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

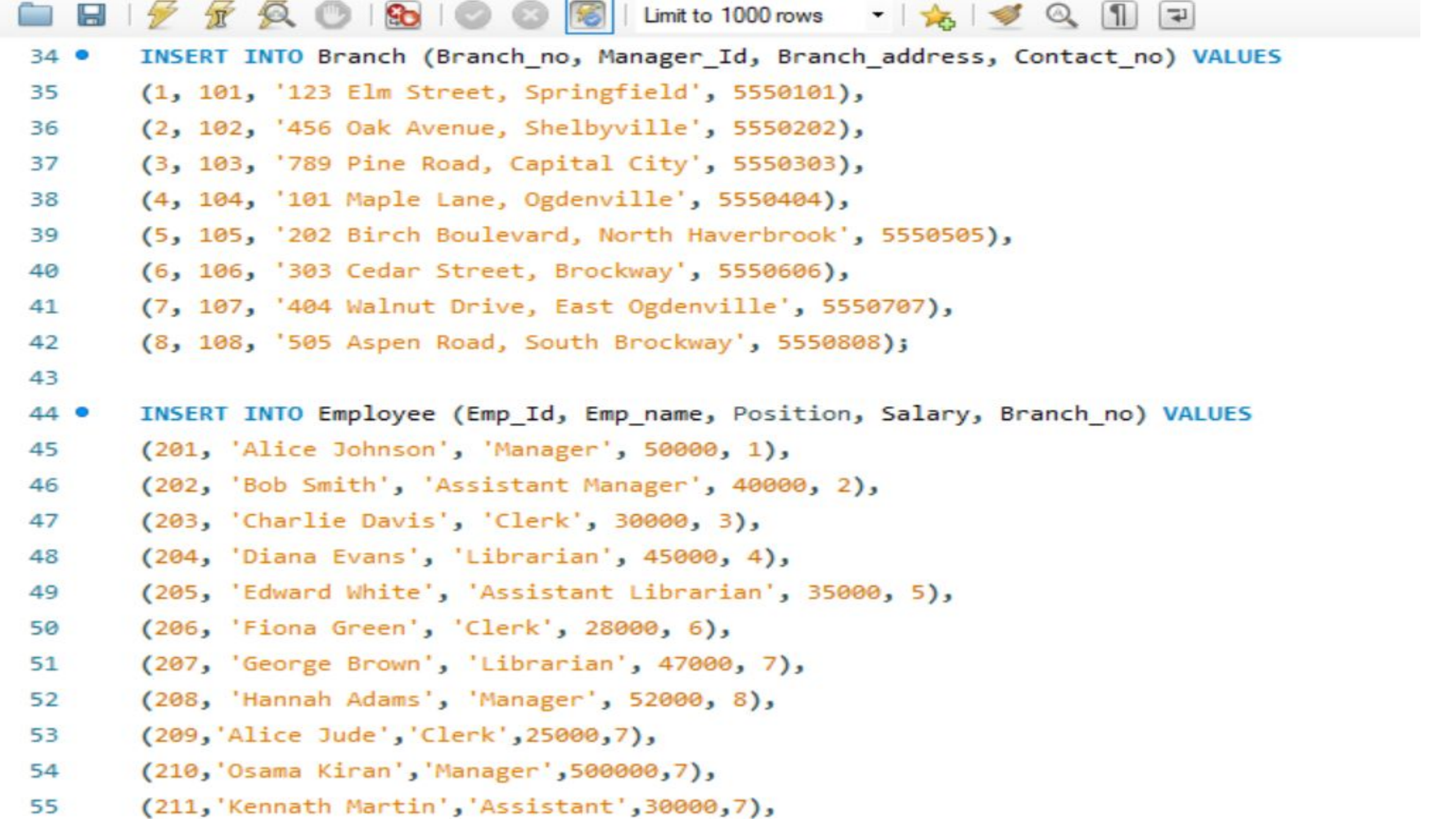
- Customer_Id - Set as PRIMARY KEY
- Customer_name
- Customer_address
- Reg_date

5. IssueStatus

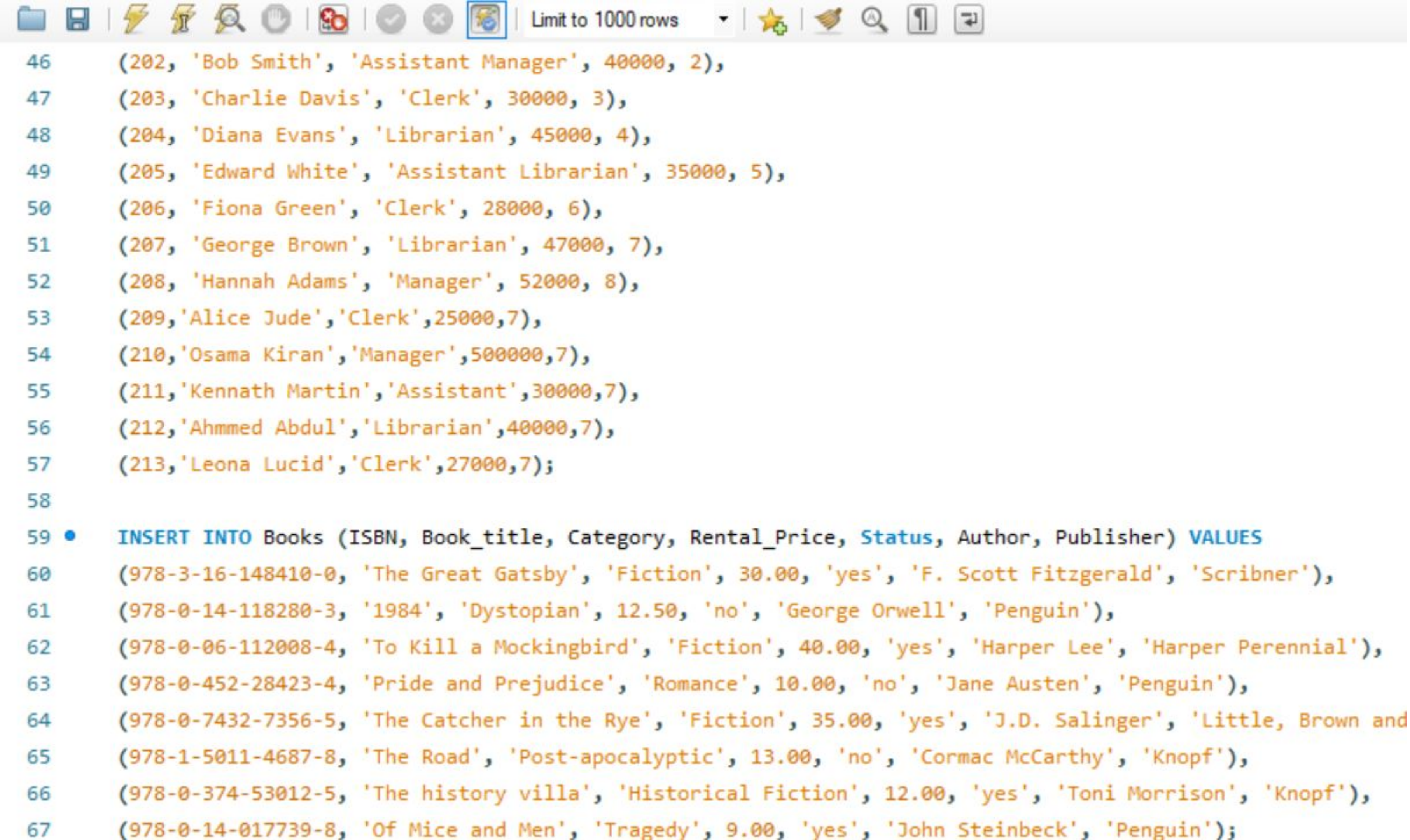
- Issue_Id - Set as PRIMARY KEY
- Issued_cust_id – Set as FOREIGN KEY and it refer customer_id in CUSTOMER table
- Issued_book_name
- Issue_date
- Isbn_book – Set as FOREIGN KEY and it should refer isbn in BOOKS table

6. ReturnStatus

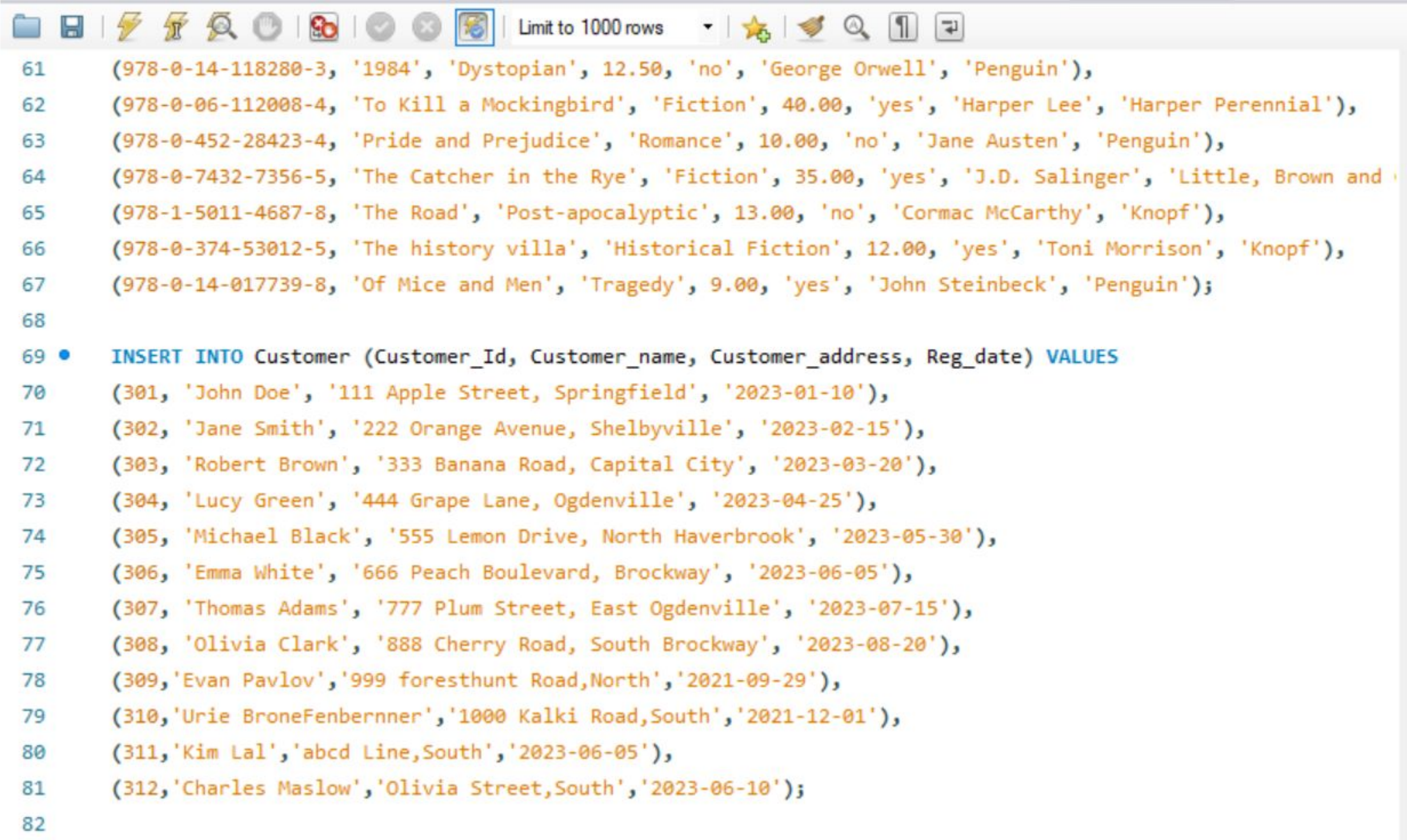
- Return_Id - Set as PRIMARY KEY
- Return_cust
- Return_book_name
- Return_date
- Isbn_book2 - Set as FOREIGN KEY and it should refer isbn in BOOKS table



