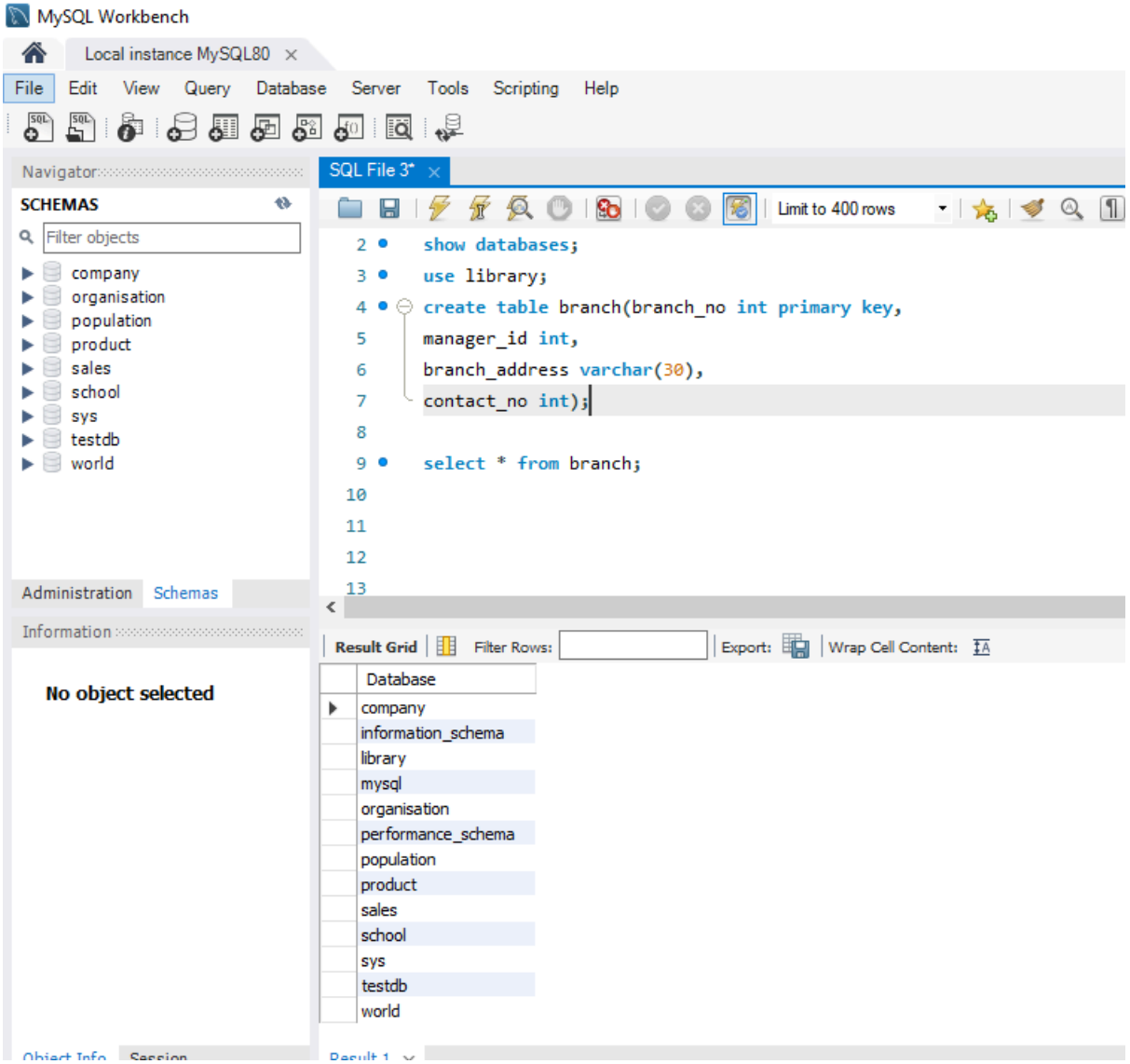
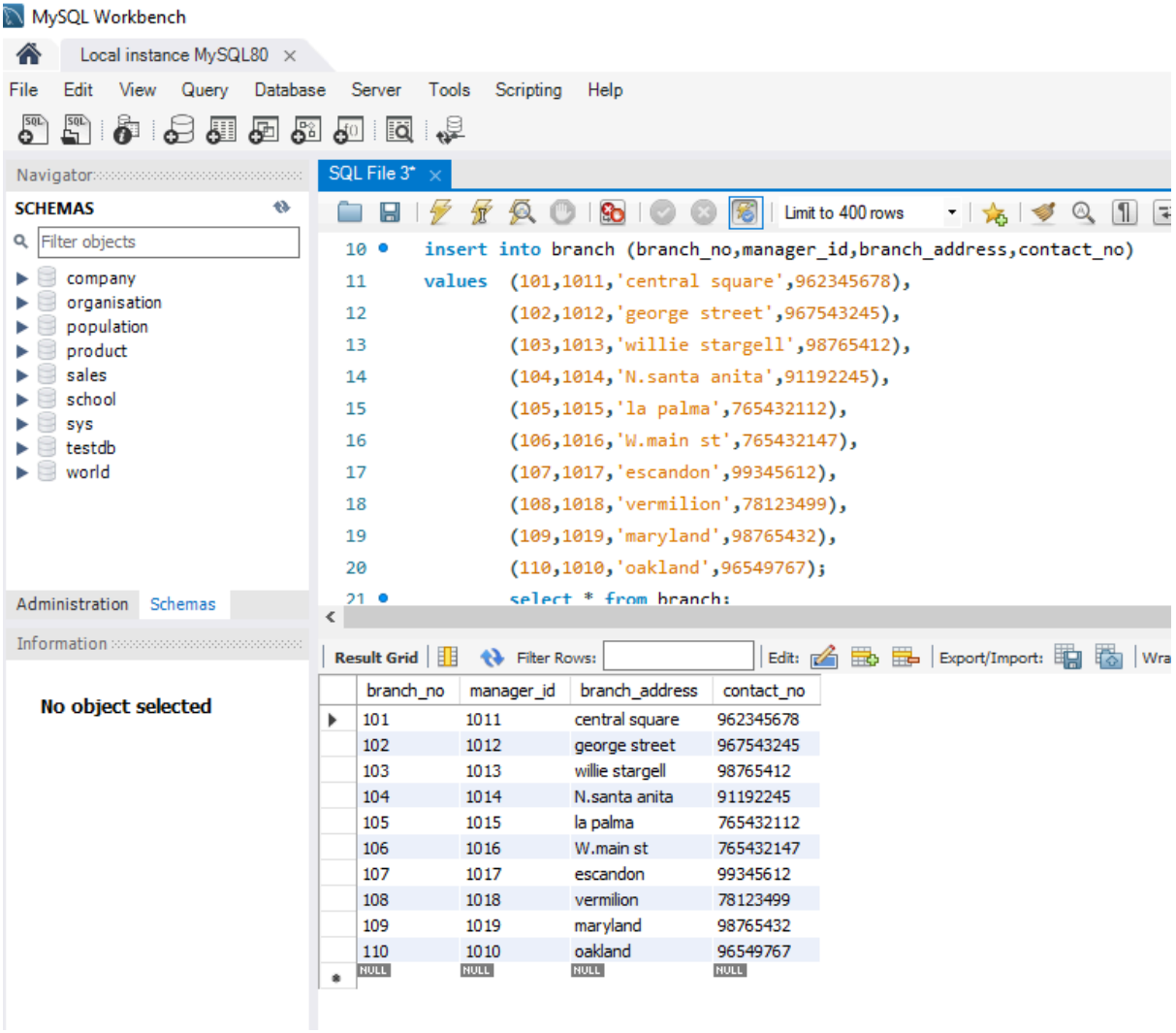
Library Management System using MYSQL

This project is to build a Library Management System using MSQL.By doing this project we are creating a database named Library which 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
5. ReturnStatus

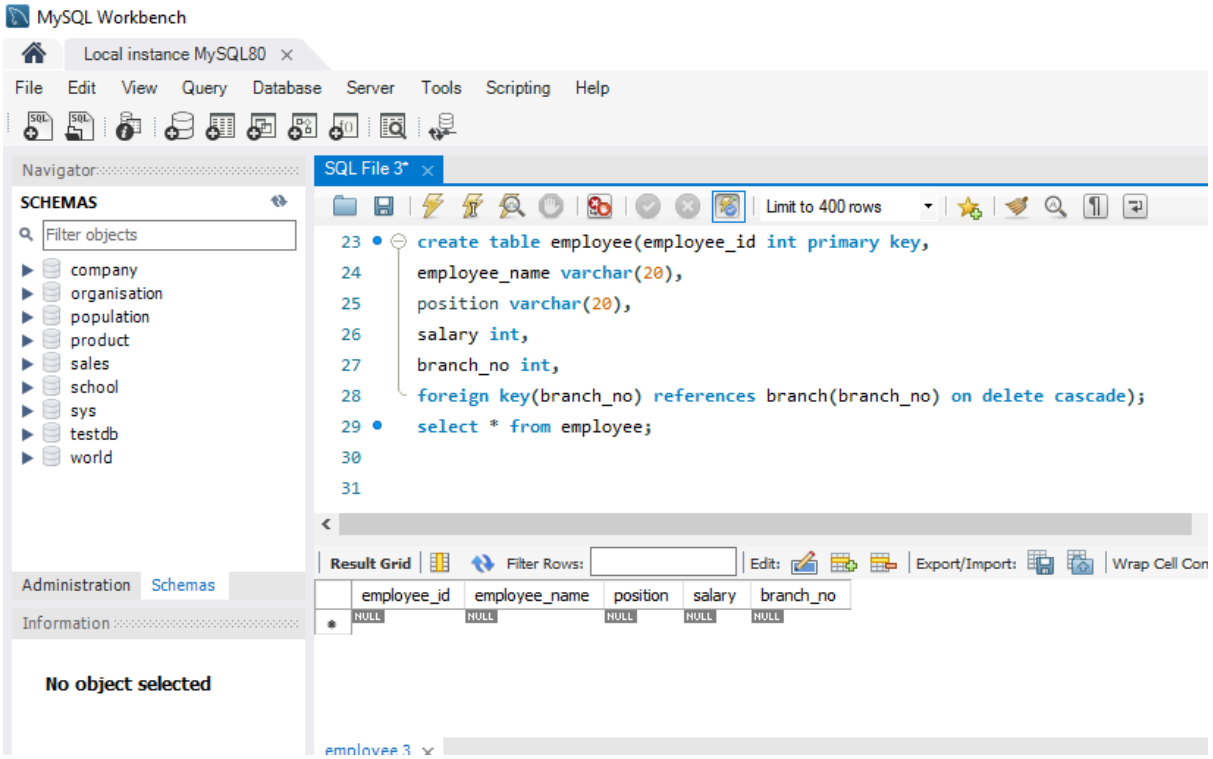
STEP 1
Creating table named Branch
***Branch_no-set as PRIMARY KEY**
***Manager_id**
***Branch_address**
***Contact_no**

