Library Management System

We 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

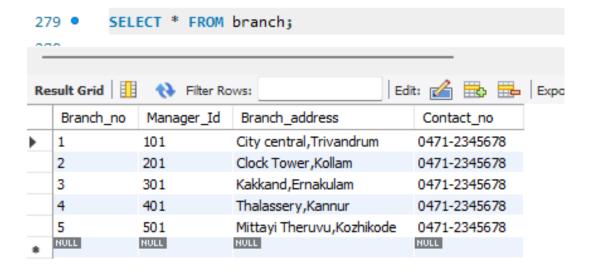
Attributes for the tables:

- 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 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

Displaying all the tables

Branch



Employee

278
279 • SELECT * FROM employee;
280

Result Grid	Filter Rows		Edit: 🕍	Export
Emp_Id	Emp_name	Position	Salary	Branch_no
106	RAJAN	Security	35000.00	1
201	GRACE DAVISs	Manager	50000.00	2
202	WISLON THOMAS	Librarian	30000.00	2
203	ARUN KUMAR	Clerk	40000.00	2
301	THOMAS KURIAN	Manager	65000.00	3
302	SUSHAMMA V	Librarian	62000.00	3
303	RAMACHANDRAN S	Clerk	48000.00	3
304	KRISSHNA KUMAR	Accountant	45000.00	3
305	BALAN CK	Assistant Librarian	48000.00	3
306	RAJU	Security	26000.00	3
401	HARIKRISHNAN M	Manager	55000.00	4
402	NEETHU SURESH	Librarian	45000.00	4
402	DALA A CLIANIDO ANI C	clast.	40000 00	A

Books

279 • SELECT * FROM books;

280

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Re	sult Grid 🔡 (Filter Rows:	Edit:	Exp	port/Impor	t: 📳 🐻 v	Vrap Cell Content: ‡A
	ISBN	Book_title	Category	Rental_Price	Status	Author	Publisher
٠	9781234567800	Introduction to Psychology	Psychology	37.75	no	Emma Purple	Psycho Reads
	9781234567801	Advanced Python	Technology	41.20	yes	Alice Brown	Code World
	9781234567802	Quantum Physics	Science	49.50	no	David Grey	Science Today
	9781234567803	Ancient Civilizations	History	20.40	yes	Lisa White	Past Publishers
	9781234567804	Business Ethics	Business	28.25	no	Mark Red	Biz House
	9781234567805	Behavioral Economics	Economics	43.75	yes	Nina Green	Economic Insights
	9781234567806	Philosophical Questions	Philosophy	19.95	yes	Oscar Blue	Thoughtful Press
	9781234567807	Calculus II	Mathematics	33.20	no	Tom White	Math Group
	9781234567808	Sociology Basics	Social Science	26.85	yes	Anna Brown	Social World
	9781234567809	Business Strategies	Business	39.10	yes	Patricia Gold	Strategy Press
	9781234567810	Introduction to Machine L	Technology	44.85	no	Chris Black	ML Corp
	9781234567811	World War II	History	24.60	yes	Nancy Grey	History Makers

Customer

279 • SELECT * FROM customer;

280

-					
Re	sult Grid	Name of the Filter Rows:	Edit: 🚄 📆 🖽		
	Customer_Id	Customer_name	Customer_address	Reg_date	
•	1000	Akhil Menon	Thiruvananthapuram	2020-01-15	
	1001	Vishnu Raj	Kochi	2020-03-22	
	1002	Ravi Nair	Kollam	2020-05-10	
	1003	Deepa Suresh	Thrissur	2020-07-01	
	1004	Lekshmi Pillai	Kozhikode	2020-08-18	
	1005	Manu Krishnan	Kannur	2020-10-05	
	1006	Sreejith Ramesh	Palakkad	2021-01-12	
	1007	Anjana Nair	Alappuzha	2021-02-25	
	1008	Rakesh Varma	Pathanamthitta	2021-04-30	
	1009	Sree Lakshmi	Malappuram	2021-06-15	
	1010	Divya Mohan	Idukki	2021-09-05	
	1011	Ajith Kumar	Kasaragod	2021-11-20	
	1013	A Ci	1/	2022 02 40	

IssueStatus

279 • SELECT * FROM issuestatus;

280

Issue_Id	Issued_cust	Issued_book_name	Issue_date	Isbn_book
1	1000	Python Programming	2023-06-01	9781234567891
2	1001	Data Science Handbook	2023-06-05	9781234567892
3	1002	Machine Learning Basics	2023-06-10	9781234567893
4	1003	Statistics Essentials	2023-06-15	9781234567894
6	1005	World History	2023-06-25	9781234567896
7	1006	Introduction to Philosophy	2023-07-01	9781234567897
8	1007	Modern Economics	2023-07-05	9781234567898
9	1008	Digital Marketing	2023-07-10	9781234567899
10	1009	Introduction to Psychology	2023-07-15	9781234567800
11	1010	Advanced Python	2023-07-20	9781234567801
12	1011	Quantum Physics	2023-07-25	9781234567802
13	1012	Ancient Civilizations	2023-08-01	9781234567803
14	1013	Business Ethics	2023-08-05	9781234567804
15 NULL	1014 NULL	Behavioral Economics	2023-08-10	9781234567805