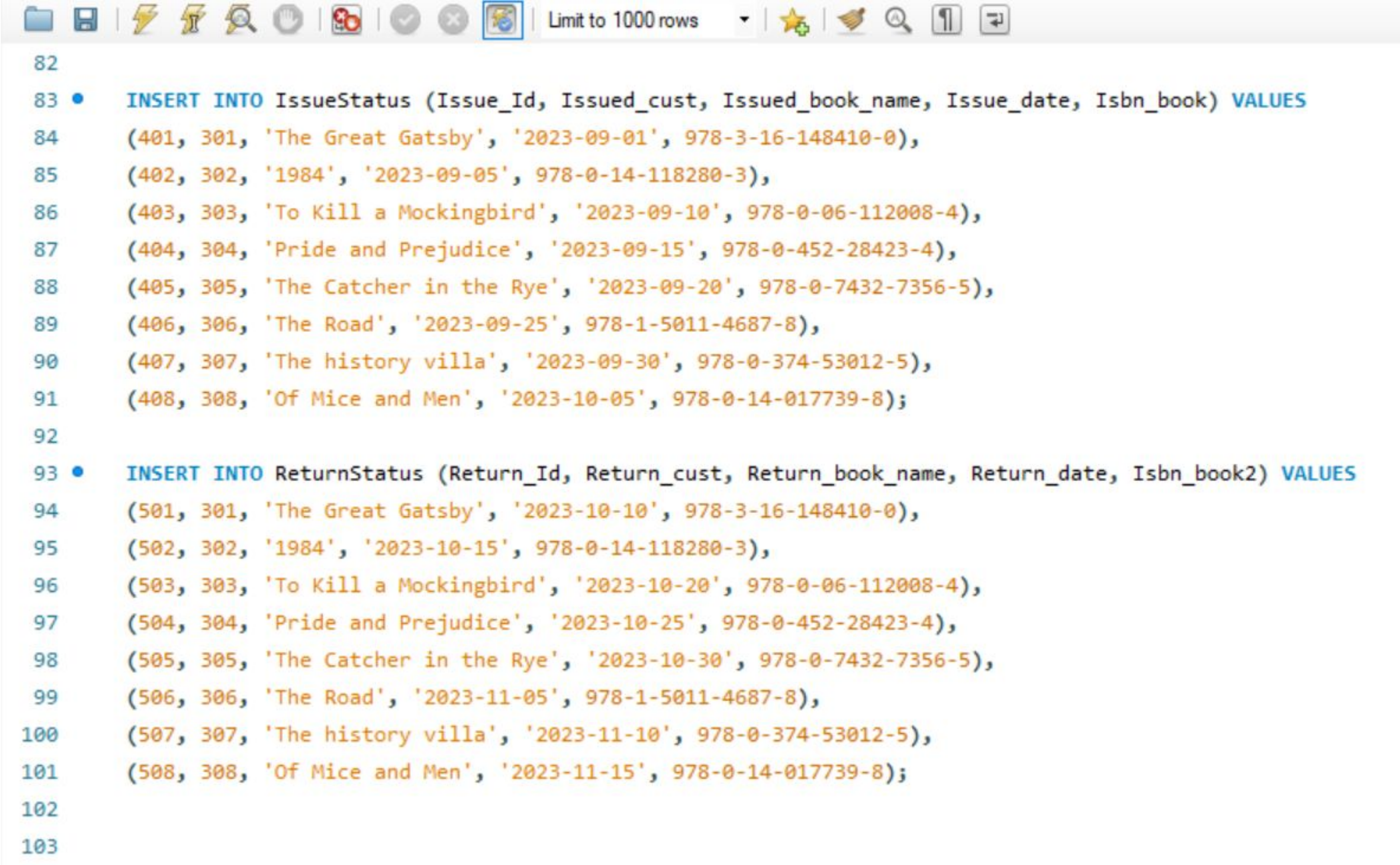
```sql
INSERT INTO Branch (Branch_no, Manager_Id, Branch_address, Contact_no) VALUES
(1, 101, '123 Elm Street, Springfield', 5550101),
(2, 102, '456 Oak Avenue, Shelbyville', 5550202),
(3, 103, '789 Pine Road, Capital City', 5550303),
(4, 104, '101 Maple Lane, Ogdenville', 5550404),
(5, 105, '202 Birch Boulevard, North Haverbrook', 5550505),
(6, 106, '303 Cedar Street, Brockway', 5550606),
(7, 107, '404 Walnut Drive, East Ogdenville', 5550707),
(8, 108, '505 Aspen Road, South Brockway', 5550808);

INSERT INTO Employee (Emp_Id, Emp_name, Position, Salary, Branch_no) VALUES
(201, 'Alice Johnson', 'Manager', 50000, 1),
(202, 'Bob Smith', 'Assistant Manager', 40000, 2),
(203, 'Charlie Davis', 'Clerk', 30000, 3),
(204, 'Diana Evans', 'Librarian', 45000, 4),
(205, 'Edward White', 'Assistant Librarian', 35000, 5),
(206, 'Fiona Green', 'Clerk', 28000, 6),
(207, 'George Brown', 'Librarian', 47000, 7),
(208, 'Hannah Adams', 'Manager', 52000, 8),
(209,'Alice Jude','Clerk',25000,7),
(210,'Osama Kiran','Manager',500000,7),
(211,'Kennath Martin','Assistant',30000,7),
```



```
(202, 'Bob Smith', 'Assistant Manager', 40000, 2),
(203, 'Charlie Davis', 'Clerk', 30000, 3),
(204, 'Diana Evans', 'Librarian', 45000, 4),
(205, 'Edward White', 'Assistant Librarian', 35000, 5),
(206, 'Fiona Green', 'Clerk', 28000, 6),
(207, 'George Brown', 'Librarian', 47000, 7),
(208, 'Hannah Adams', 'Manager', 52000, 8),
(209,'Alice Jude','Clerk',25000,7),
(210,'Osama Kiran','Manager',500000,7),
(211,'Kennath Martin','Assistant',30000,7),
(212,'Ahmmed Abdul','Librarian',40000,7),
(213,'Leona Lucid','Clerk',27000,7);

INSERT INTO Books (ISBN, Book_title, Category, Rental_Price, Status, Author, Publisher) VALUES
(978-3-16-148410-0, 'The Great Gatsby', 'Fiction', 30.00, 'yes', 'F. Scott Fitzgerald', 'Scribner'),
(978-0-14-118280-3, '1984', 'Dystopian', 12.50, 'no', 'George Orwell', 'Penguin'),
(978-0-06-112008-4, 'To Kill a Mockingbird', 'Fiction', 40.00, 'yes', 'Harper Lee', 'Harper Perennial'),
(978-0-452-28423-4, 'Pride and Prejudice', 'Romance', 10.00, 'no', 'Jane Austen', 'Penguin'),
(978-0-7432-7356-5, 'The Catcher in the Rye', 'Fiction', 35.00, 'yes', 'J.D. Salinger', 'Little, Brown and
(978-1-5011-4687-8, 'The Road', 'Post-apocalyptic', 13.00, 'no', 'Cormac McCarthy', 'Knopf'),
(978-0-374-53012-5, 'The history villa', 'Historical Fiction', 12.00, 'yes', 'Toni Morrison', 'Knopf'),
(978-0-14-017739-8, 'Of Mice and Men', 'Tragedy', 9.00, 'yes', 'John Steinbeck', 'Penguin');
```

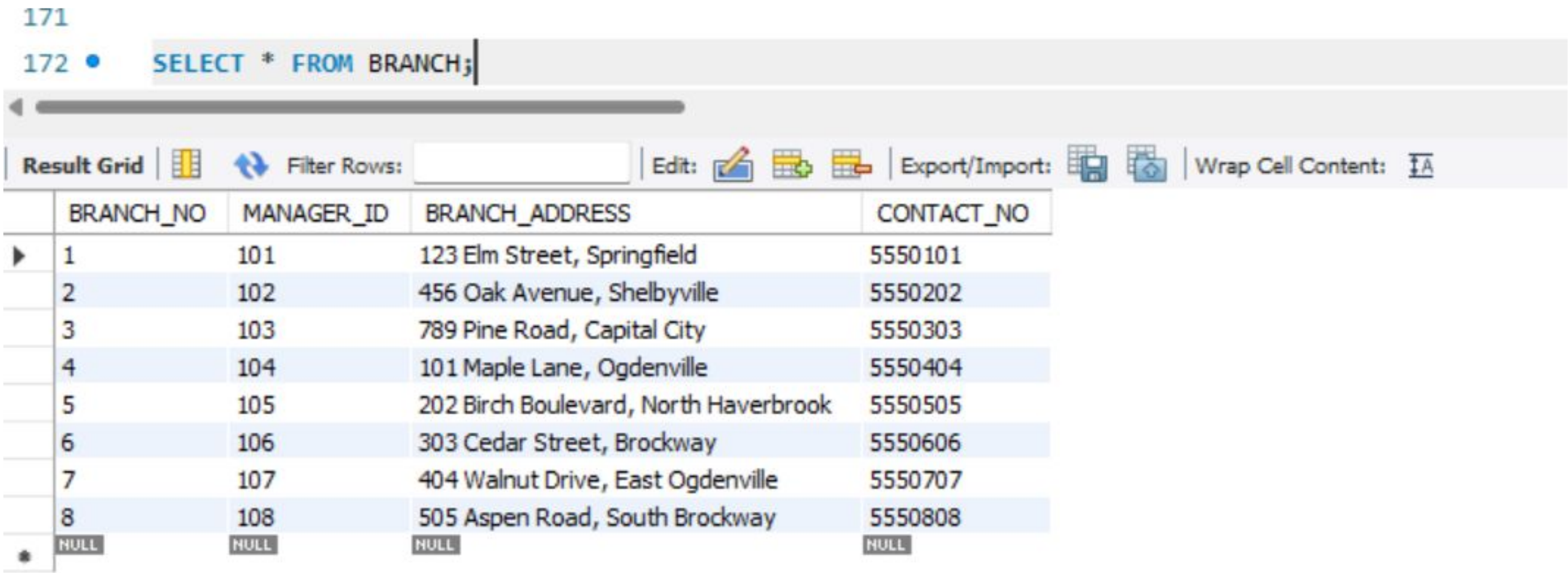


```
(978-0-14-118280-3, '1984', 'Dystopian', 12.50, 'no', 'George Orwell', 'Penguin'),
(978-0-06-112008-4, 'To Kill a Mockingbird', 'Fiction', 40.00, 'yes', 'Harper Lee', 'Harper Perennial'),
(978-0-452-28423-4, 'Pride and Prejudice', 'Romance', 10.00, 'no', 'Jane Austen', 'Penguin'),
(978-0-7432-7356-5, 'The Catcher in the Rye', 'Fiction', 35.00, 'yes', 'J.D. Salinger', 'Little, Brown and
(978-1-5011-4687-8, 'The Road', 'Post-apocalyptic', 13.00, 'no', 'Cormac McCarthy', 'Knopf'),
(978-0-374-53012-5, 'The history villa', 'Historical Fiction', 12.00, 'yes', 'Toni Morrison', 'Knopf'),
(978-0-14-017739-8, 'Of Mice and Men', 'Tragedy', 9.00, 'yes', 'John Steinbeck', 'Penguin');

INSERT INTO Customer (Customer_Id, Customer_name, Customer_address, Reg_date) VALUES
(301, 'John Doe', '111 Apple Street, Springfield', '2023-01-10'),
(302, 'Jane Smith', '222 Orange Avenue, Shelbyville', '2023-02-15'),
(303, 'Robert Brown', '333 Banana Road, Capital City', '2023-03-20'),
(304, 'Lucy Green', '444 Grape Lane, Ogdenville', '2023-04-25'),
(305, 'Michael Black', '555 Lemon Drive, North Haverbrook', '2023-05-30'),
(306, 'Emma White', '666 Peach Boulevard, Brockway', '2023-06-05'),
(307, 'Thomas Adams', '777 Plum Street, East Ogdenville', '2023-07-15'),
(308, 'Olivia Clark', '888 Cherry Road, South Brockway', '2023-08-20'),
(309,'Evan Pavlov','999 foresthunt Road,North','2021-09-29'),
(310,'Urie BroneFenbernner','1000 Kalki Road,South','2021-12-01'),
(311,'Kim Lal','abcd Line,South','2023-06-05'),
(312,'Charles Maslow','Olivia Street,South','2023-06-10');

