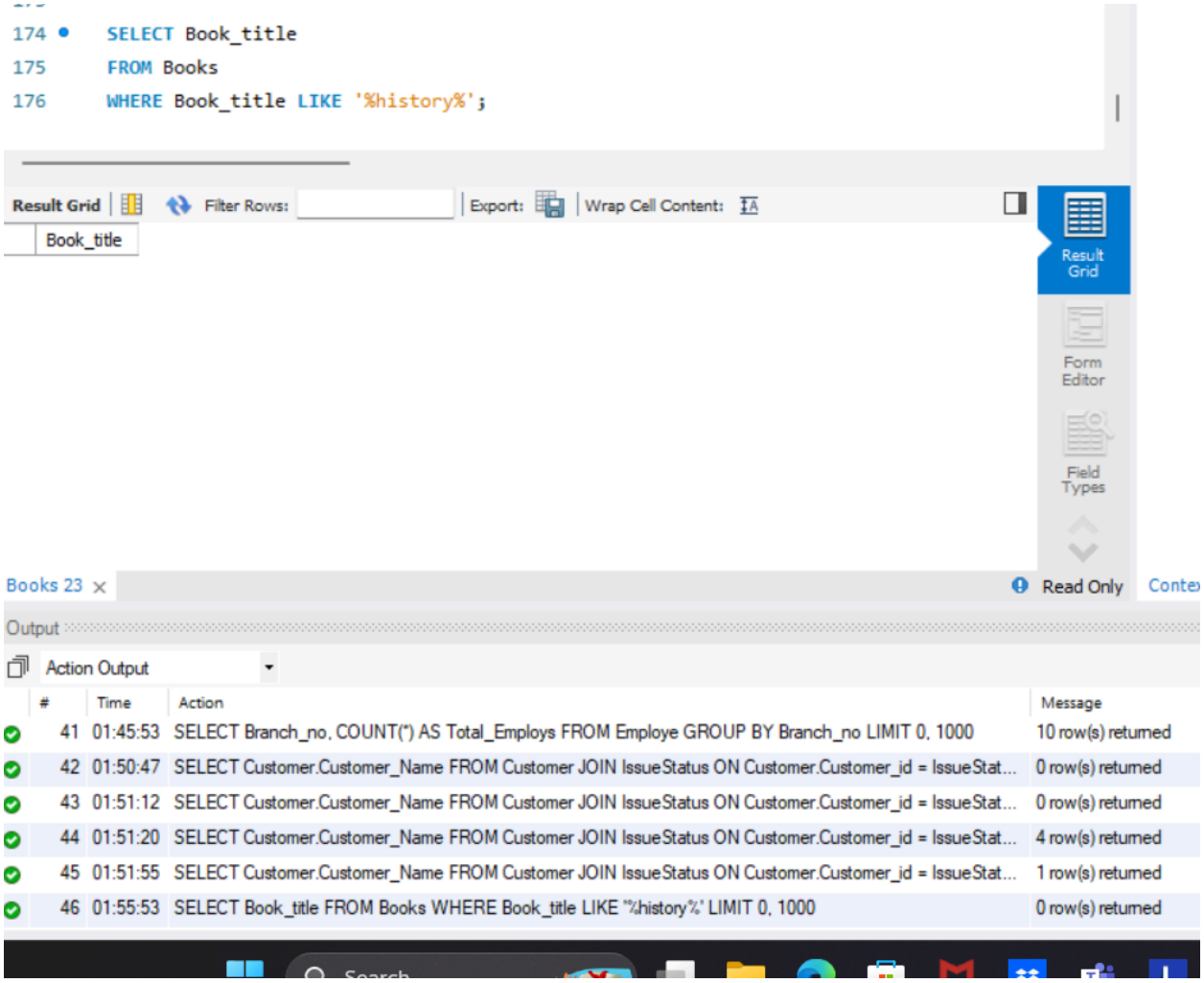
```
169 •   SELECT Customer.Customer_Name
170     FROM Customer
171     JOIN IssueStatus ON Customer.Customer_id = IssueStatus.Issued_custid
172     WHERE Issue_date BETWEEN '2024-06-01' AND '2024-06-30';
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Customer_Name
Kalyani

9. Retrieve book_title from book table containing history.