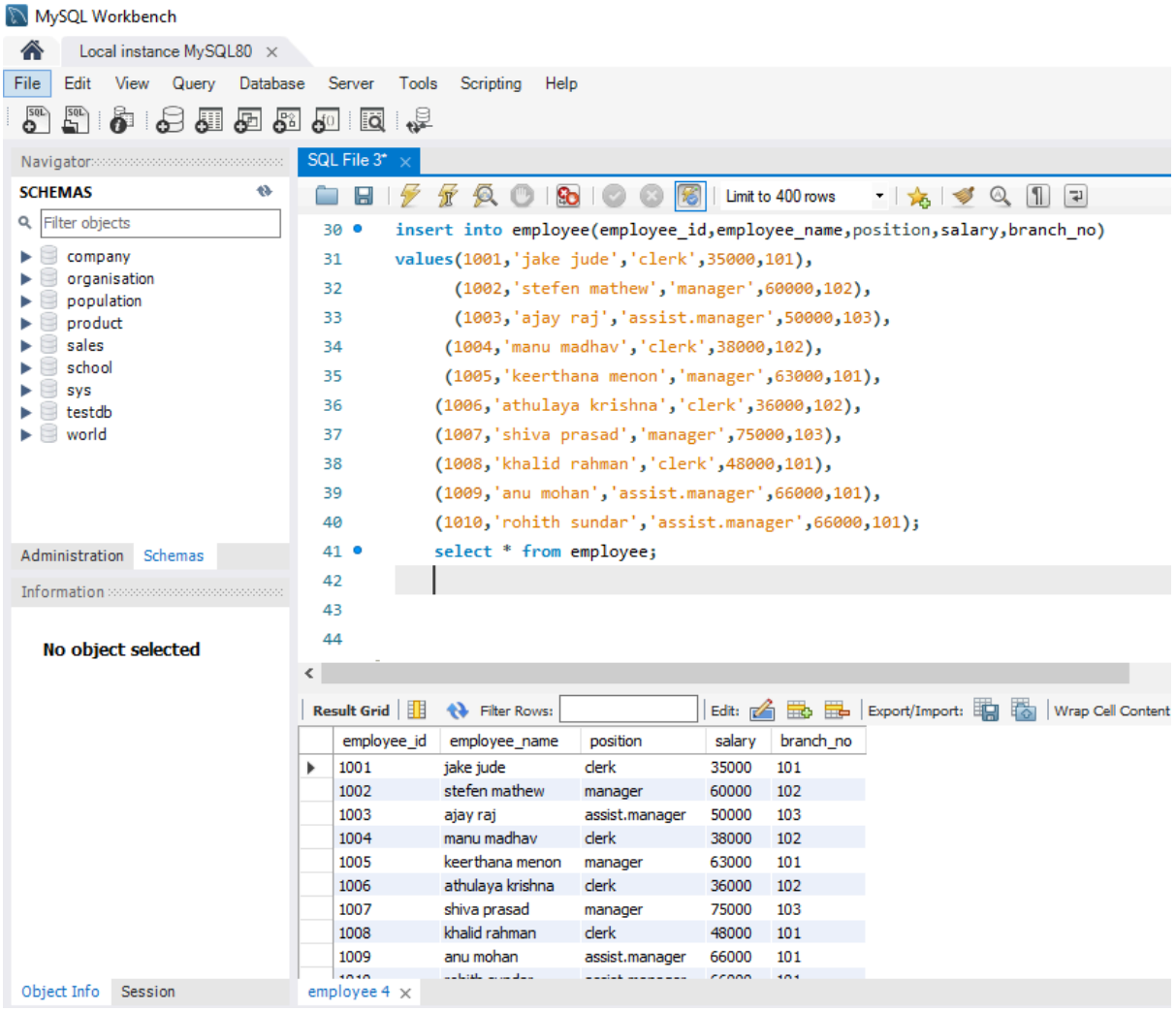

MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
Navigator
SCHEMAS
Filter objects
company
organisation
population
product
sales
school
sys
testdb
world
Administration Schemas
Information
No object selected
SQL File 3*
Limit to 400 rows
2 show databases;
3 use library;
4 create table branch(branch_no int primary key,
5 manager_id int,
6 branch_address varchar(30),
7 contact_no int);
8
9 select * from branch;
10
11
12
13
Result Grid Filter Rows: Export: Wrap Cell Content:
Database
company
information_schema
library
mysql
organisation
performance_schema
population
product
sales
school
sys
testdb
world



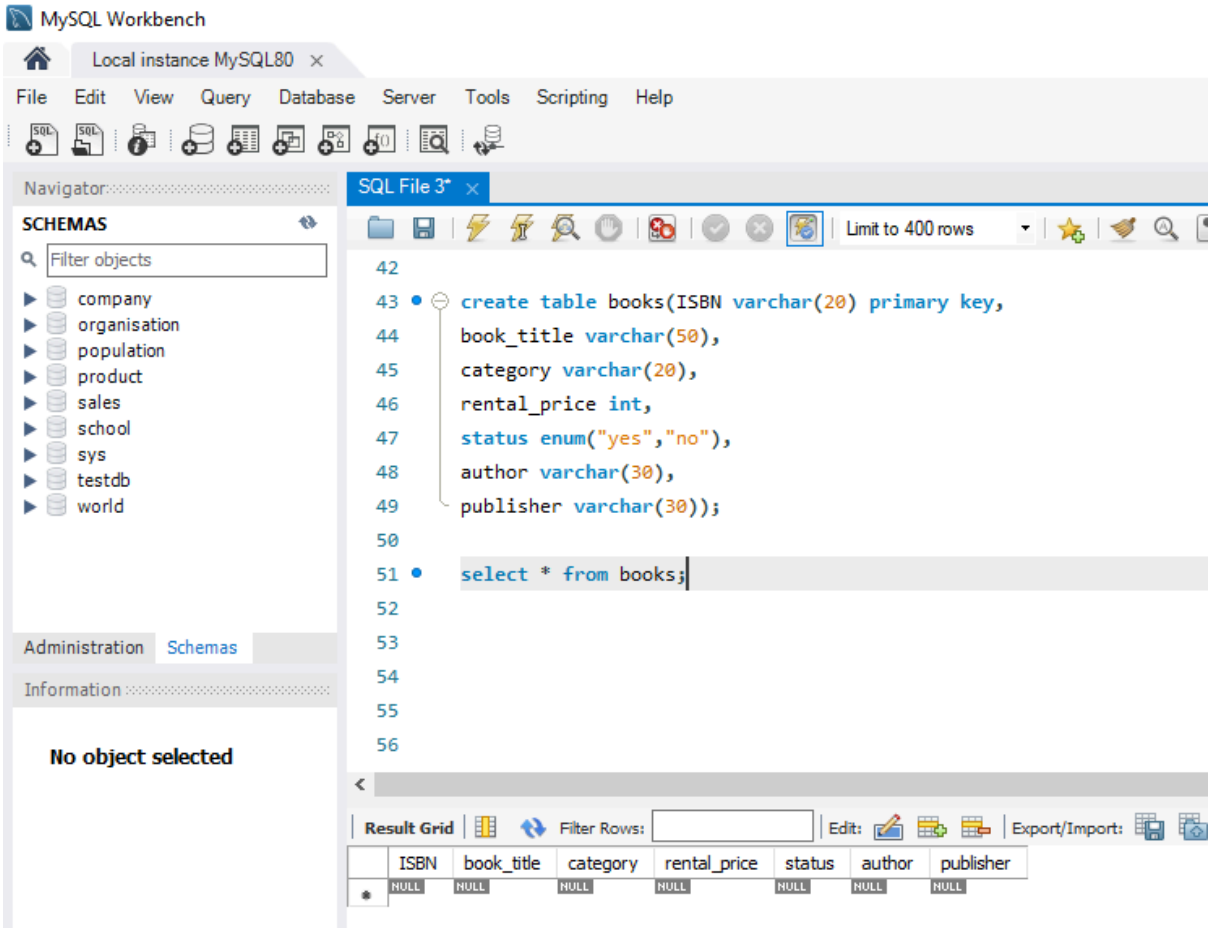
STEP 2

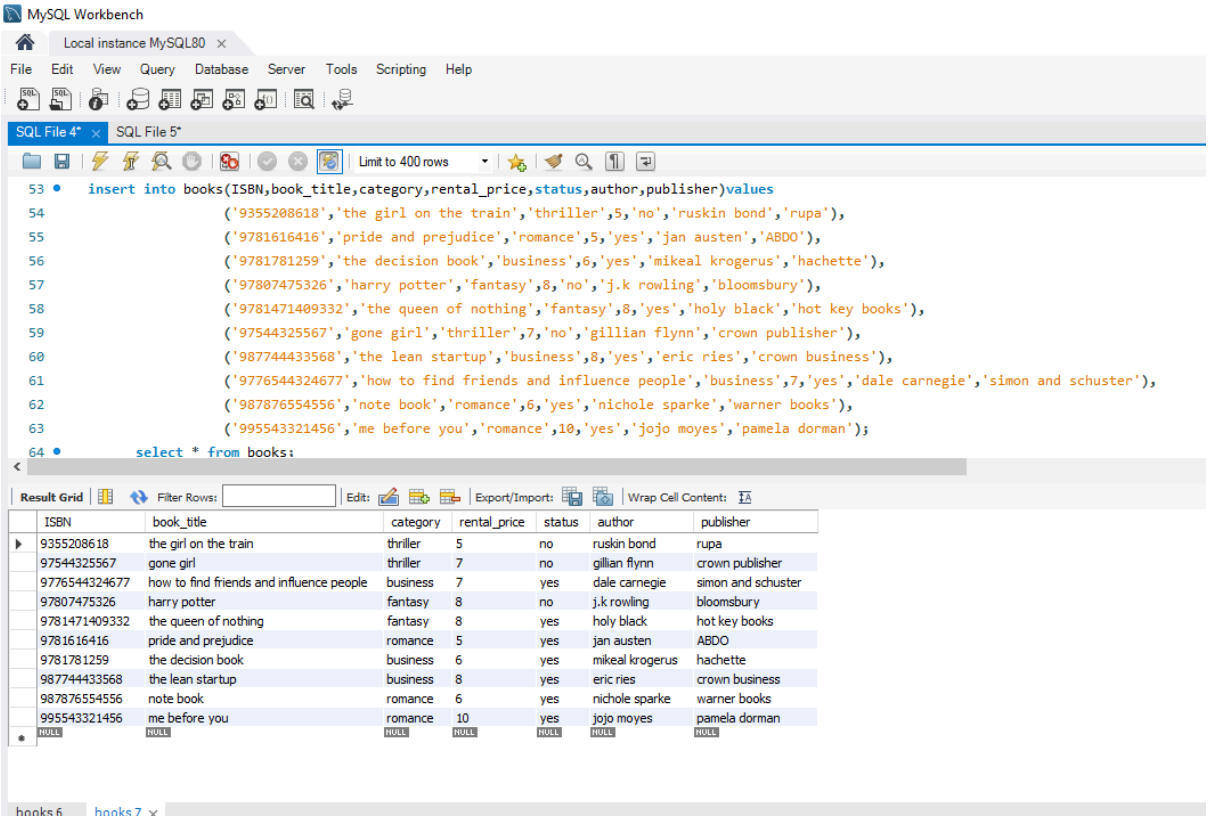
Creating table name Employee
***Emp_id-Set as PRIMARY KEY**
***Emp_name**
***Position**
***Salary**
***Branch_no-Set as FOREIGN KEY and it refer Branch_no in Branch table**


MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
Navigator:
SCHEMAS
Filter objects
company
organisation
population
product
sales
school
sys
testdb
world
Administration Schemas
Information
No object selected
SQL File 3*
Limit to 400 rows
23 create table employee(employee_id int primary key,
24 employee_name varchar(20),
25 position varchar(20),
26 salary int,
27 branch_no int,
28 foreign key(branch_no) references branch(branch_no) on delete cascade);
29 select * from employee;
30
31
Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Con
employee_id employee_name position salary branch_no
NULL NULL NULL NULL NULL
employee 3


MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
Navigator:
SCHEMAS
Filter objects
company
organisation
population
product
sales
school
sys
testdb
world
Administration Schemas
Information
No object selected
Object Info Session
SQL File 3*
Limit to 400 rows
30 insert into employee(employee_id,employee_name,position,salary,branch_no)
31 values(1001,'jake jude','clerk',35000,101),
32 (1002,'stefen mathew','manager',60000,102),
33 (1003,'ajay raj','assist.manager',50000,103),
34 (1004,'manu madhav','clerk',38000,102),
35 (1005,'keerthana menon','manager',63000,101),
36 (1006,'athulaya krishna','clerk',36000,102),
37 (1007,'shiva prasad','manager',75000,103),
38 (1008,'khalid rahman','clerk',48000,101),
39 (1009,'anu mohan','assist.manager',66000,101),
40 (1010,'rohith sundar','assist.manager',66000,101);
41 select * from employee;
42
43
44
Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content
employee_id employee_name position salary branch_no
1001 jake jude clerk 35000 101
1002 stefen mathew manager 60000 102
1003 ajay raj assist.manager 50000 103
1004 manu madhav clerk 38000 102
1005 keerthana menon manager 63000 101
1006 athulaya krishna clerk 36000 102
1007 shiva prasad manager 75000 103
1008 khalid rahman clerk 48000 101
1009 anu mohan assist.manager 66000 101
employee 4

STEP 3
Creating table name 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





STEP 4

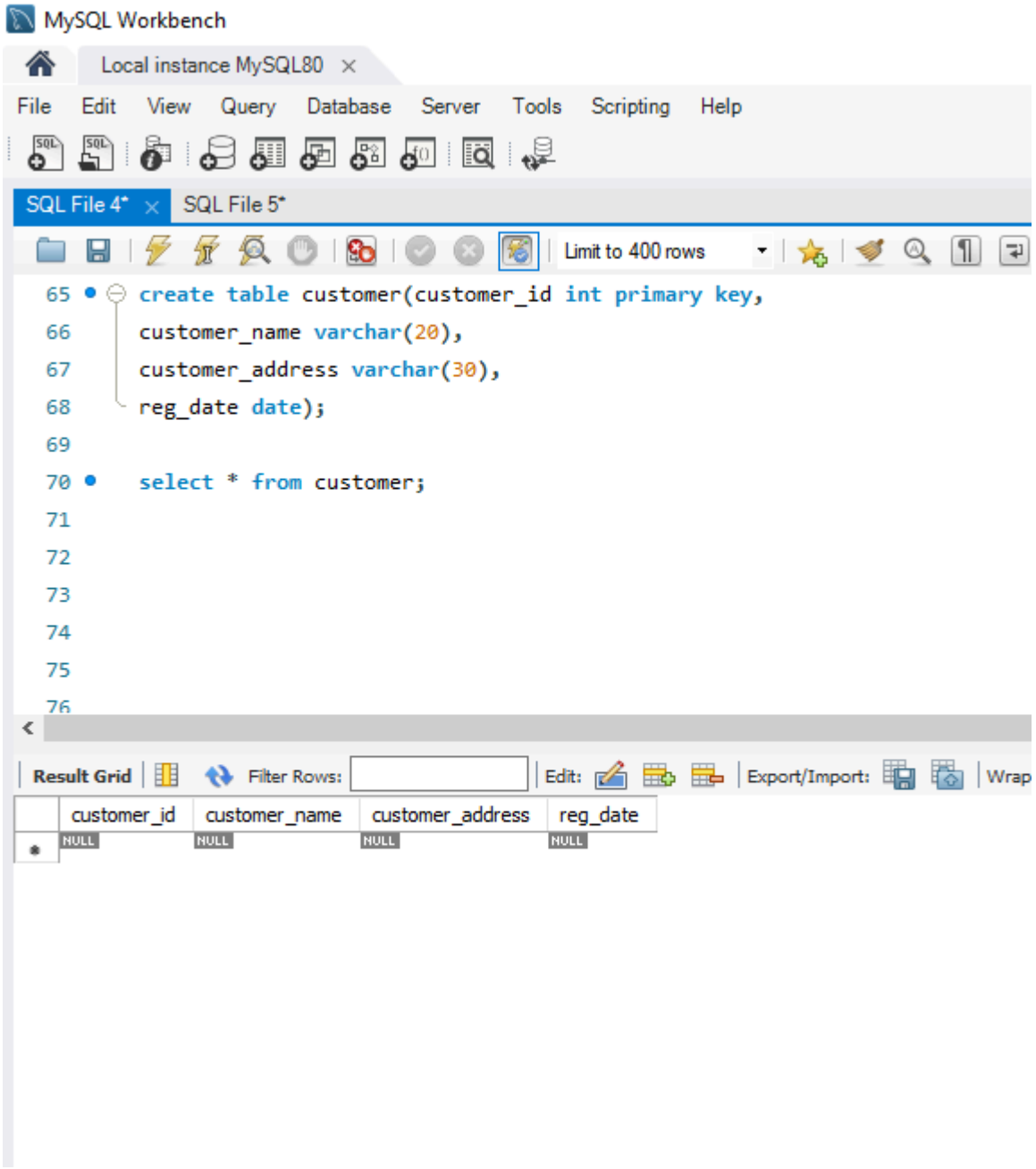
Creating table name Customer.

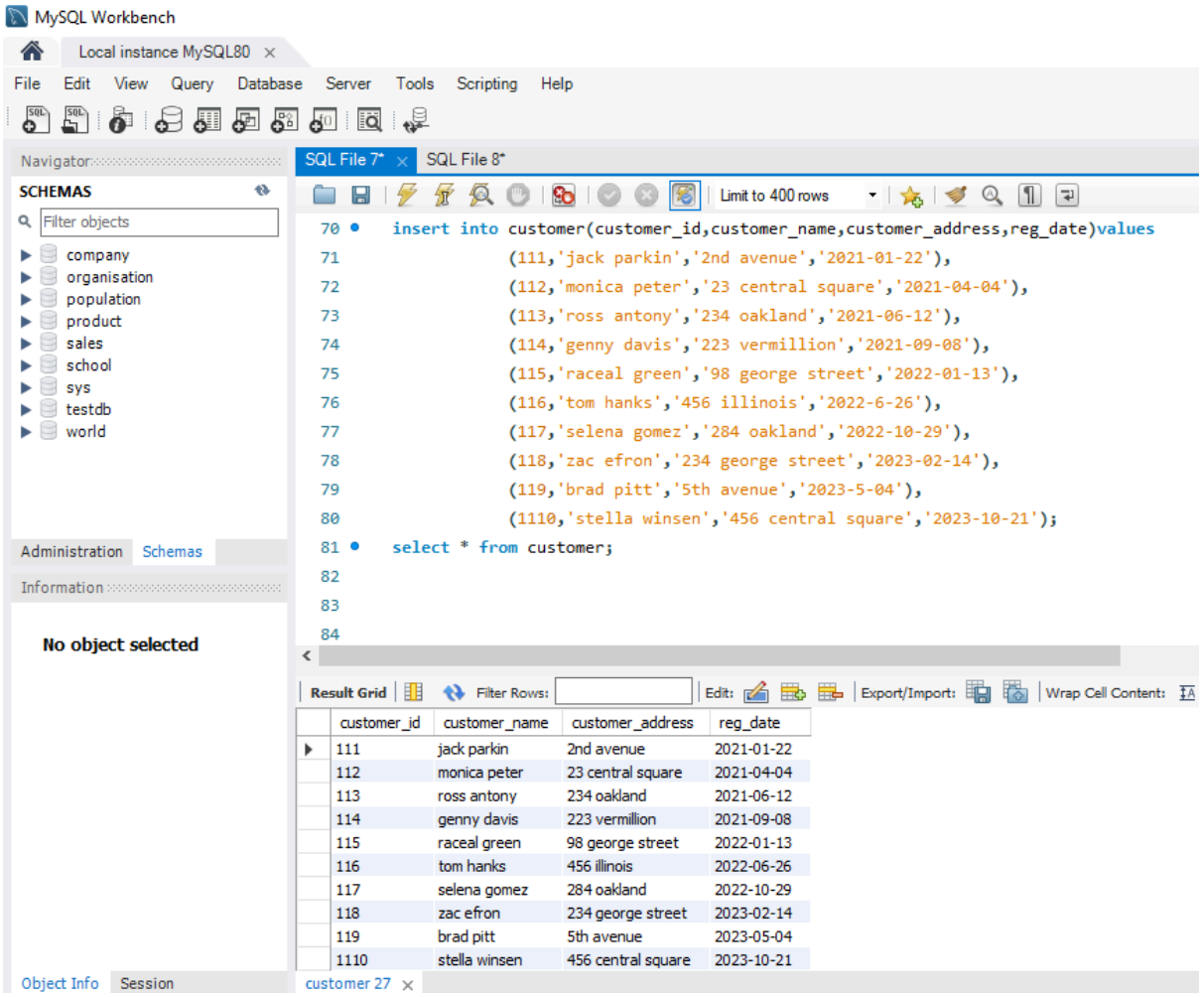
*Customer_id

*Customer_name

*Customer_address

*Reg_date


MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
SQL File 4*
SQL File 5*
Limit to 400 rows
65 create table customer(customer_id int primary key,
66 customer_name varchar(20),
67 customer_address varchar(30),
68 reg_date date);
69
70 select * from customer;
71
72
73
74
75
76
Result Grid
Filter Rows:
Edit:
Export/Import:
Wrap
customer_id
customer_name
customer_address
reg_date
NULL
NULL
NULL
NULL