```



```sql

INSERT INTO IssueStatus (Issue_Id, Issued_cust, Issued_book_name, Issue_date, Isbn_book) VALUES
(401, 301, 'The Great Gatsby', '2023-09-01', 978-3-16-148410-0),
(402, 302, '1984', '2023-09-05', 978-0-14-118280-3),
(403, 303, 'To Kill a Mockingbird', '2023-09-10', 978-0-06-112008-4),
(404, 304, 'Pride and Prejudice', '2023-09-15', 978-0-452-28423-4),
(405, 305, 'The Catcher in the Rye', '2023-09-20', 978-0-7432-7356-5),
(406, 306, 'The Road', '2023-09-25', 978-1-5011-4687-8),
(407, 307, 'The history villa', '2023-09-30', 978-0-374-53012-5),
(408, 308, 'Of Mice and Men', '2023-10-05', 978-0-14-017739-8);

INSERT INTO ReturnStatus (Return_Id, Return_cust, Return_book_name, Return_date, Isbn_book2) VALUES
(501, 301, 'The Great Gatsby', '2023-10-10', 978-3-16-148410-0),
(502, 302, '1984', '2023-10-15', 978-0-14-118280-3),
(503, 303, 'To Kill a Mockingbird', '2023-10-20', 978-0-06-112008-4),
(504, 304, 'Pride and Prejudice', '2023-10-25', 978-0-452-28423-4),
(505, 305, 'The Catcher in the Rye', '2023-10-30', 978-0-7432-7356-5),
(506, 306, 'The Road', '2023-11-05', 978-1-5011-4687-8),
(507, 307, 'The history villa', '2023-11-10', 978-0-374-53012-5),
(508, 308, 'Of Mice and Men', '2023-11-15', 978-0-14-017739-8);


```

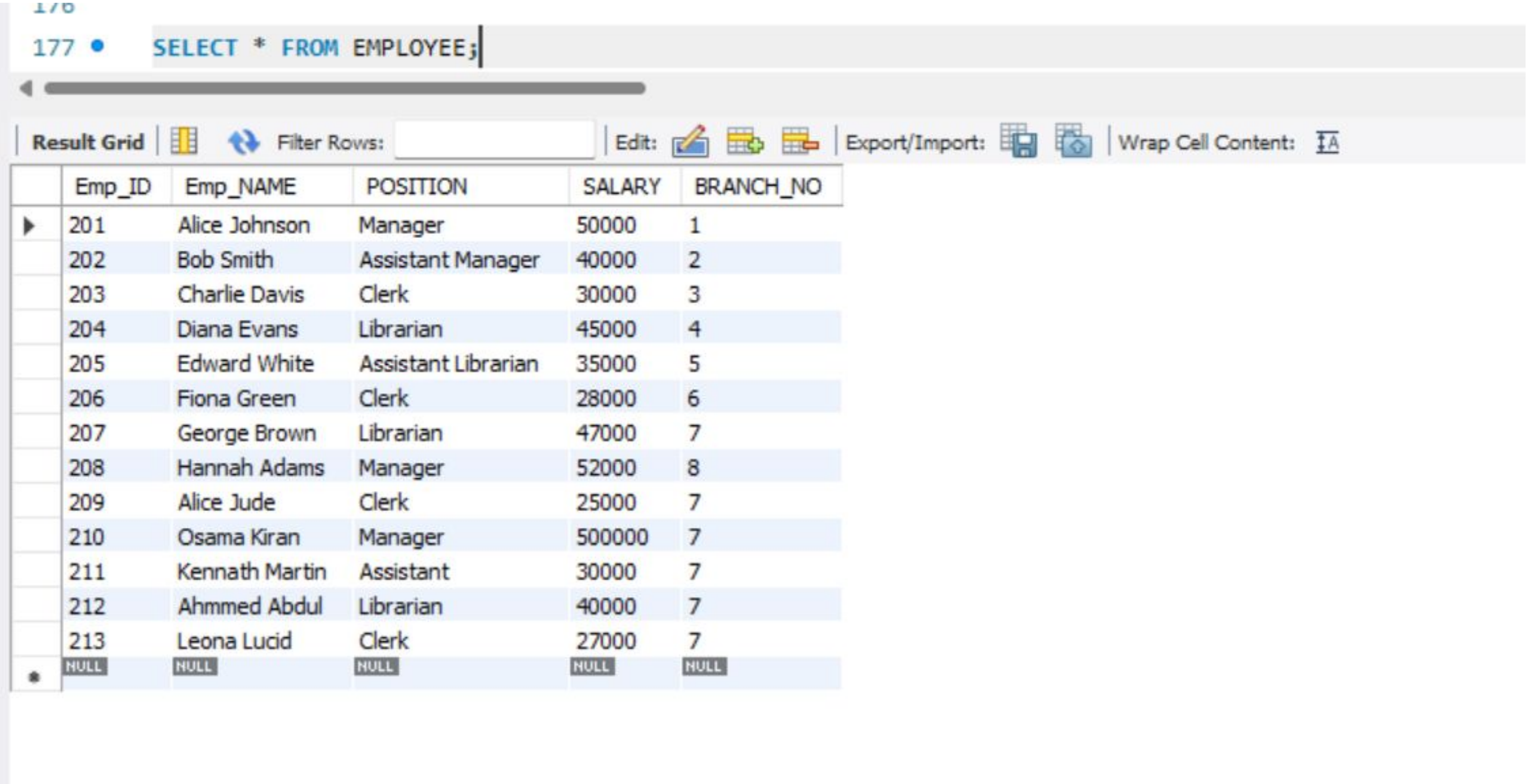
Branch Table:



```sql
SELECT * FROM BRANCH;
```

BRANCH_NO	MANAGER_ID	BRANCH_ADDRESS	CONTACT_NO
1	101	123 Elm Street, Springfield	5550101
2	102	456 Oak Avenue, Shelbyville	5550202
3	103	789 Pine Road, Capital City	5550303
4	104	101 Maple Lane, Ogdenville	5550404
5	105	202 Birch Boulevard, North Haverbrook	5550505
6	106	303 Cedar Street, Brockway	5550606
7	107	404 Walnut Drive, East Ogdenville	5550707
8	108	505 Aspen Road, South Brockway	5550808
NULL	NULL	NULL	NULL

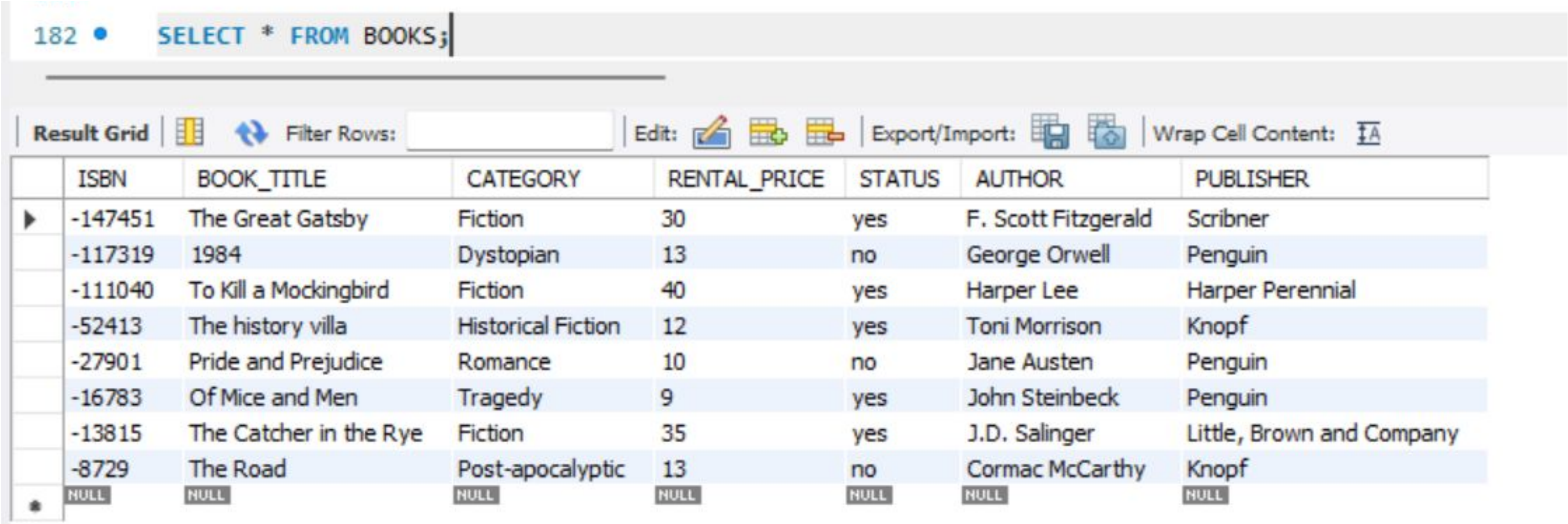
Employee table



```
SELECT * FROM EMPLOYEE;
```

Emp_ID	Emp_NAME	POSITION	SALARY	BRANCH_NO
201	Alice Johnson	Manager	50000	1
202	Bob Smith	Assistant Manager	40000	2
203	Charlie Davis	Clerk	30000	3
204	Diana Evans	Librarian	45000	4
205	Edward White	Assistant Librarian	35000	5
206	Fiona Green	Clerk	28000	6
207	George Brown	Librarian	47000	7
208	Hannah Adams	Manager	52000	8
209	Alice Jude	Clerk	25000	7
210	Osama Kiran	Manager	500000	7
211	Kennath Martin	Assistant	30000	7
212	Ahmmed Abdul	Librarian	40000	7
213	Leona Lucid	Clerk	27000	7
NULL	NULL	NULL	NULL	NULL