```
SELECT Book_title
FROM Books
WHERE Book_title LIKE '%history%';
```



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 Employe
GROUP BY Branch_no
HAVING COUNT(*) > 5;
```

```
178 •  SELECT Branch_no, COUNT(*) AS Total_Employees
179    FROM Employe
180    GROUP BY Branch_no
181    HAVING COUNT(*) > 5;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Branch_no	Total_Employees

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

```
SELECT e.Emp_name, b.Address
FROM Employe e
JOIN Branchs b ON e.Emp_Id = b.Manage_ID;
```

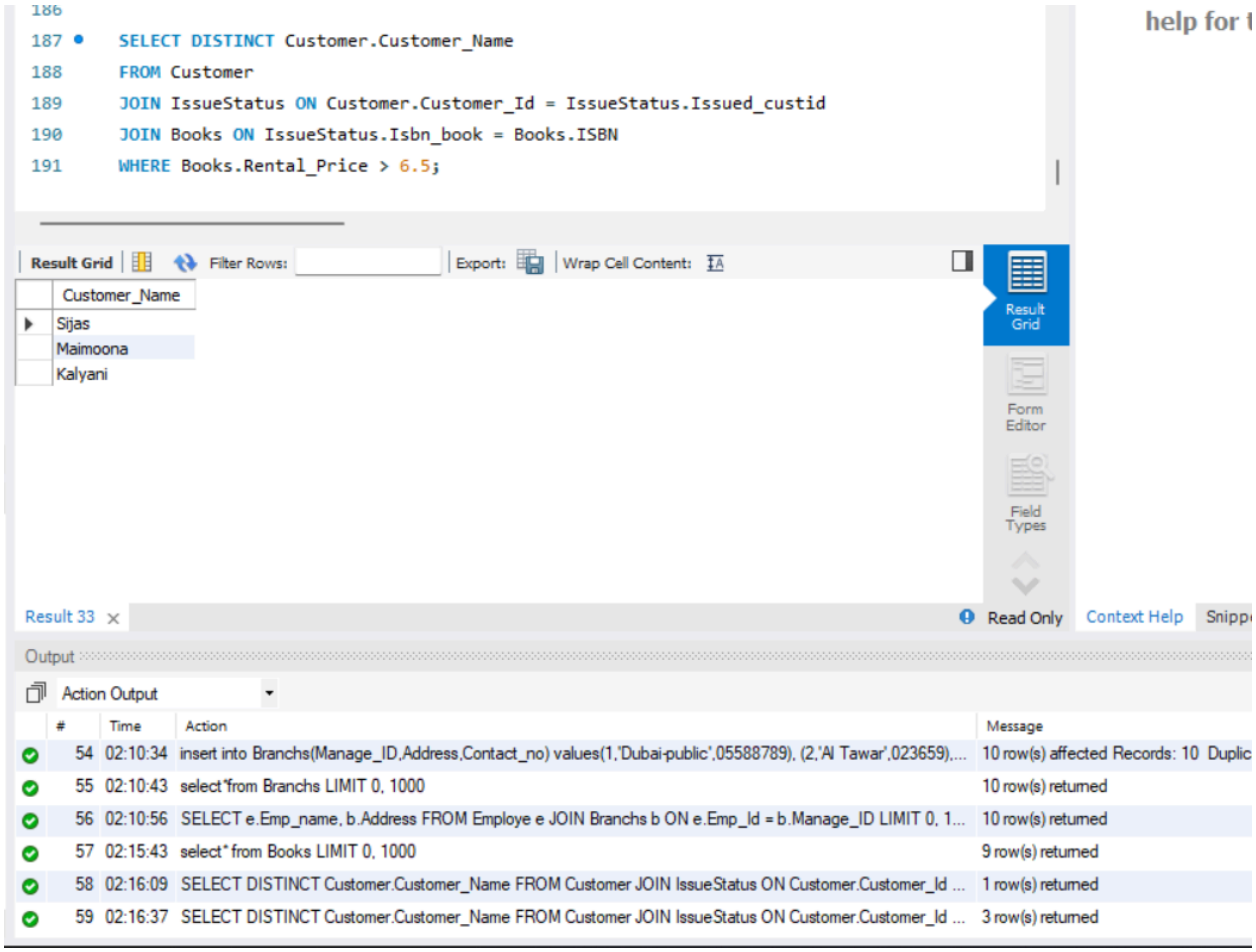
```
183 •  SELECT e.Emp_name, b.Address
184    FROM Employe e
185    JOIN Branchs b ON e.Emp_Id = b.Manage_ID;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Emp_name	Address
Basheer-Uv	Dubai-public
Maimoona_nazar	Al Tawar
Luca	Al mamzar beach
Arunjith	Al mankhool
Faizal	Al rashidiya
Aslam	DWC knowledge
Kiran	UMM suquien
Jaffer	House of wisdom
Sajna	Khalifa park library
Basheer-Uv	Al Oqoud

12. Display the names of customers who have issued books with a rental price higher than Rs. 6.5.

```
SELECT DISTINCT Customer.Customer_Name
FROM Customer
JOIN IssueStatus ON Customer.Customer_Id = IssueStatus.Issued_custid
JOIN Books ON IssueStatus.Isbn_book = Books.ISBN
WHERE Books.Rental_Price > 6.5;
```



end##