STEP 5

Creating table name IssueStatus

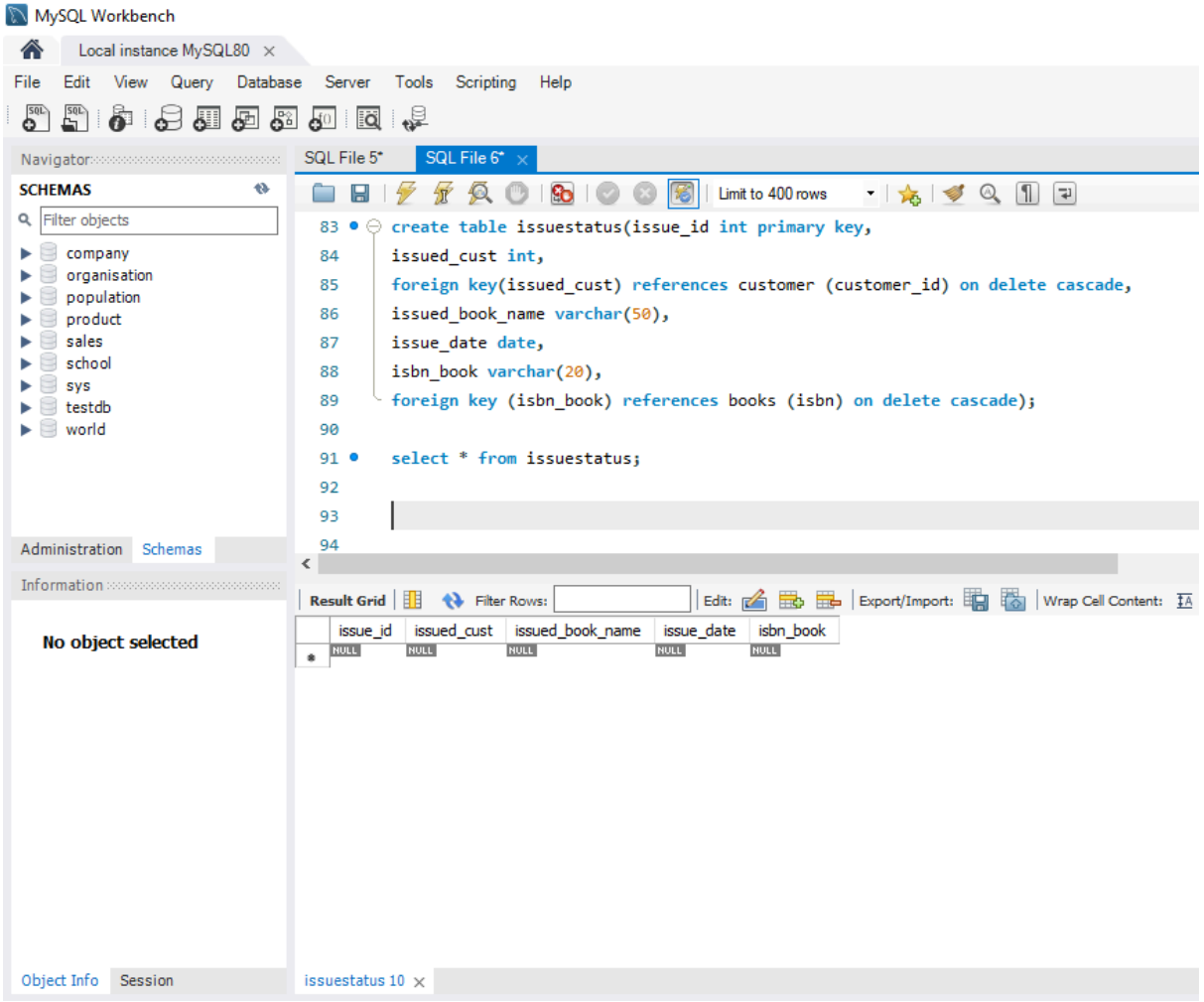
*Issued_id-Set as PRIMARY KEY

*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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SCHEMAS
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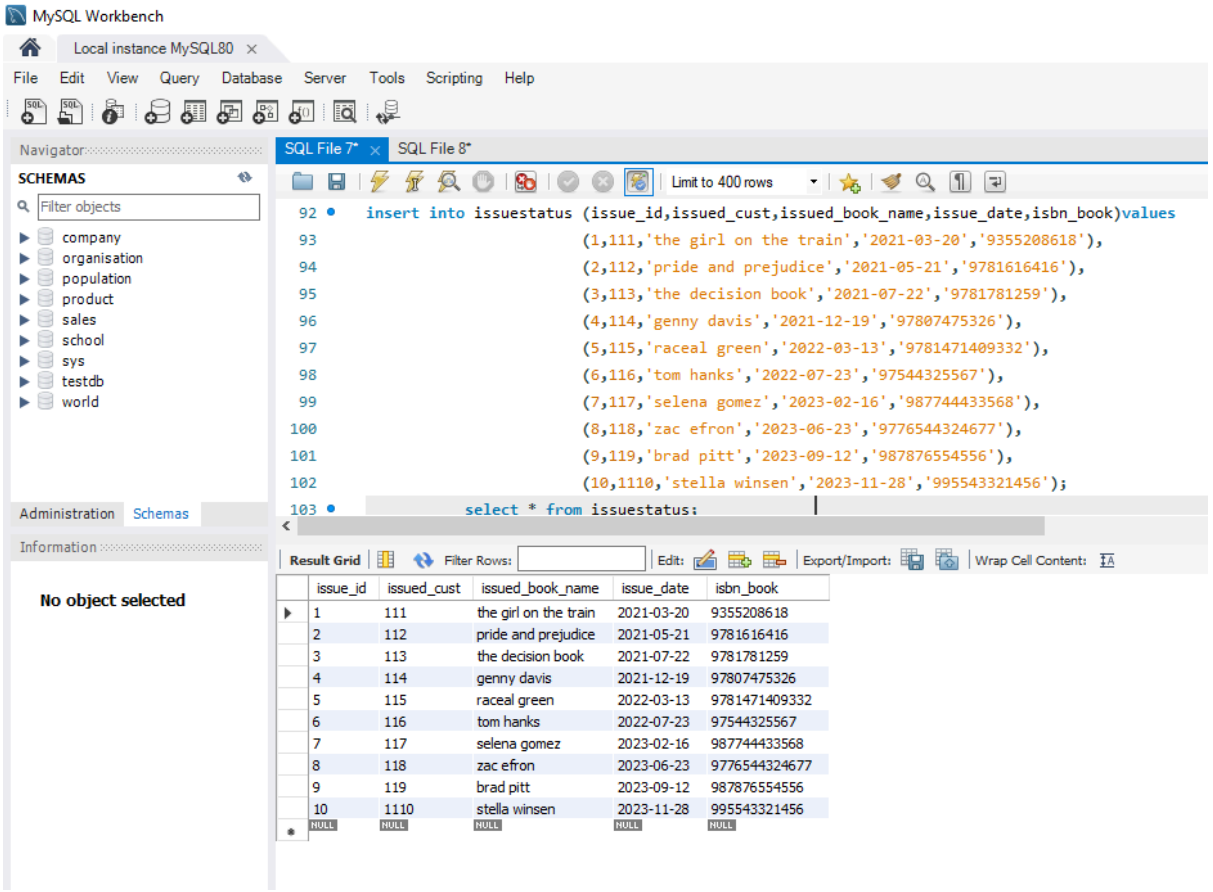
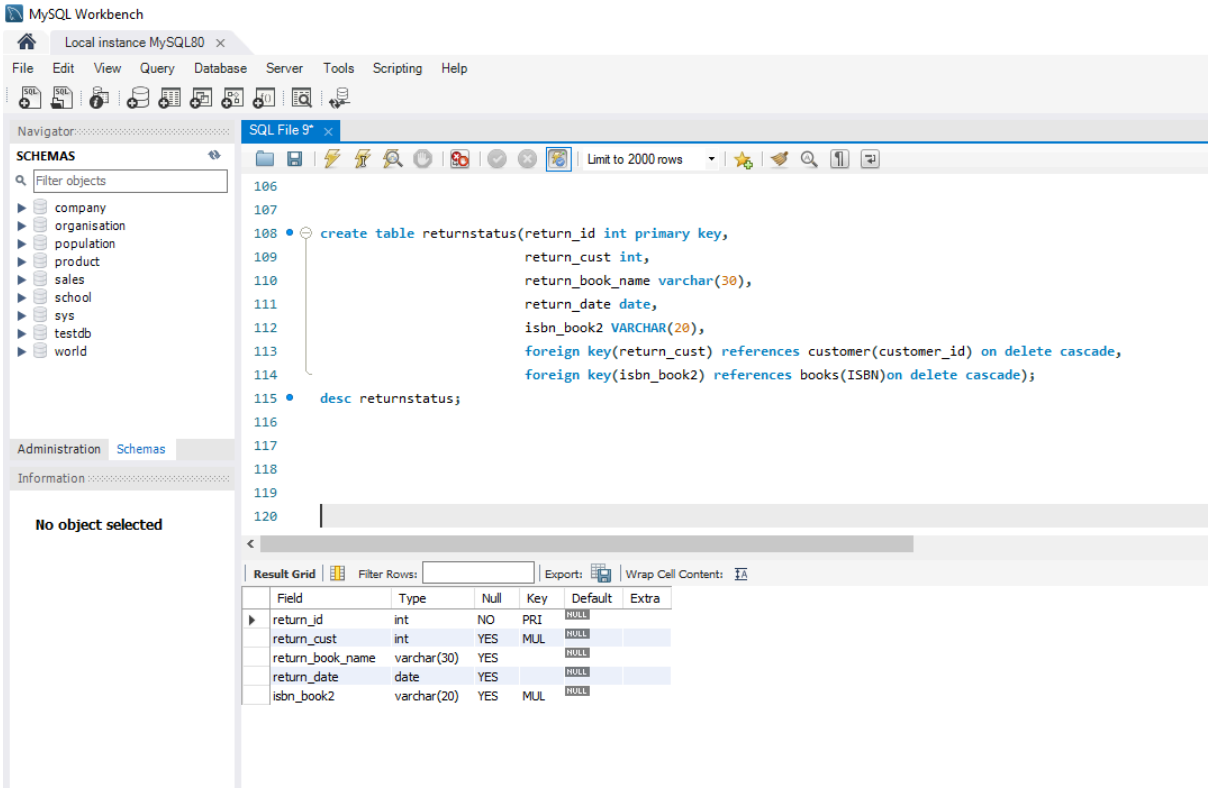
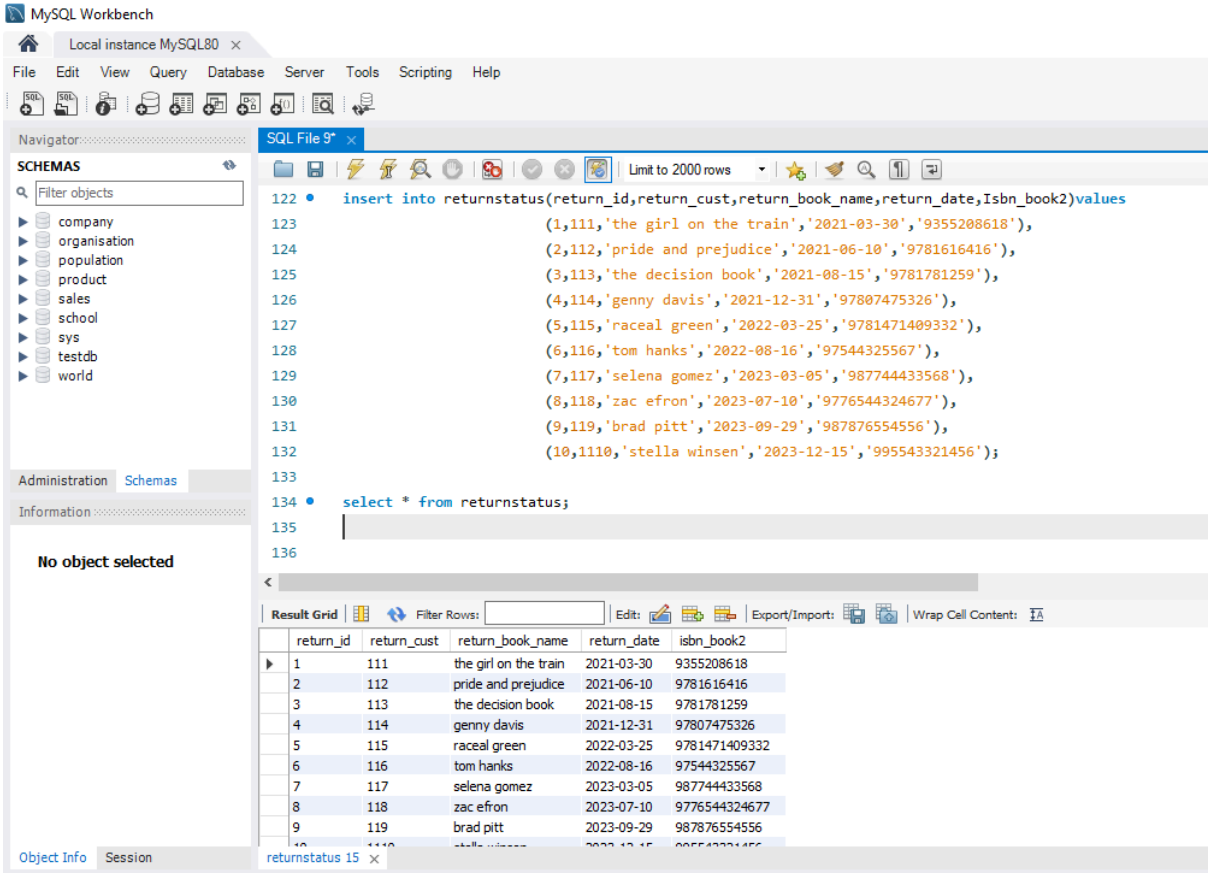
population
product
sales
school
sys
testdb
world
Administration Schemas
Information
No object selected
Object Info Session
SQL File 5*
SQL File 6*
Limit to 400 rows
83 create table issuestatus(issue_id int primary key,
84 issued_cust int,