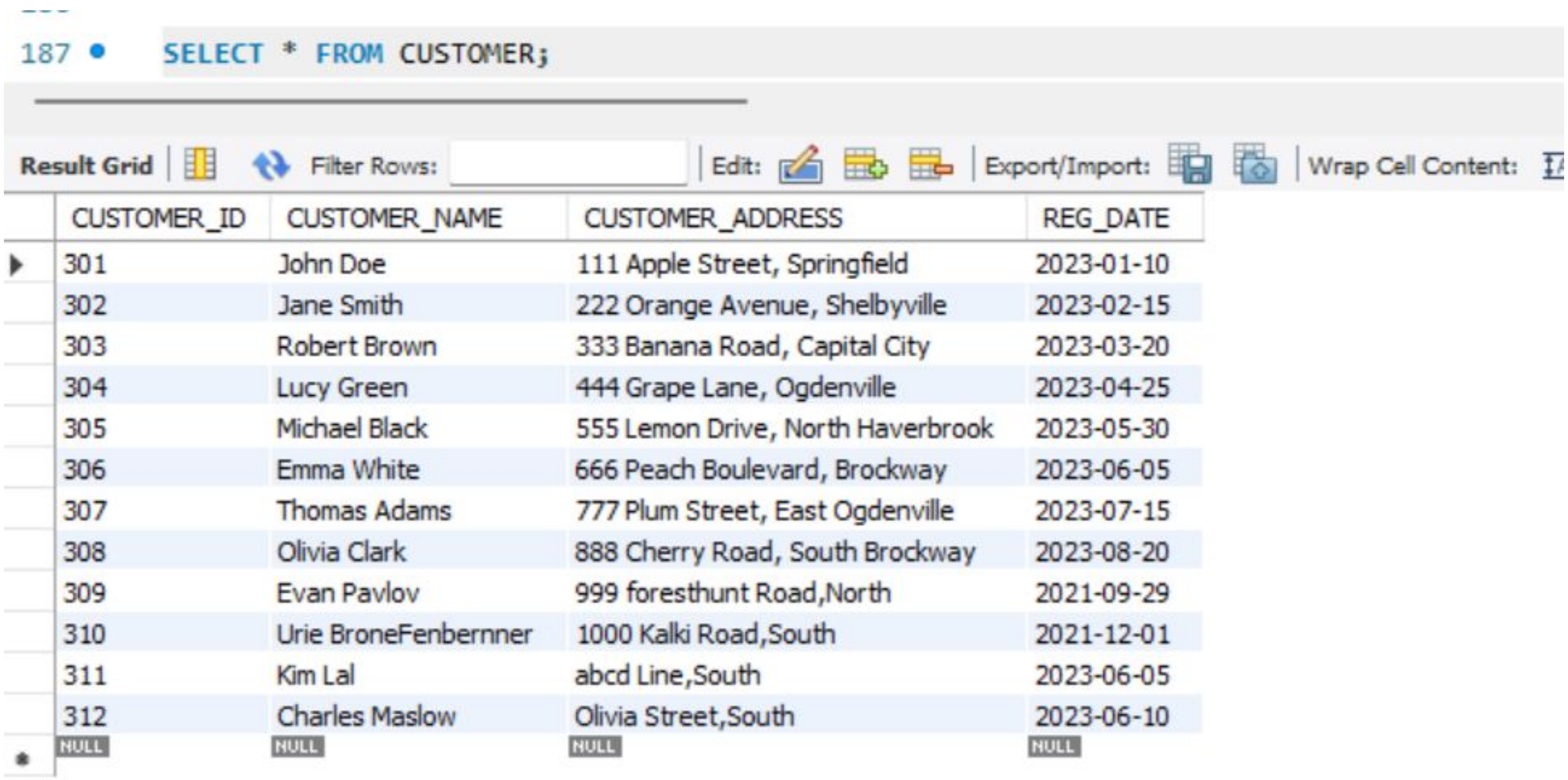
Books table



```sql
SELECT * FROM BOOKS;
```

ISBN	BOOK_TITLE	CATEGORY	RENTAL_PRICE	STATUS	AUTHOR	PUBLISHER
-147451	The Great Gatsby	Fiction	30	yes	F. Scott Fitzgerald	Scribner
-117319	1984	Dystopian	13	no	George Orwell	Penguin
-111040	To Kill a Mockingbird	Fiction	40	yes	Harper Lee	Harper Perennial
-52413	The history villa	Historical Fiction	12	yes	Toni Morrison	Knopf
-27901	Pride and Prejudice	Romance	10	no	Jane Austen	Penguin
-16783	Of Mice and Men	Tragedy	9	yes	John Steinbeck	Penguin
-13815	The Catcher in the Rye	Fiction	35	yes	J.D. Salinger	Little, Brown and Company
-8729	The Road	Post-apocalyptic	13	no	Cormac McCarthy	Knopf
NULL	NULL	NULL	NULL	NULL	NULL	NULL

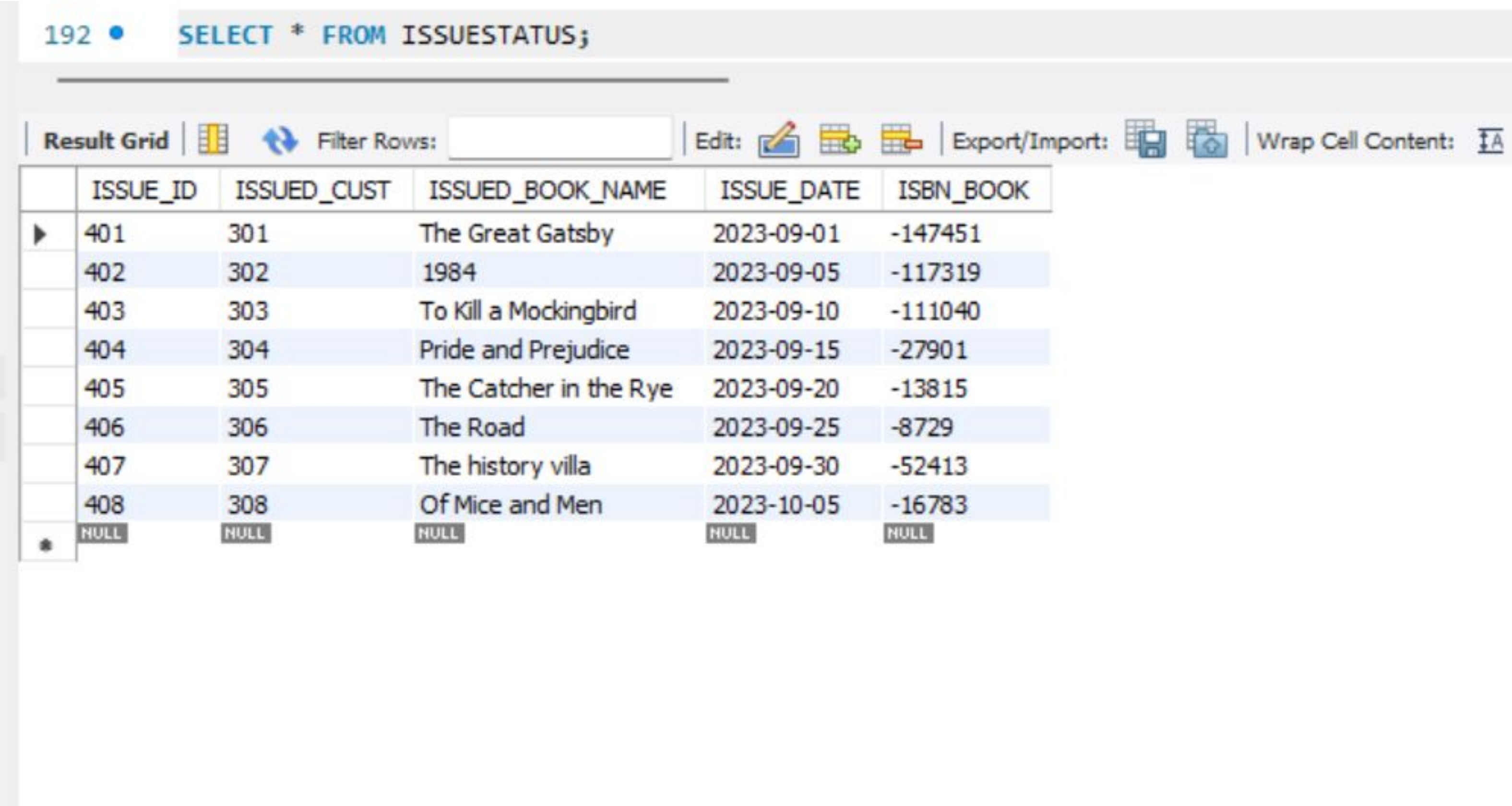
Customer table:



```
SELECT * FROM CUSTOMER;
```

CUSTOMER_ID	CUSTOMER_NAME	CUSTOMER_ADDRESS	REG_DATE
301	John Doe	111 Apple Street, Springfield	2023-01-10
302	Jane Smith	222 Orange Avenue, Shelbyville	2023-02-15
303	Robert Brown	333 Banana Road, Capital City	2023-03-20
304	Lucy Green	444 Grape Lane, Ogdenville	2023-04-25
305	Michael Black	555 Lemon Drive, North Haverbrook	2023-05-30
306	Emma White	666 Peach Boulevard, Brockway	2023-06-05
307	Thomas Adams	777 Plum Street, East Ogdenville	2023-07-15
308	Olivia Clark	888 Cherry Road, South Brockway	2023-08-20
309	Evan Pavlov	999 foresthunt Road,North	2021-09-29
310	Urie BroneFenbernner	1000 Kalki Road,South	2021-12-01
311	Kim Lal	abcd Line,South	2023-06-05
312	Charles Maslow	Olivia Street,South	2023-06-10
NULL	NULL	NULL	NULL

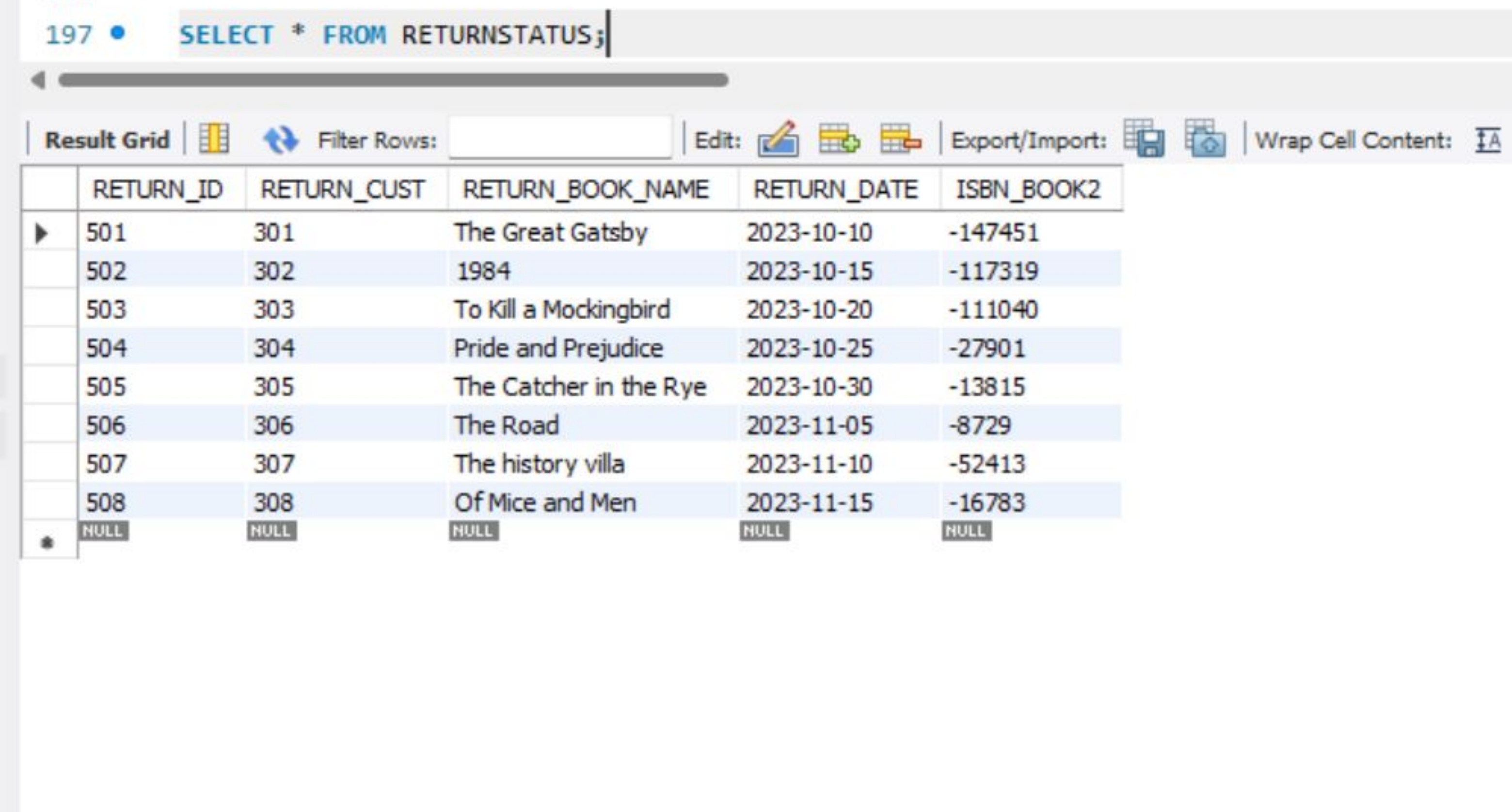
Issuestatus Table:



```
SELECT * FROM ISSUESTATUS;
```

ISSUE_ID	ISSUED_CUST	ISSUED_BOOK_NAME	ISSUE_DATE	ISBN_BOOK
401	301	The Great Gatsby	2023-09-01	-147451
402	302	1984	2023-09-05	-117319
403	303	To Kill a Mockingbird	2023-09-10	-111040
404	304	Pride and Prejudice	2023-09-15	-27901
405	305	The Catcher in the Rye	2023-09-20	-13815
406	306	The Road	2023-09-25	-8729
407	307	The history villa	2023-09-30	-52413
408	308	Of Mice and Men	2023-10-05	-16783
NULL	NULL	NULL	NULL	NULL

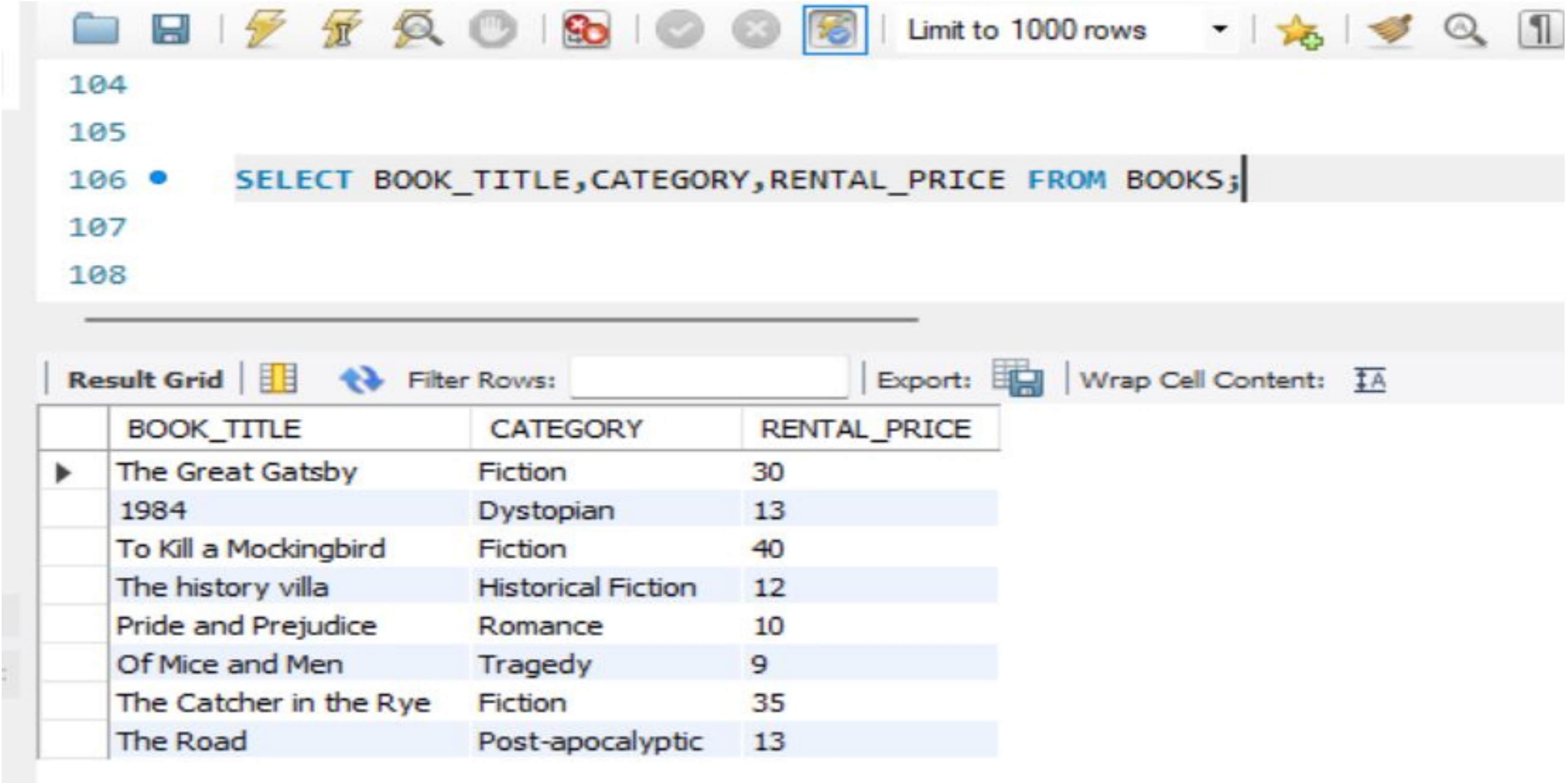
Returnstatus Table



```
SELECT * FROM RETURNSTATUS;
```

RETURN_ID	RETURN_CUST	RETURN_BOOK_NAME	RETURN_DATE	ISBN_BOOK2
501	301	The Great Gatsby	2023-10-10	-147451
502	302	1984	2023-10-15	-117319
503	303	To Kill a Mockingbird	2023-10-20	-111040
504	304	Pride and Prejudice	2023-10-25	-27901
505	305	The Catcher in the Rye	2023-10-30	-13815
506	306	The Road	2023-11-05	-8729
507	307	The history villa	2023-11-10	-52413
508	308	Of Mice and Men	2023-11-15	-16783
NULL	NULL	NULL	NULL	NULL

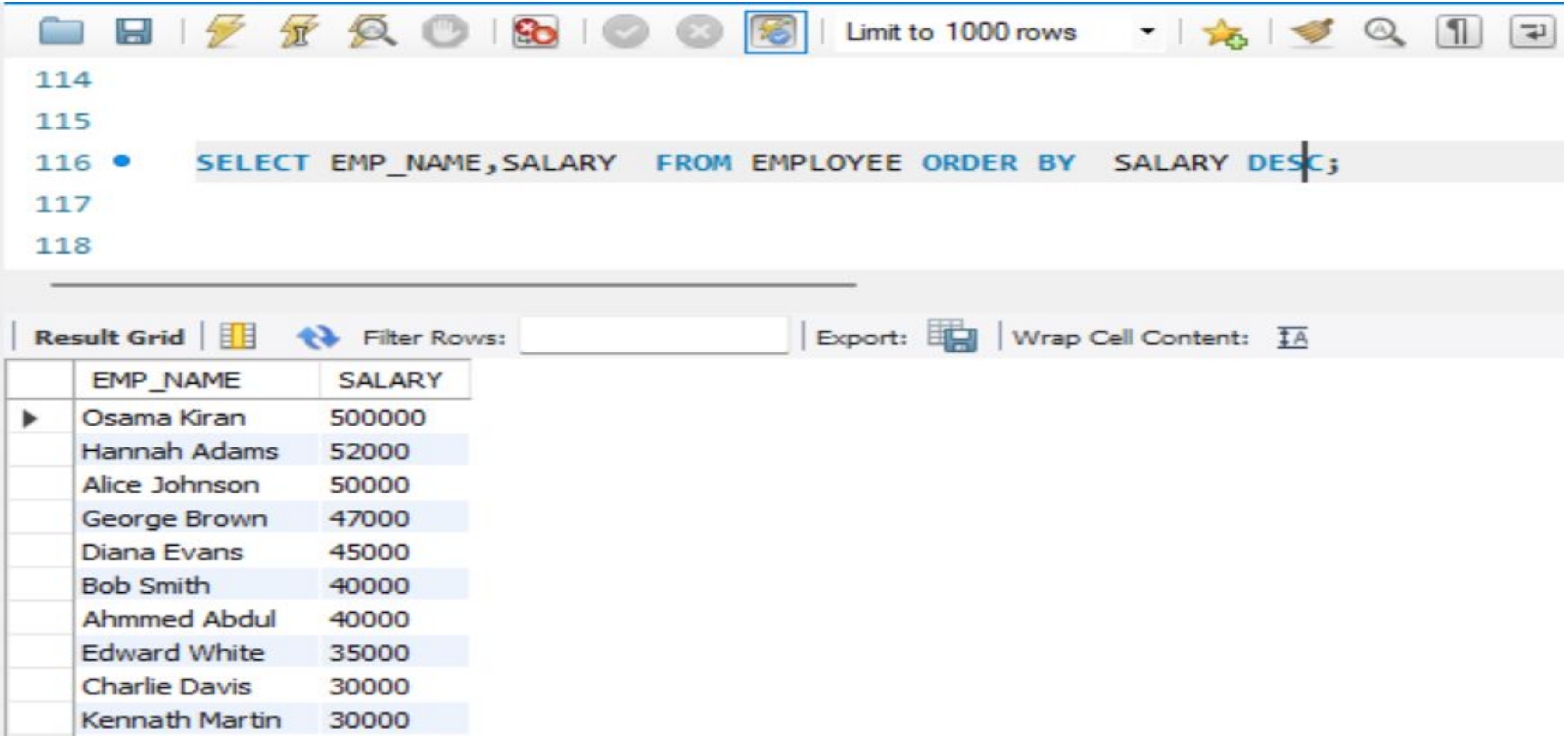
1. Retrieve the book title, category, and rental price of all available books.



```sql
SELECT BOOK_TITLE,CATEGORY,RENTAL_PRICE FROM BOOKS;
```

BOOK_TITLE	CATEGORY	RENTAL_PRICE
The Great Gatsby	Fiction	30
1984	Dystopian	13
To Kill a Mockingbird	Fiction	40
The history villa	Historical Fiction	12
Pride and Prejudice	Romance	10
Of Mice and Men	Tragedy	9
The Catcher in the Rye	Fiction	35
The Road	Post-apocalyptic	13

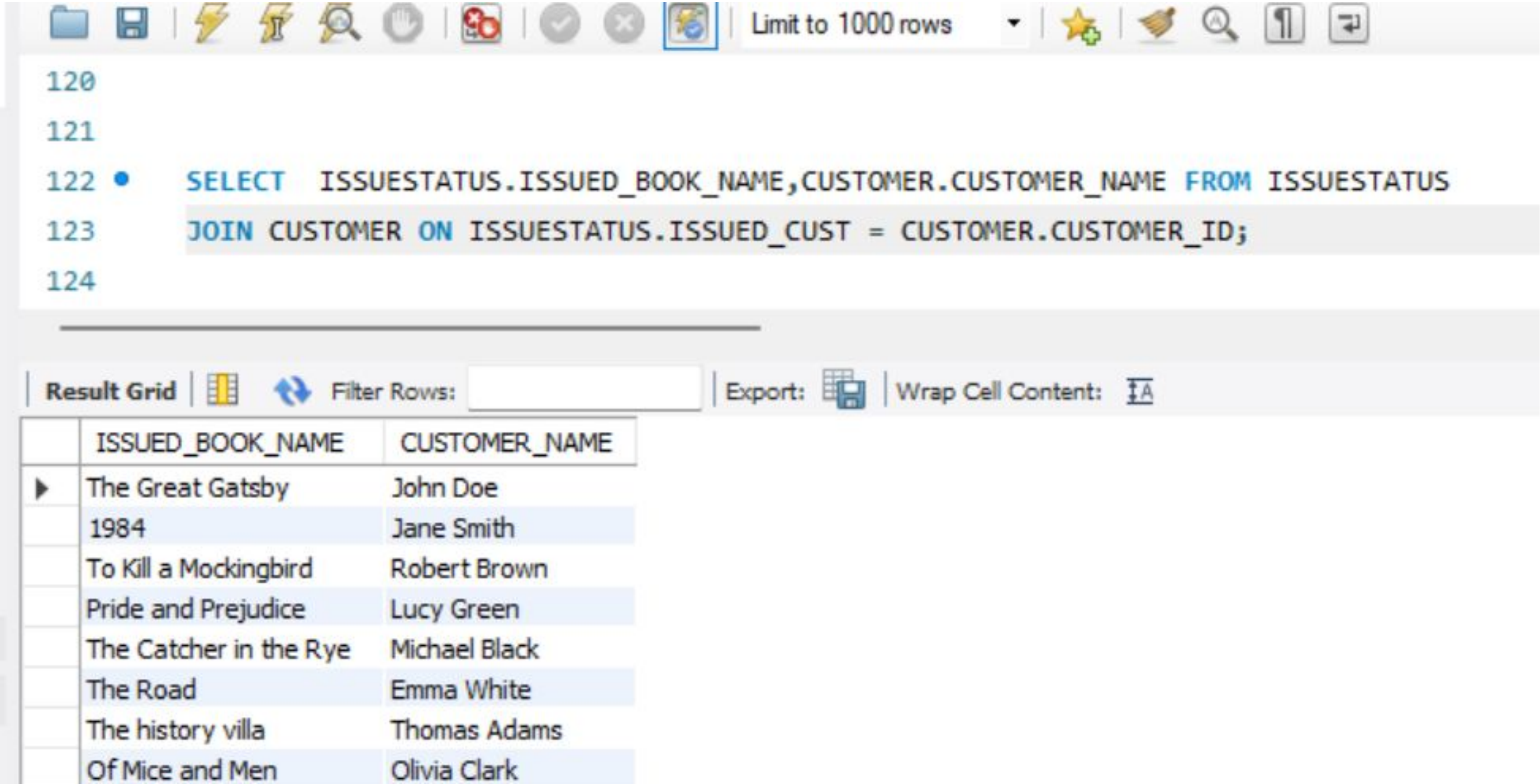
2. List the employee names and their respective salaries in descending order of salary.



```sql
SELECT EMP_NAME,SALARY  FROM EMPLOYEE ORDER BY  SALARY DESC;
```