85 foreign key(issued_cust) references customer (customer_id) on delete cascade,
86 issued_book_name varchar(50),
87 issue_date date,
88 isbn_book varchar(20),
89 foreign key (isbn_book) references books (isbn) on delete cascade);
90
91 select * from issuestatus;
92
93
94
Result Grid
Filter Rows:
Edit:
Export/Import:
Wrap Cell Content:
issue_id issued_cust issued_book_name issue_date isbn_book
NULL NULL NULL NULL NULL
issuestatus 10



STEP 6

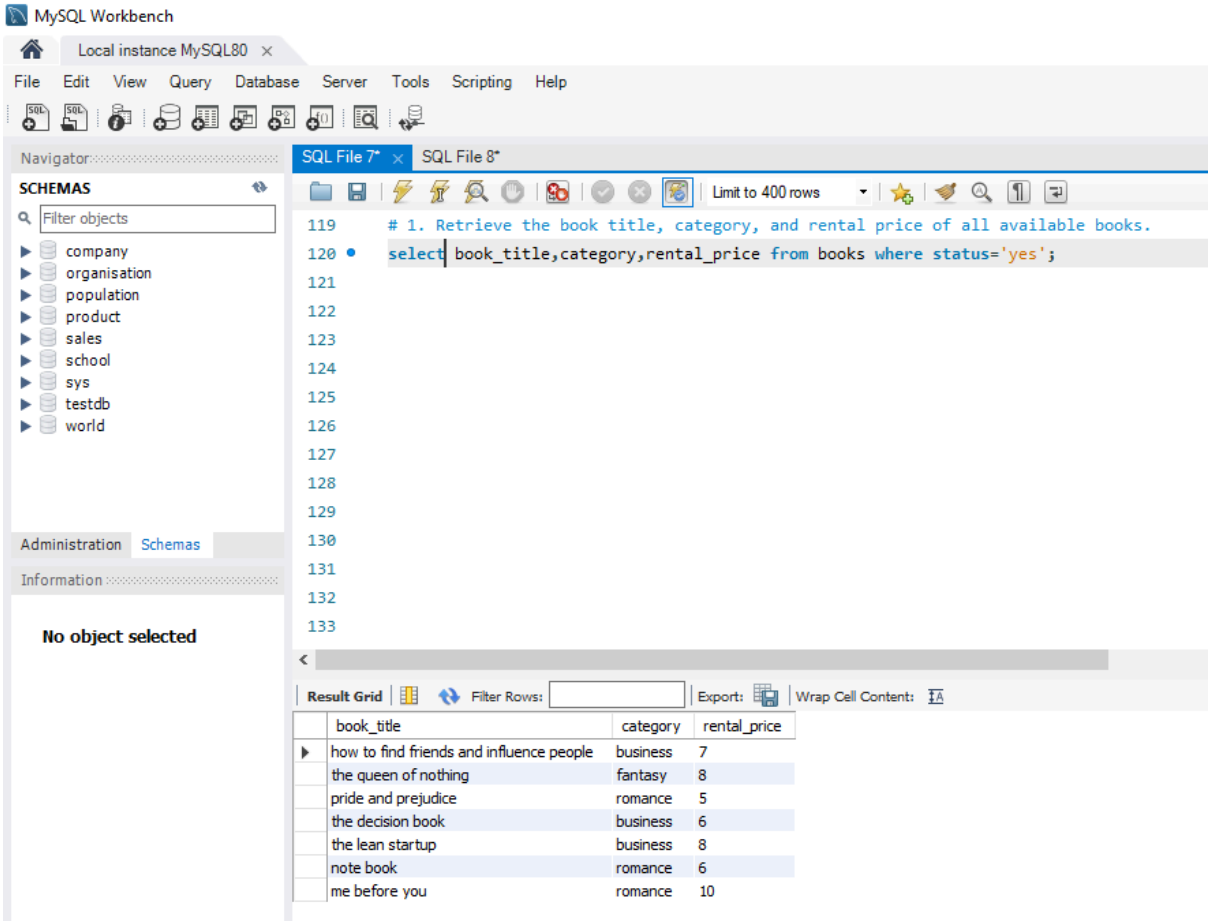
Creating table name ReturnStatus
*Return_id-Set as PRIMARY KEY
*Return_cust
*Return_book_name
*Return_date
*Isbn_book2-Set as FOREIGN KEY and it should refer isbn in BOOK TABLE