EMP_NAME	SALARY
Osama Kiran	500000
Hannah Adams	52000
Alice Johnson	50000
George Brown	47000
Diana Evans	45000
Bob Smith	40000
Ahmmed Abdul	40000
Edward White	35000
Charlie Davis	30000
Kennath Martin	30000

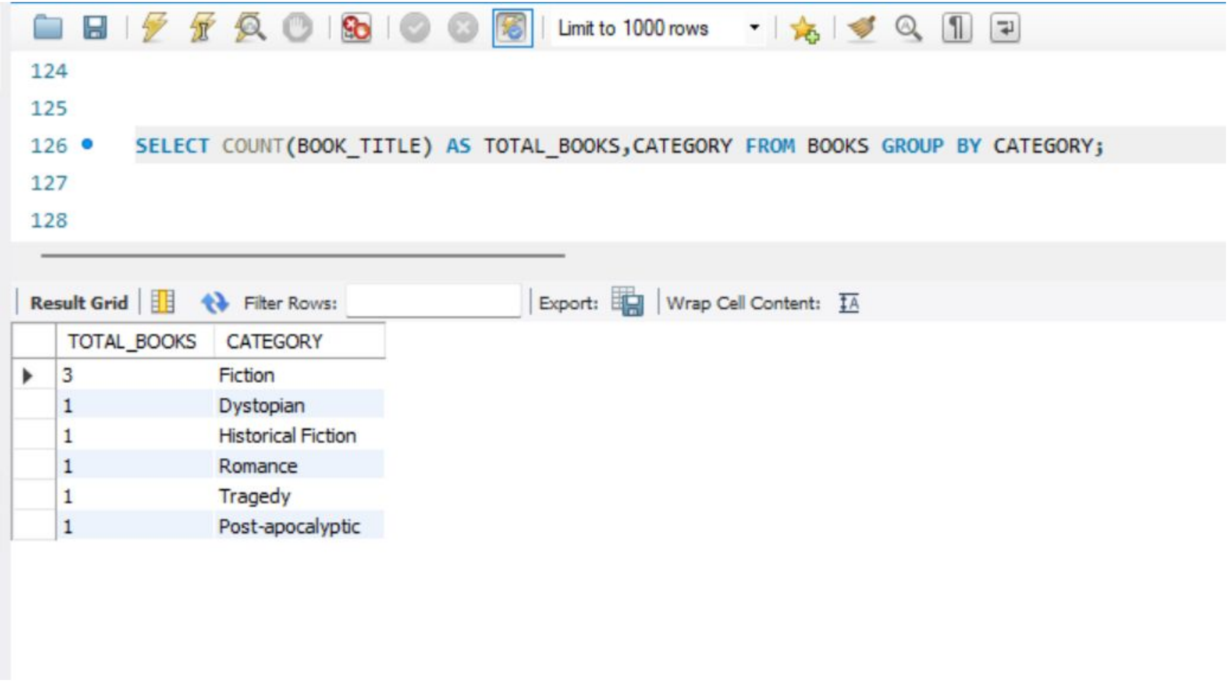
3. Retrieve the book titles and the corresponding customers who have issued those books.



```sql
SELECT  ISSUESTATUS.ISSUED_BOOK_NAME,CUSTOMER.CUSTOMER_NAME FROM ISSUESTATUS
JOIN CUSTOMER ON ISSUESTATUS.ISSUED_CUST = CUSTOMER.CUSTOMER_ID;
```

ISSUED_BOOK_NAME	CUSTOMER_NAME
The Great Gatsby	John Doe
1984	Jane Smith
To Kill a Mockingbird	Robert Brown
Pride and Prejudice	Lucy Green
The Catcher in the Rye	Michael Black
The Road	Emma White
The history villa	Thomas Adams
Of Mice and Men	Olivia Clark

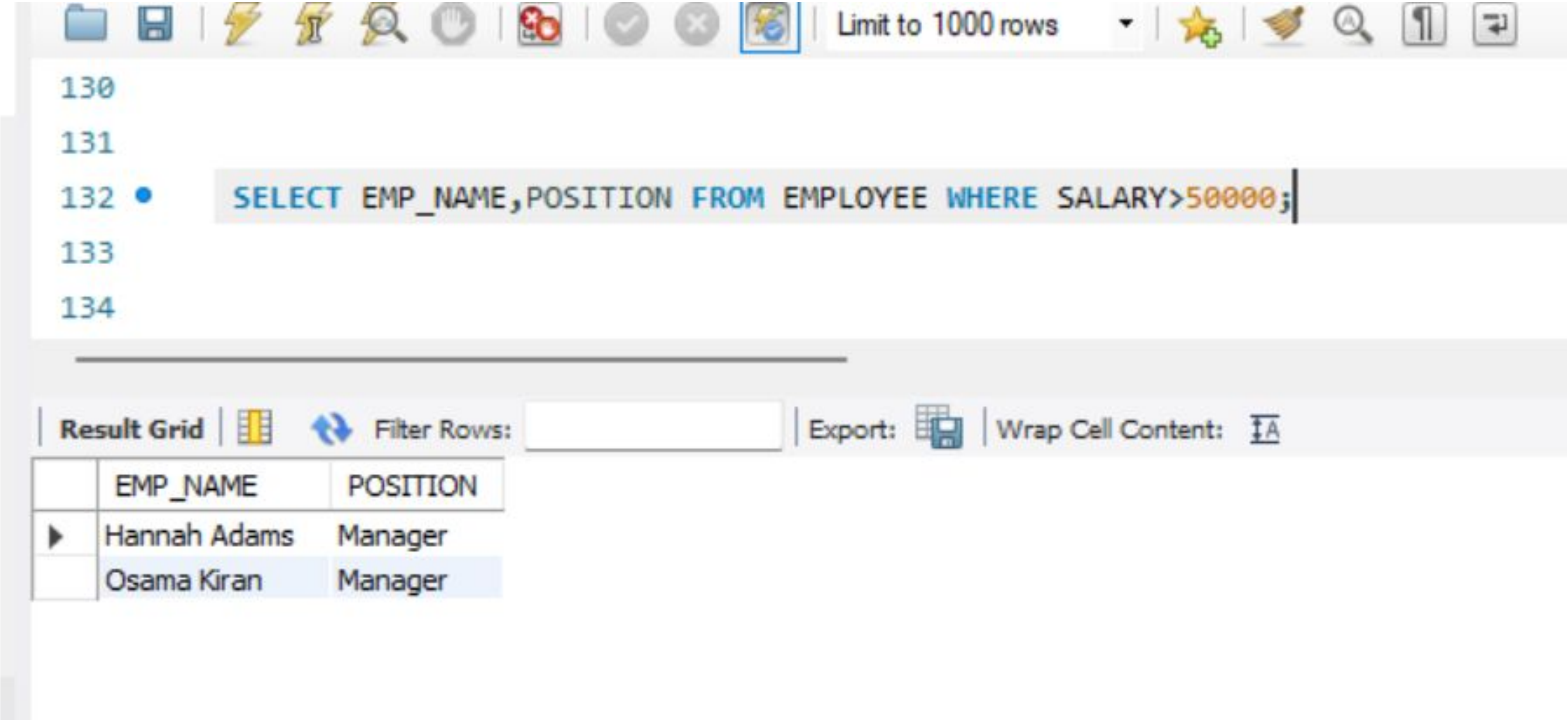
4. Display the total count of books in each category.



```sql
SELECT COUNT(BOOK_TITLE) AS TOTAL_BOOKS,CATEGORY FROM BOOKS GROUP BY CATEGORY;
```

TOTAL_BOOKS	CATEGORY
3	Fiction
1	Dystopian
1	Historical Fiction
1	Romance
1	Tragedy
1	Post-apocalyptic

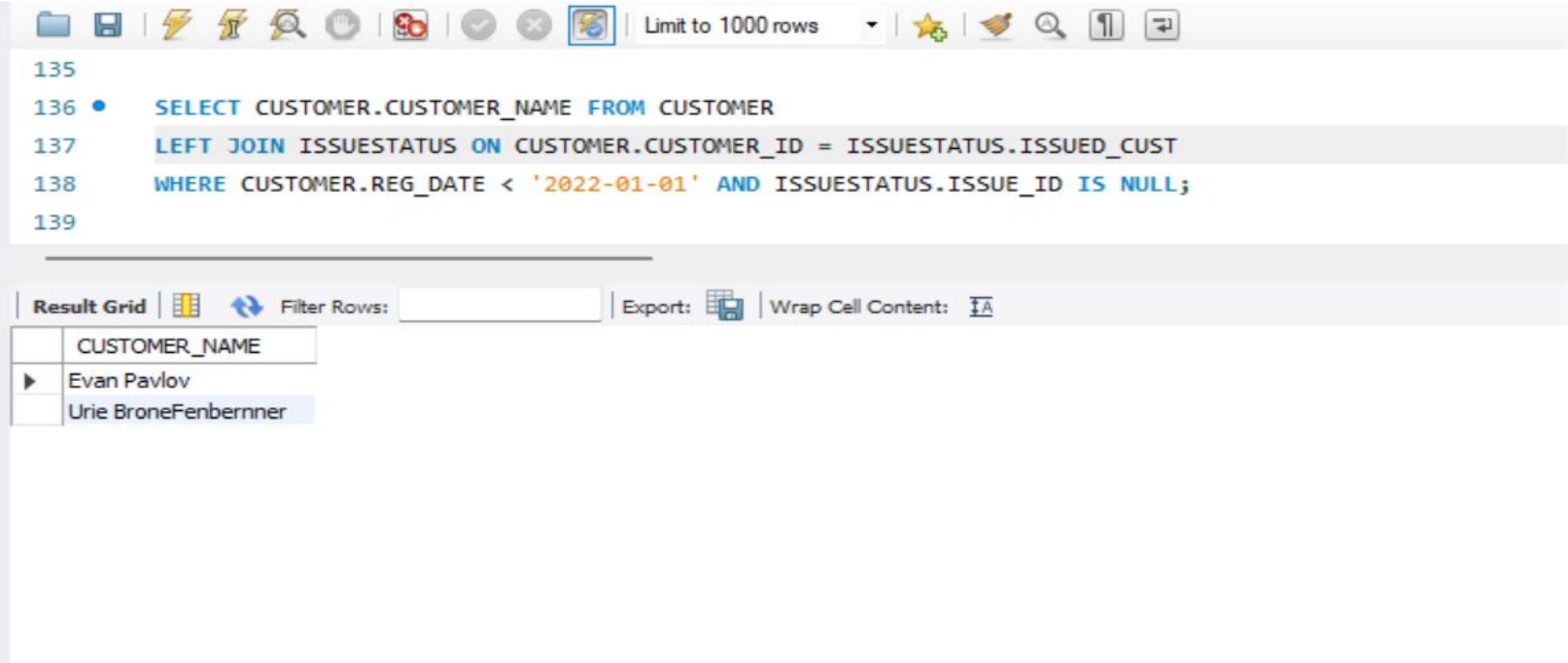
5. Retrieve the employee names and their positions for the employees whose salaries are above Rs.50,000.



```
SELECT EMP_NAME,POSITION FROM EMPLOYEE WHERE SALARY>50000;
```