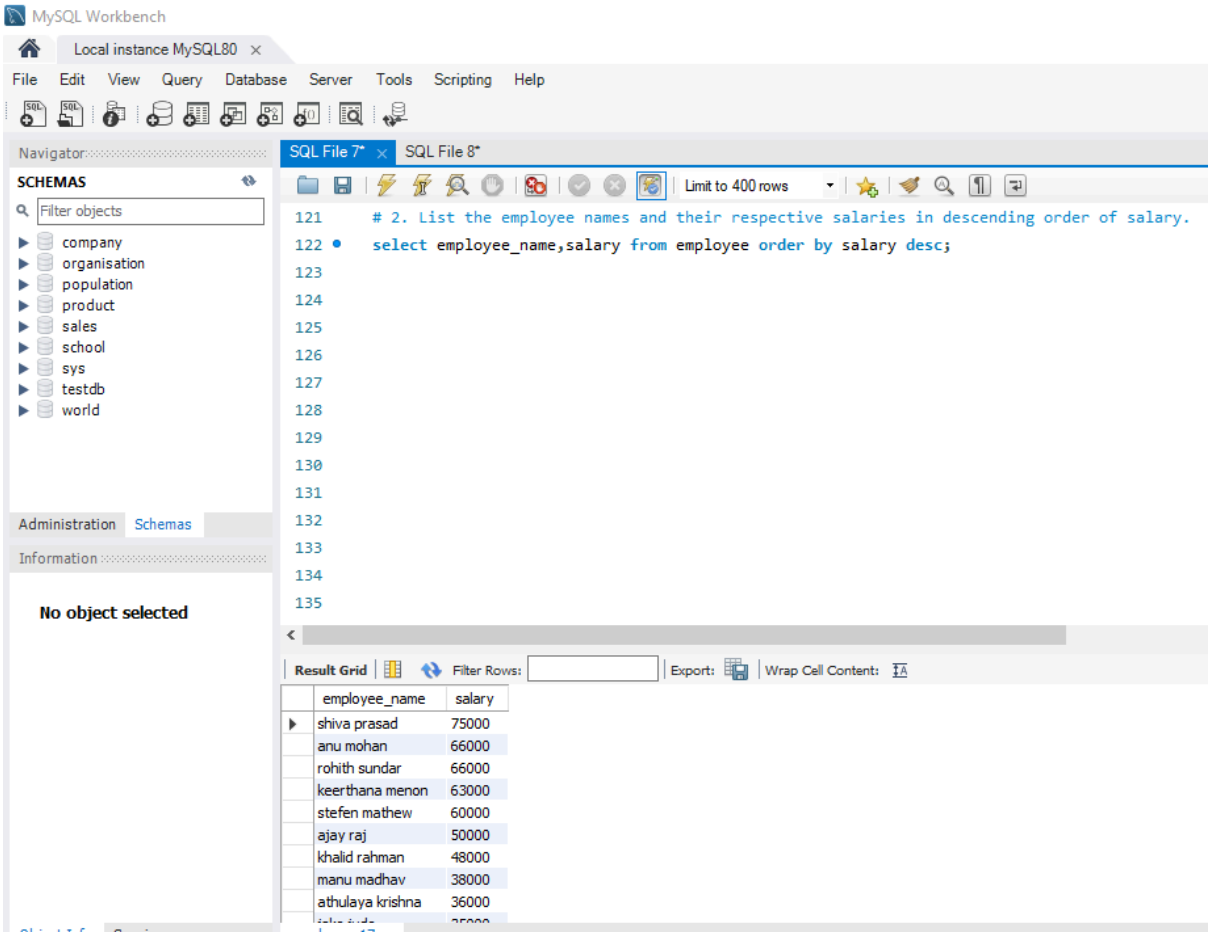


Display all the tables and Write the queries for the following :

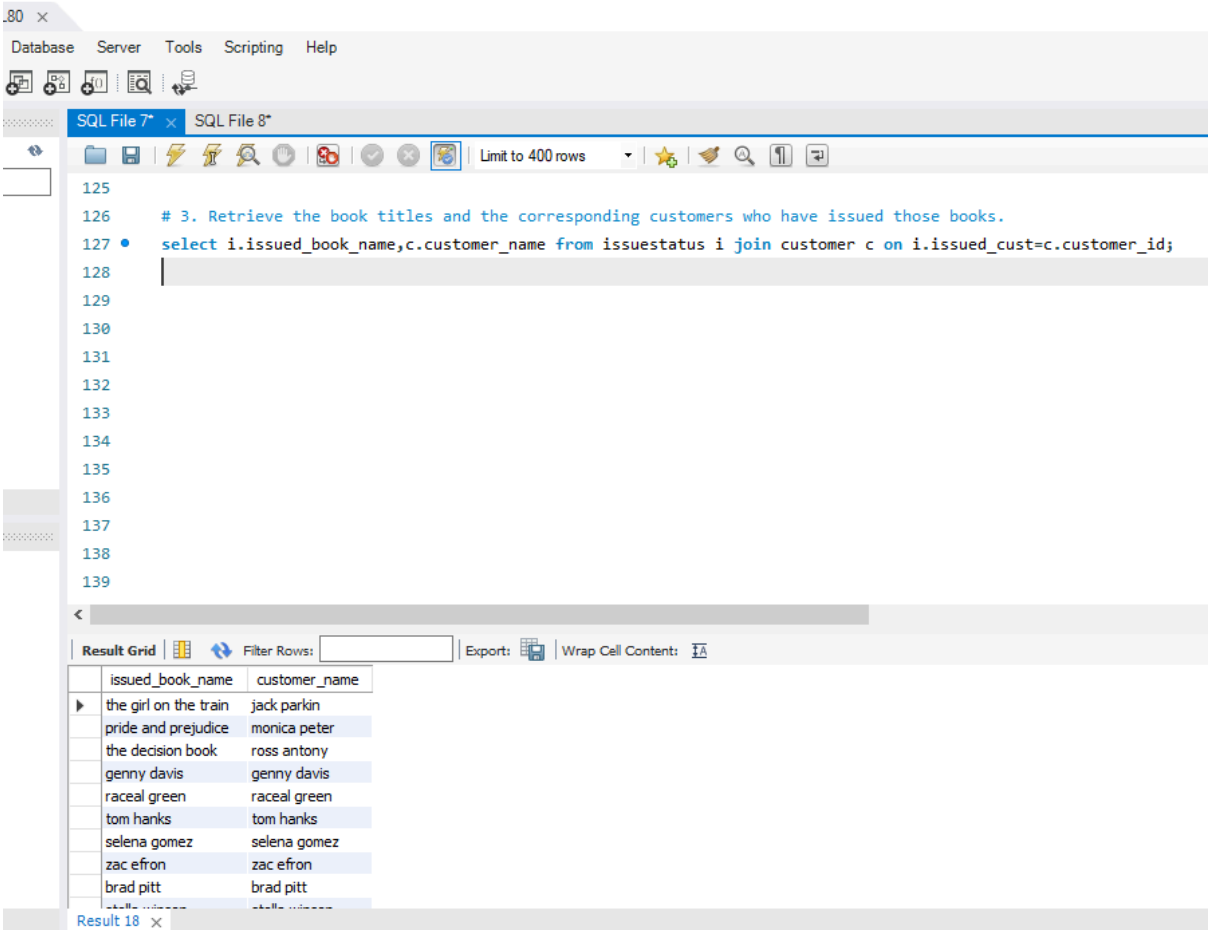
1. Retrieve the book title, category, and rental price of all available books.



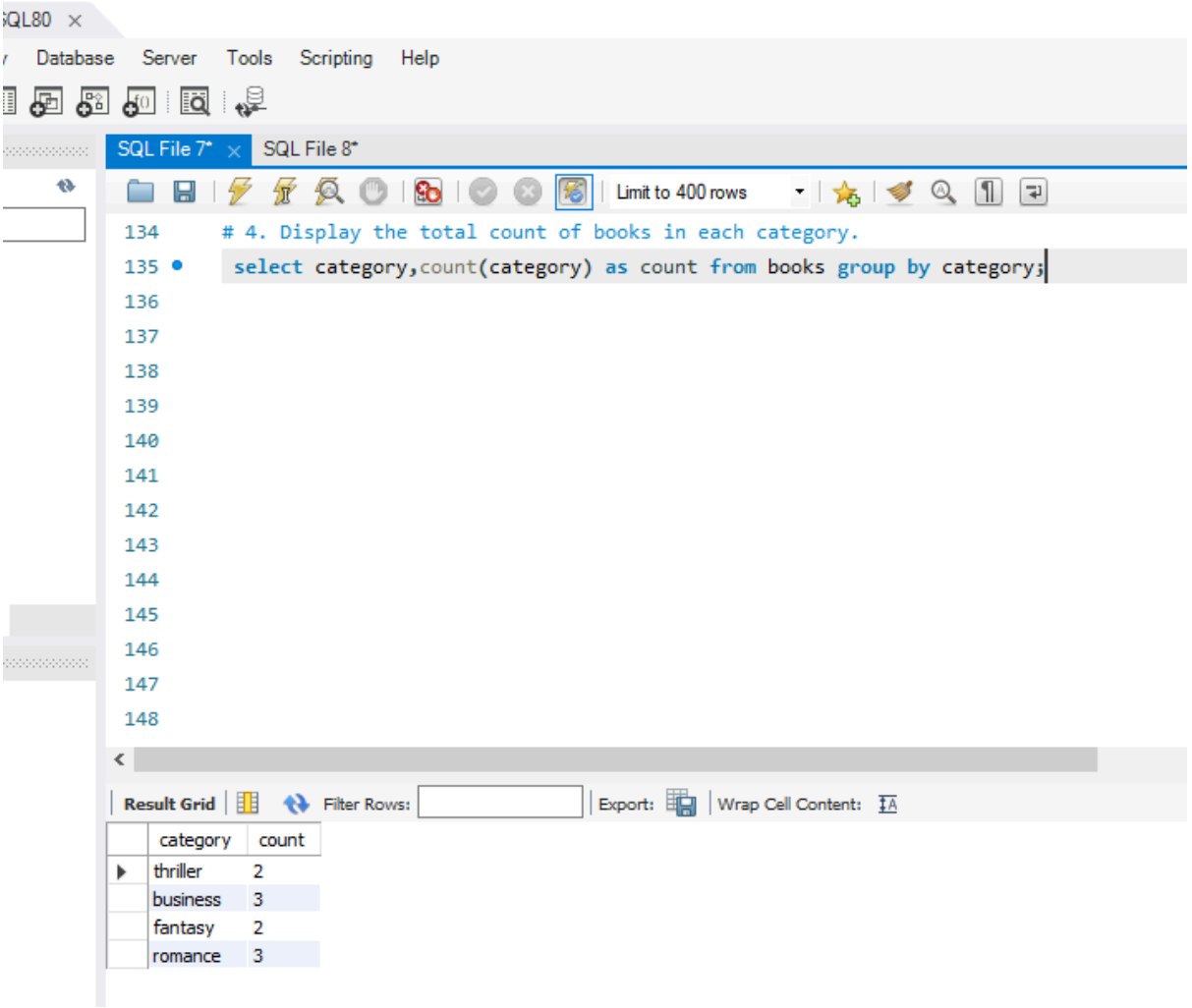
2. List the employee names and their respective salaries in descending order of salary.



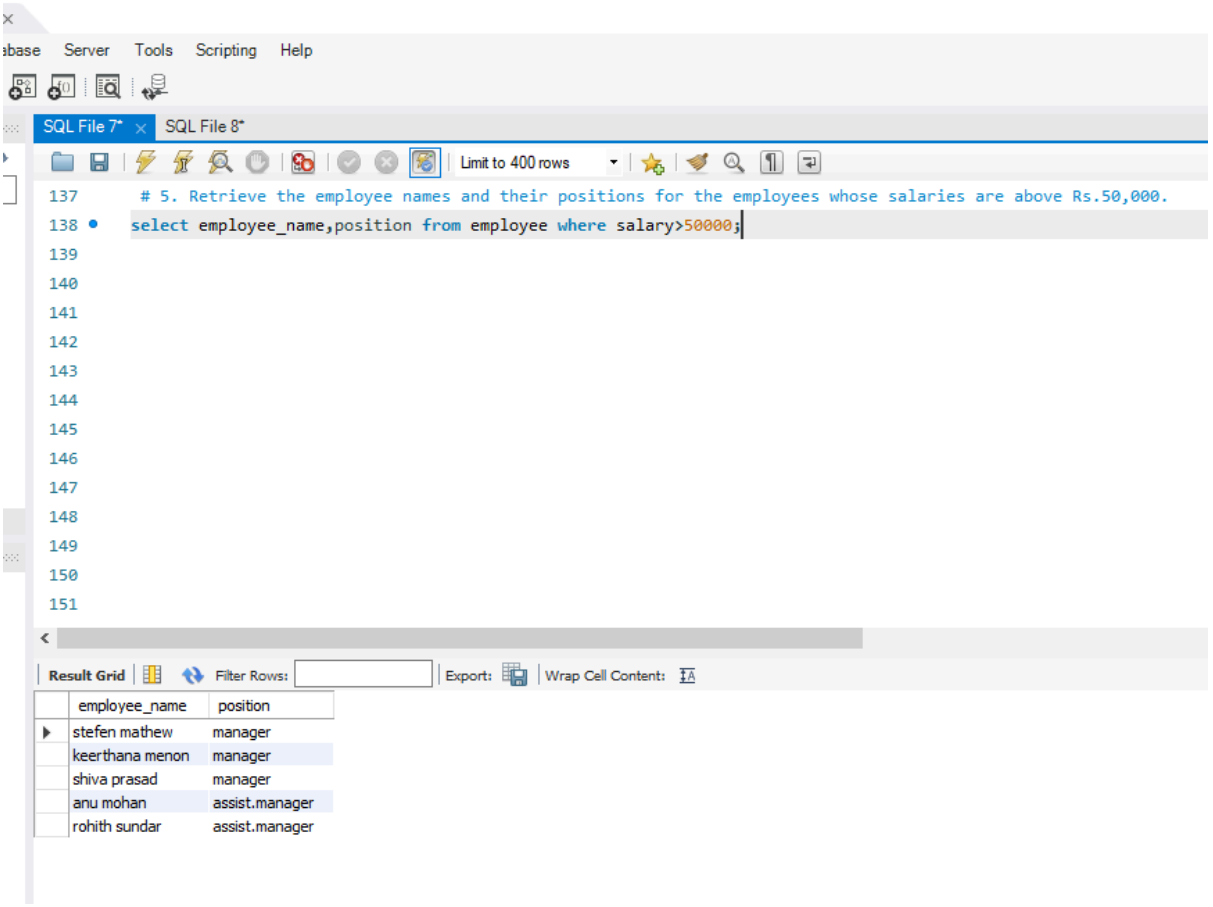
3. Retrieve the book titles and the corresponding customers who have issued those books.



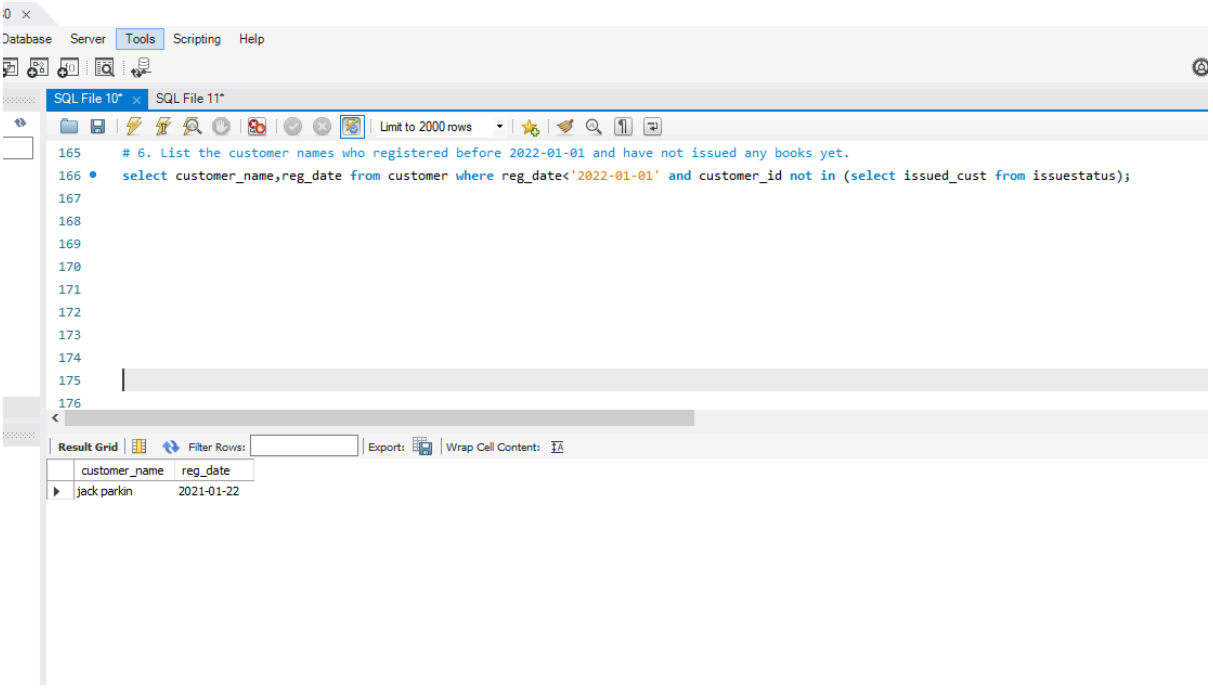
4. Display the total count of books in each category.



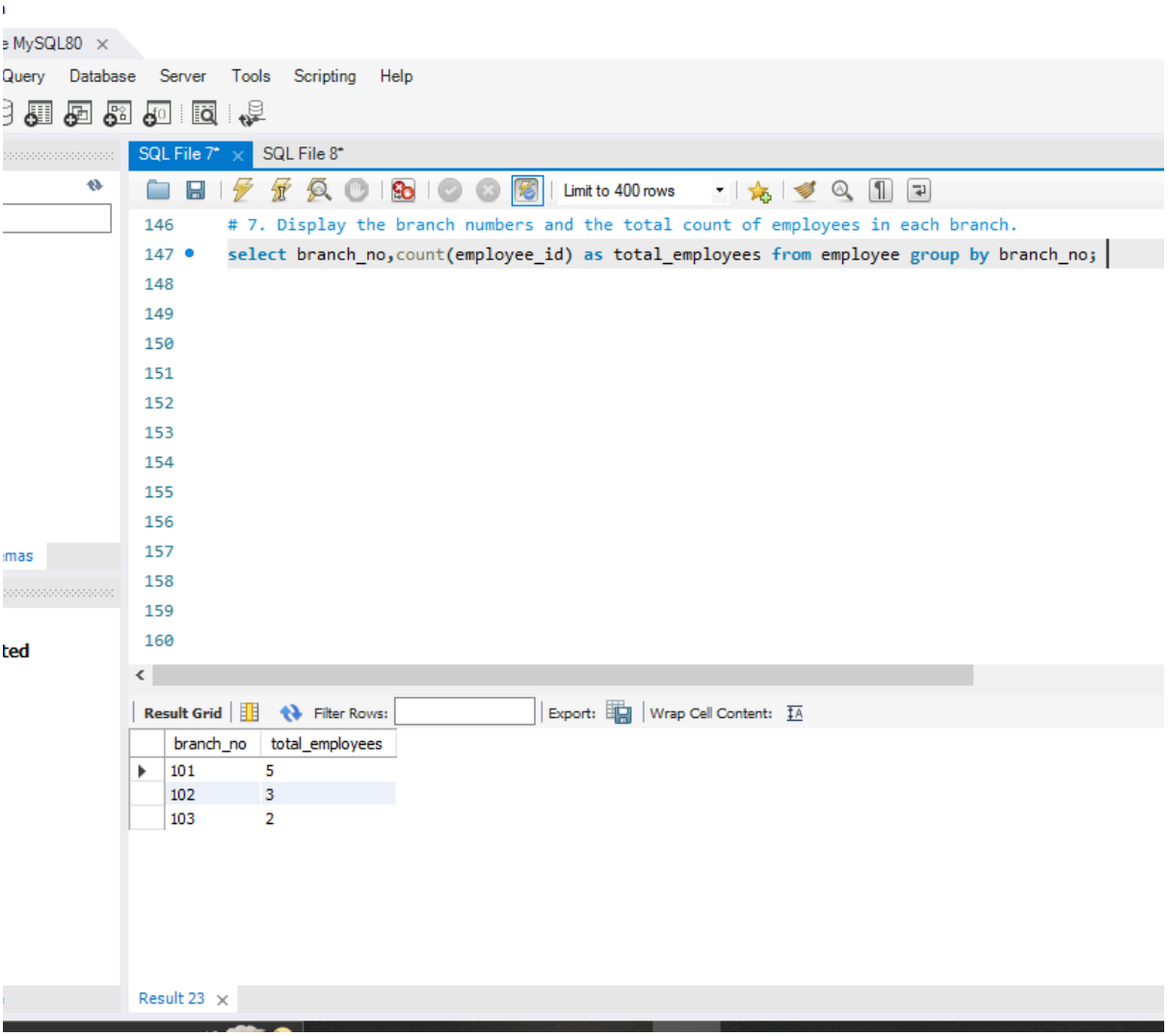
5. Retrieve the employee names and their positions for the employees whose salaries are above Rs.50,000.