EMP_NAME	POSITION
Hannah Adams	Manager
Osama Kiran	Manager

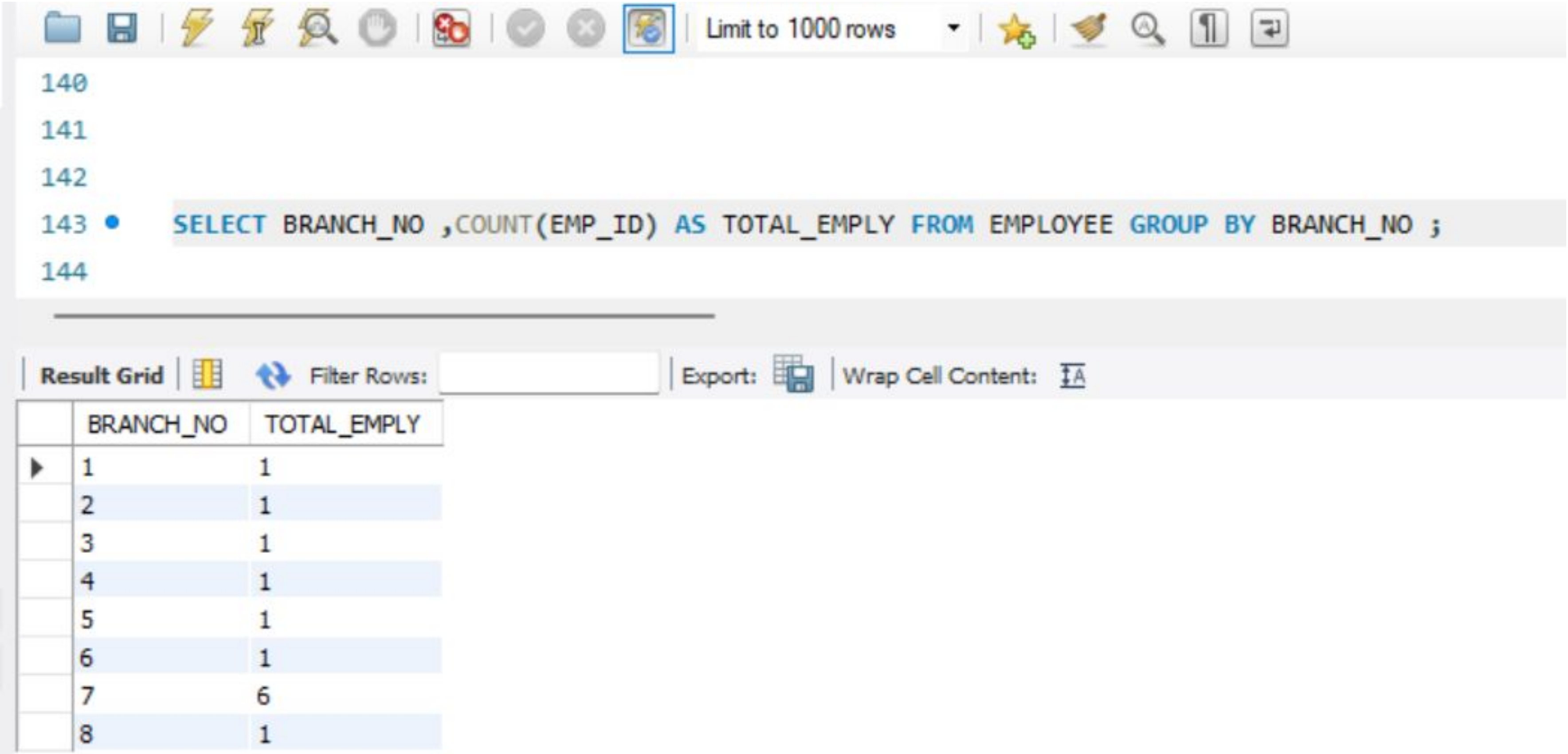
6. List the customer names who registered before 2022-01-01 and have not issued any books yet.



```sql
SELECT CUSTOMER.CUSTOMER_NAME FROM CUSTOMER
LEFT JOIN ISSUESTATUS ON CUSTOMER.CUSTOMER_ID = ISSUESTATUS.ISSUED_CUST
WHERE CUSTOMER.REG_DATE < '2022-01-01' AND ISSUESTATUS.ISSUE_ID IS NULL;
```

```
CUSTOMER_NAME
Evan Pavlov
Urie BroneFenbernner
```

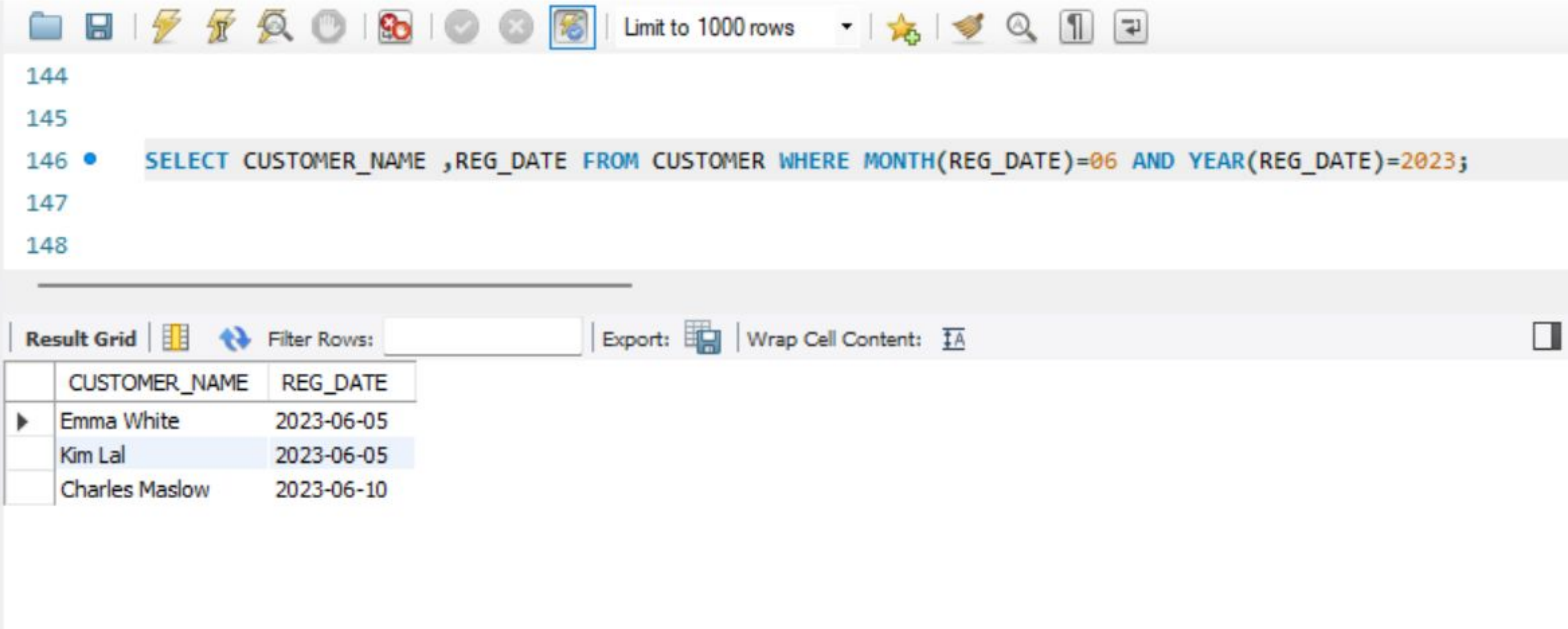
7. Display the branch numbers and the total count of employees in each branch.



```
SELECT BRANCH_NO ,COUNT(EMP_ID) AS TOTAL_EMPLY FROM EMPLOYEE GROUP BY BRANCH_NO ;
```

BRANCH_NO	TOTAL_EMPLY
1	1
2	1
3	1
4	1
5	1
6	1
7	6
8	1

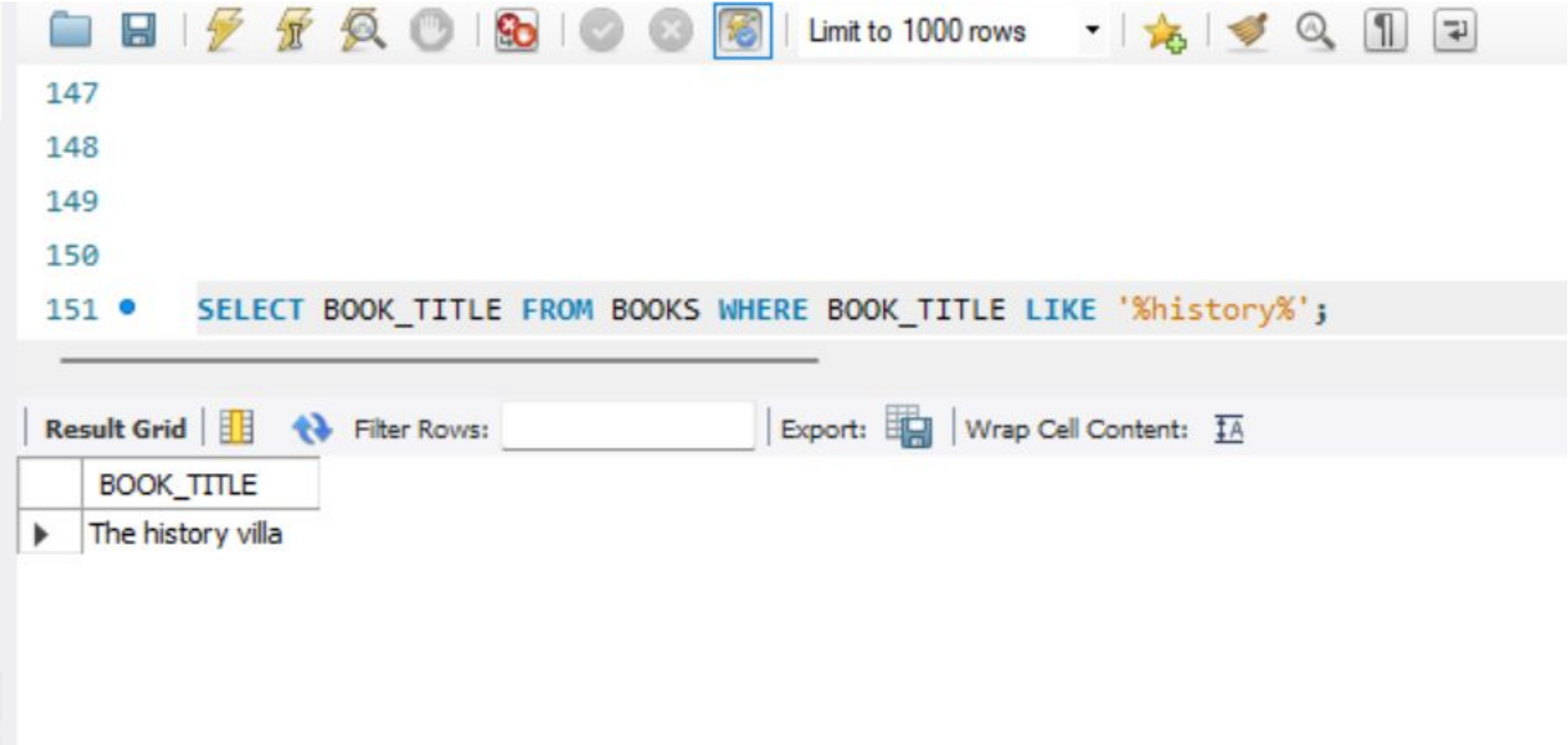
8. Display the names of customers who have issued books in the month of June 2023.



```sql
SELECT CUSTOMER_NAME ,REG_DATE FROM CUSTOMER WHERE MONTH(REG_DATE)=06 AND YEAR(REG_DATE)=2023;
```