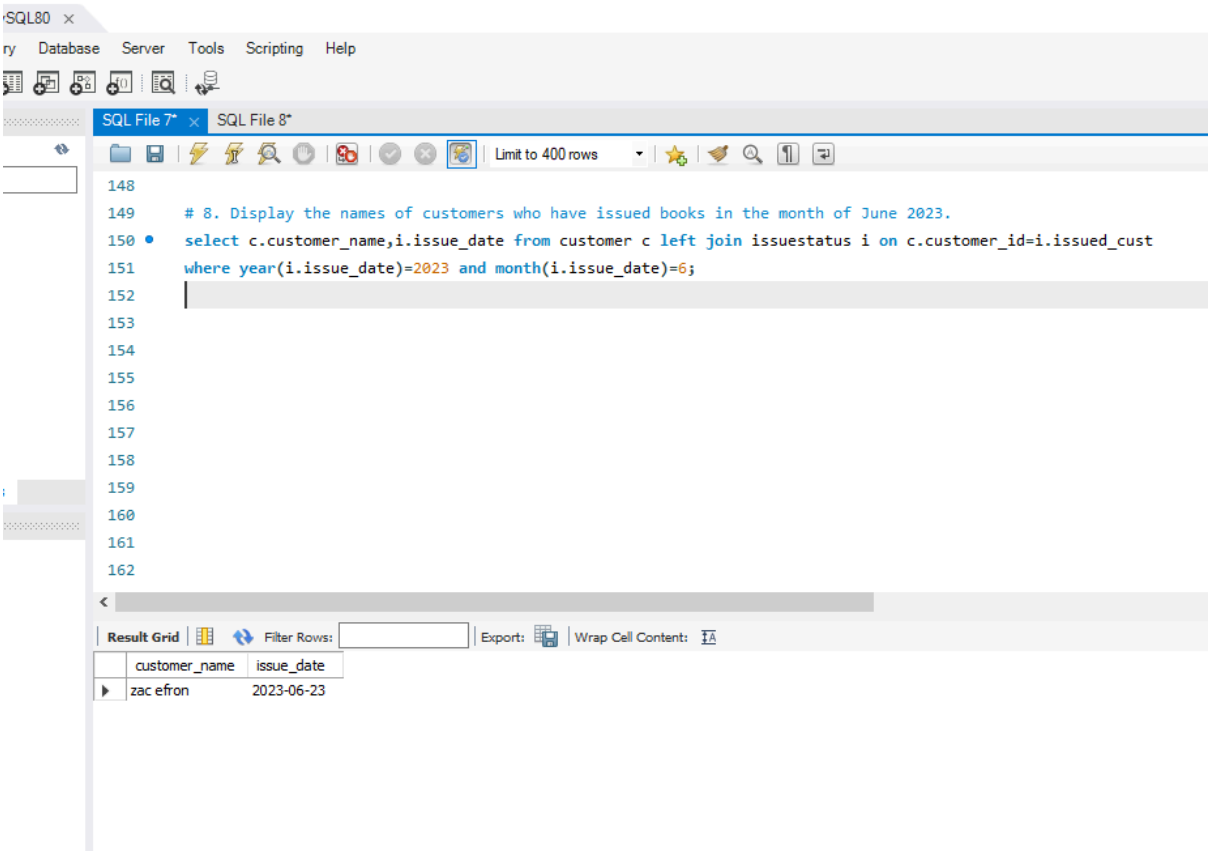
6. List the customer names who registered before 2022-01-01 and have not issued any books yet.



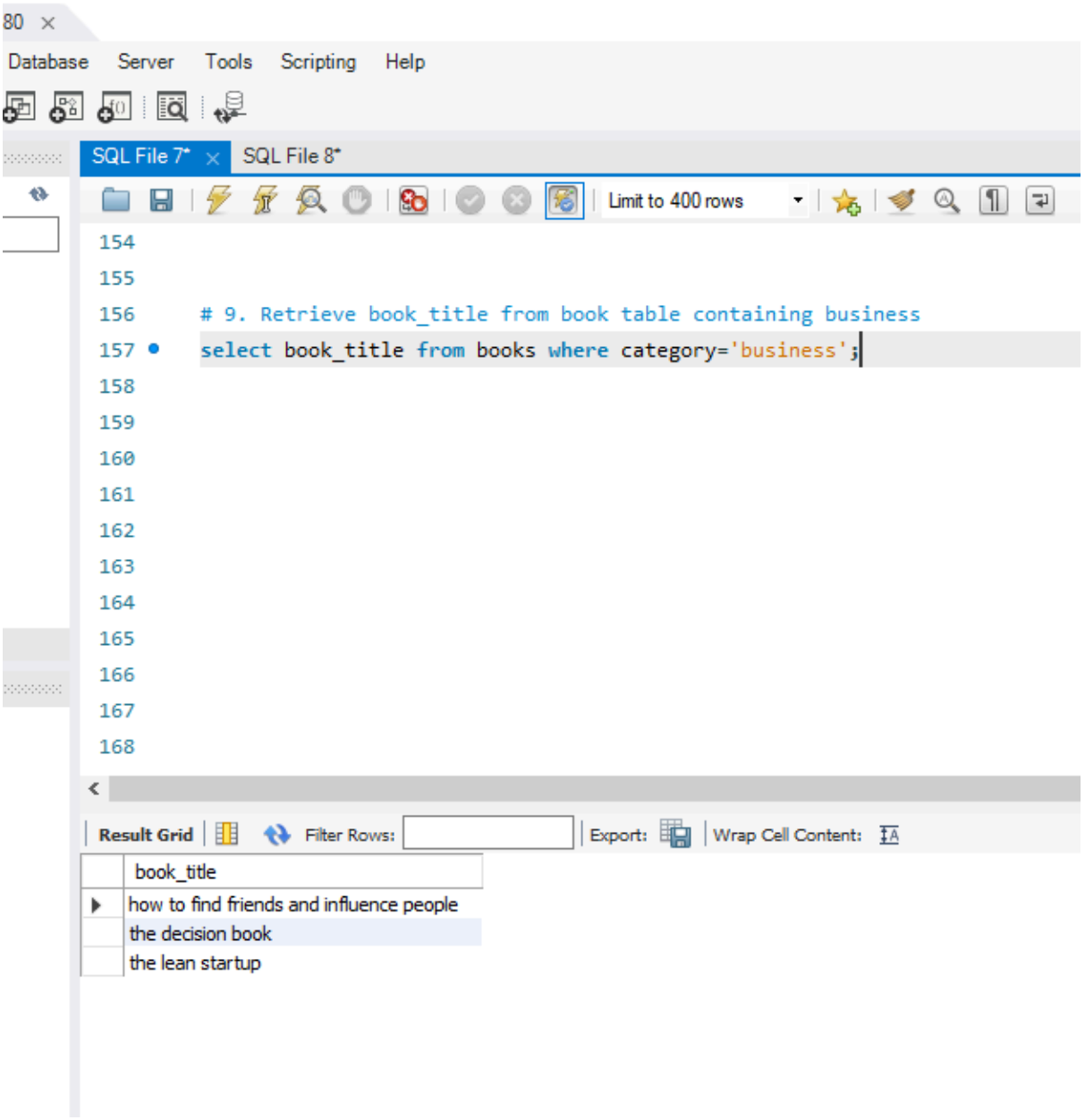
7. Display the branch numbers and the total count of employees in each branch.



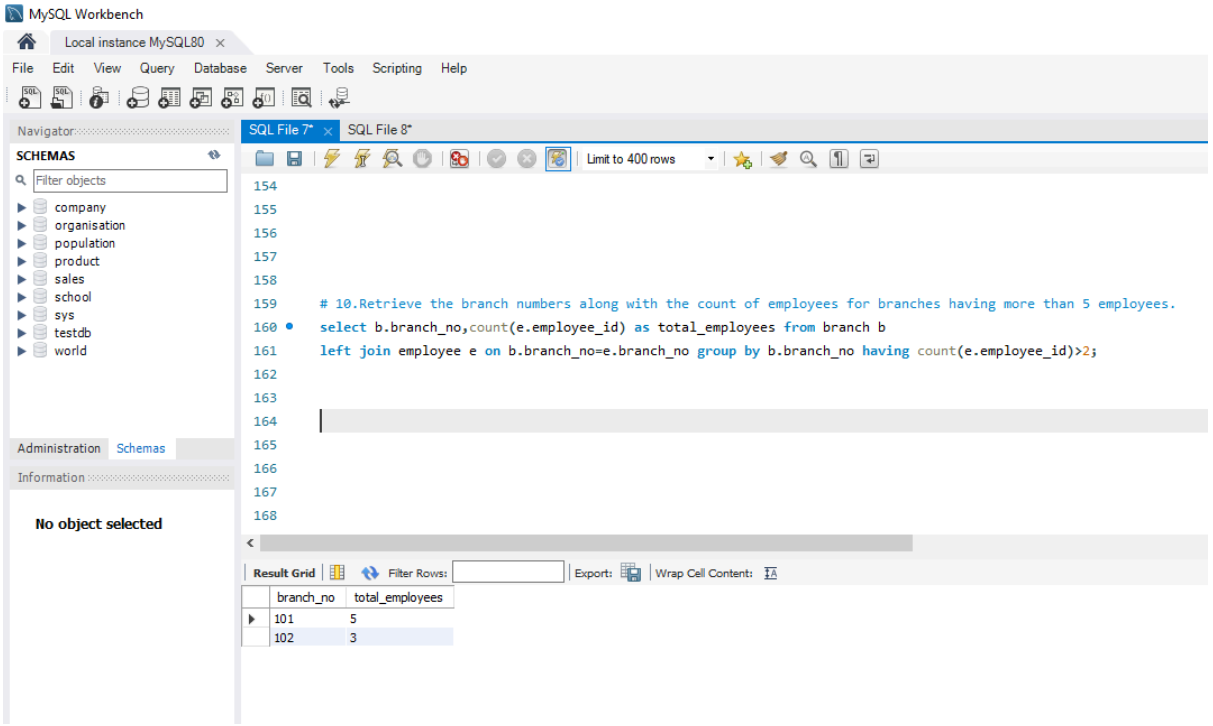
8. Display the names of customers who have issued books in the month of June 2023.



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.


MySQL Workbench
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Navigator
SCHEMAS
Filter objects
company
organisation
population
product
sales
school
sys
testdb
world
Administration Schemas
Information
No object selected
SQL File 7*
SQL File 8*
Limit to 400 rows
154
155
156
157
158
159 # 10.Retrieve the branch numbers along with the count of employees for branches having more than 5 employees.
160 select b.branch_no,count(e.employee_id) as total_employees from branch b
161 left join employee e on b.branch_no=e.branch_no group by b.branch_no having count(e.employee_id)>2;
162
163
164
165
166
167
168
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
branch_no total_employees
101 5
102 3