CUSTOMER_NAME	REG_DATE
Emma White	2023-06-05
Kim Lal	2023-06-05
Charles Maslow	2023-06-10

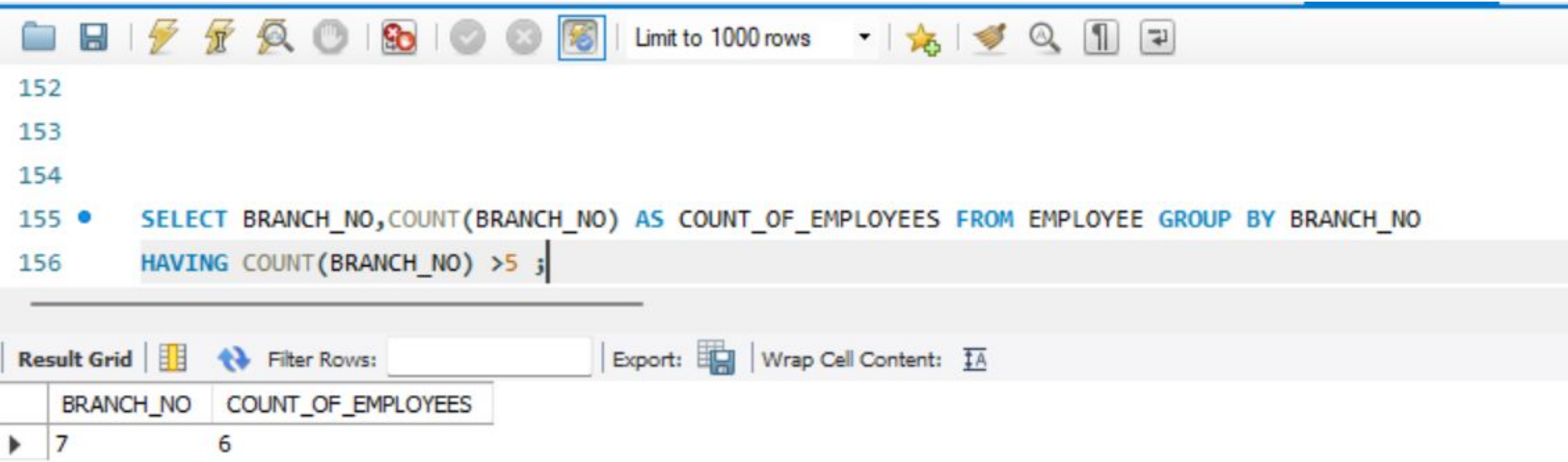
9. Retrieve book_title from book table containing history.



```sql
SELECT BOOK_TITLE FROM BOOKS WHERE BOOK_TITLE LIKE '%history%';
```

BOOK_TITLE
The history villa

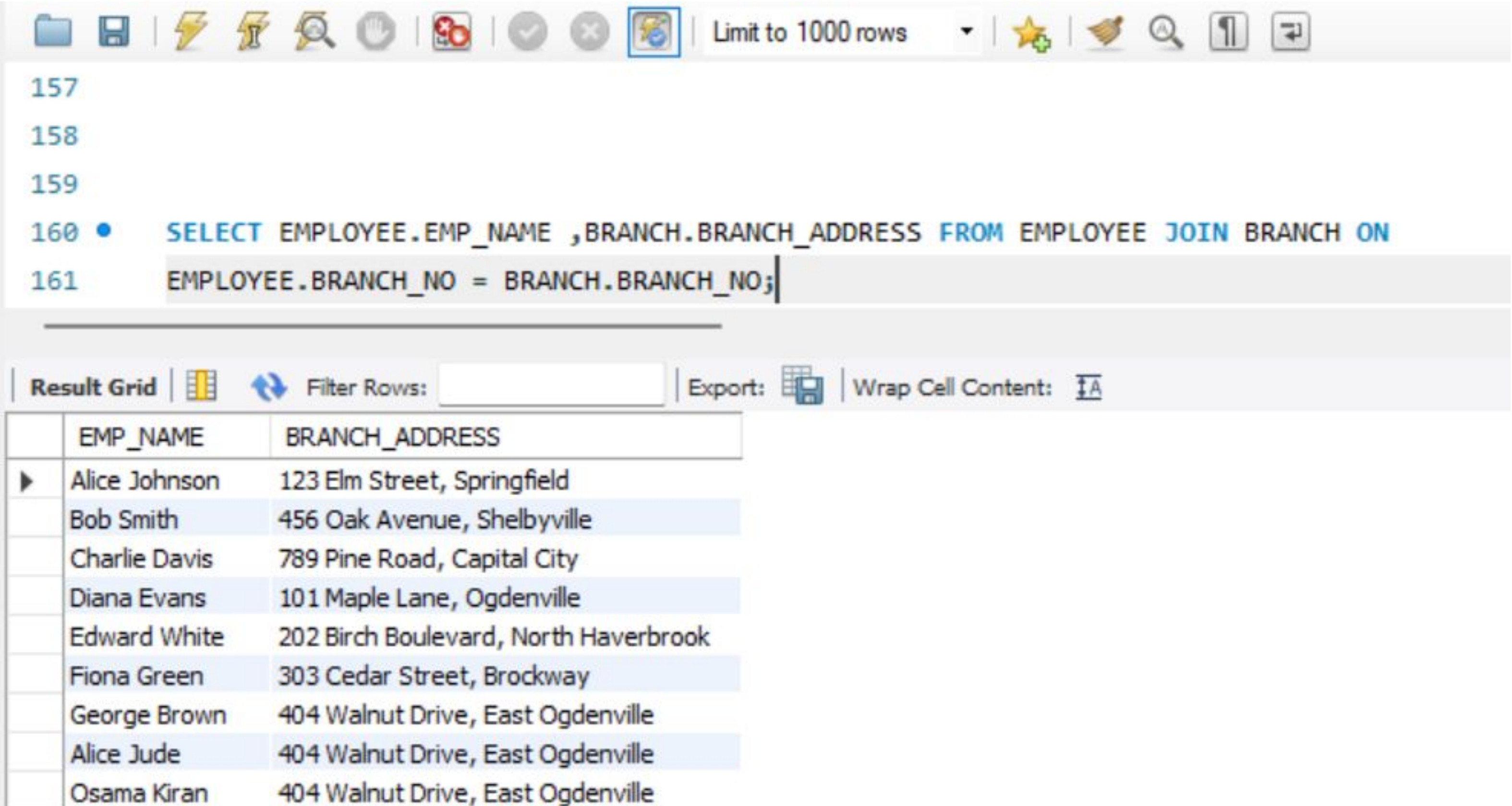
10.Retrieve the branch numbers along with the count of employees for branches having more than 5 employees



```
SELECT BRANCH_NO,COUNT(BRANCH_NO) AS COUNT_OF_EMPLOYEES FROM EMPLOYEE GROUP BY BRANCH_NO
HAVING COUNT(BRANCH_NO) >5 ;
```

BRANCH_NO	COUNT_OF_EMPLOYEES
7	6

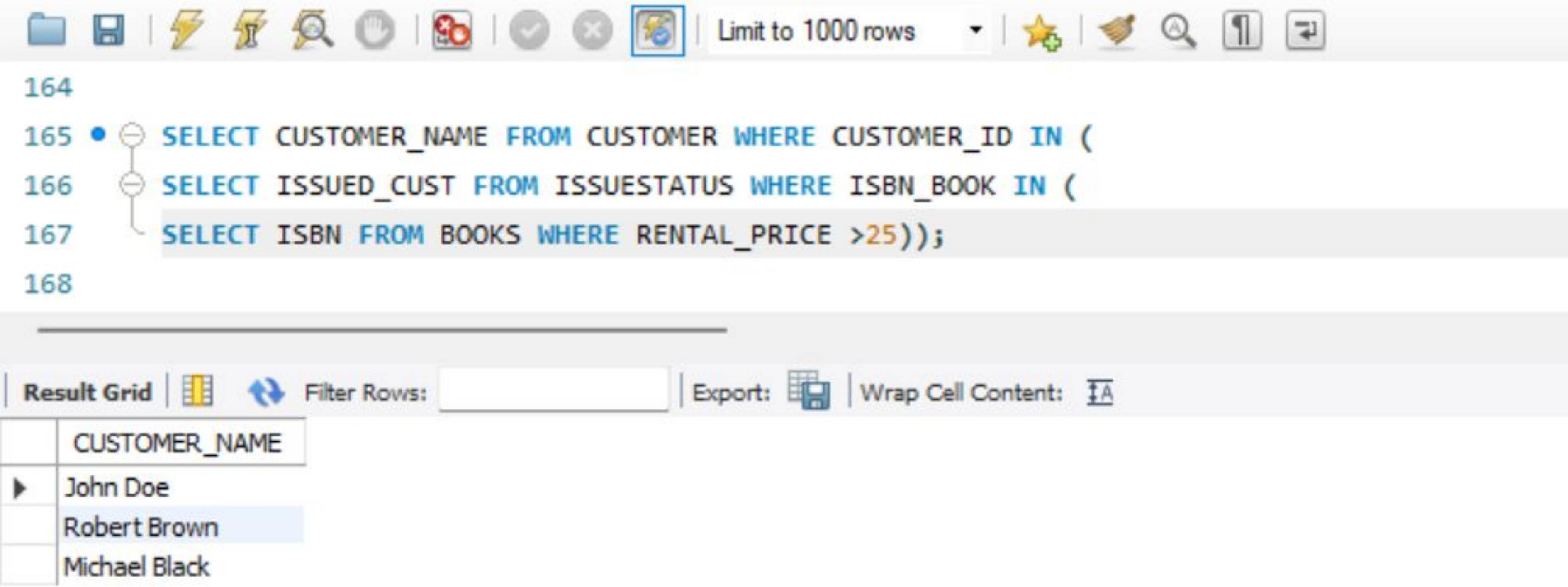
11. Retrieve the names of employees who manage branches and their respective branch addresses.



```
SELECT EMPLOYEE.EMP_NAME ,BRANCH.BRANCH_ADDRESS FROM EMPLOYEE JOIN BRANCH ON
EMPLOYEE.BRANCH_NO = BRANCH.BRANCH_NO;
```

EMP_NAME	BRANCH_ADDRESS
Alice Johnson	123 Elm Street, Springfield
Bob Smith	456 Oak Avenue, Shelbyville
Charlie Davis	789 Pine Road, Capital City
Diana Evans	101 Maple Lane, Ogdenville
Edward White	202 Birch Boulevard, North Haverbrook
Fiona Green	303 Cedar Street, Brockway
George Brown	404 Walnut Drive, East Ogdenville
Alice Jude	404 Walnut Drive, East Ogdenville
Osama Kiran	404 Walnut Drive, East Ogdenville

12. Display the names of customers who have issued books with a rental price higher than Rs. 25.



```sql
SELECT CUSTOMER_NAME FROM CUSTOMER WHERE CUSTOMER_ID IN (
SELECT ISSUED_CUST FROM ISSUESTATUS WHERE ISBN_BOOK IN (
SELECT ISBN FROM BOOKS WHERE RENTAL_PRICE >25));
```

CUSTOMER_NAME
John Doe
Robert Brown
Michael Black