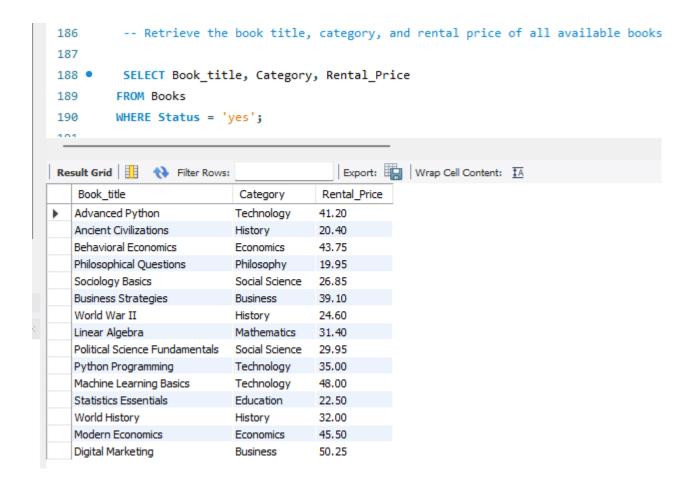
ReturnStatus

279 • SELECT * FROM returnstatus;

Result Grid 1							
	Return_Id	Return_cust	Return_book_name	Return_date	Isbn_book2		
٠	1	1000	Python Programming	2023-07-01	9781234567891	-	
	2	1003	Statistics Essentials	2023-07-20	9781234567894		
	3	1005	World History	2023-08-01	9781234567896		
	4	1007	Introduction to Philosophy	2023-08-10	9781234567897		
	5	1011	Quantum Physics	2023-08-20	9781234567802		
	6	1013	Business Ethics	2023-09-01	9781234567804		
	NULL	NULL	NULL	NULL	NULL		

Questions and Answer Queries

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

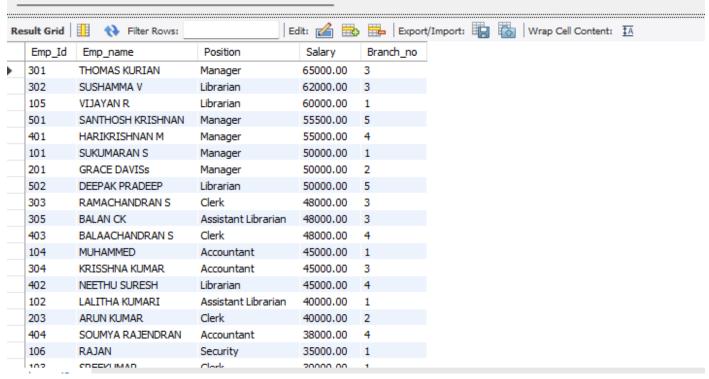


2. List the employee names and their respective salaries in descending order of salary.

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

193

194 • SELECT * FROM employee ORDER BY Salary DESC;



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

```
197
          -- Retrieve the book titles and the corresponding customers who have issued those books
198
199 •
          SELECT books.Book_title, customer.Customer_name
200
          FROM books
          INNER JOIN issuestatus ON books.ISBN = issuestatus.Isbn book
201
          INNER JOIN customer ON issuestatus.Issued_cust = customer.Customer_Id;
202
203
Result Grid
                                                 Export: Wrap Cell Content: IA
   Book_title
                            Customer_name
  Python Programming
                            Akhil Menon
  Data Science Handbook
                           Vishnu Raj
  Machine Learning Basics
                            Ravi Nair
  Statistics Essentials
                            Deepa Suresh
   World History
                            Manu Krishnan
  Introduction to Philosophy
                           Sreejith Ramesh
  Modern Economics
                            Anjana Nair
  Digital Marketing
                            Rakesh Varma
  Introduction to Psychology
                            Sree Lakshmi
  Advanced Python
                            Divya Mohan
   Quantum Physics
                            Ajith Kumar
   Ancient Civilizations
                            Arya Sivan
  Business Ethics
                            Nikhil Pradeep
                            Revathy Haridas
  Behavioral Economics
```

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 50000

```
-- Retrieve the employee names and their positions for the employees whose salaries are above Rs.50,000
210
211
212 •
         SELECT Emp name AS 'Name of Employee', Position FROM employee WHERE Salary > 50000;
213
Result Grid Filter Rows:
                                           Export: Wrap Cell Content: IA
   Name of Employee
                      Position
  VIJAYAN R
                     Librarian
  THOMAS KURIAN
                     Manager
  SUSHAMMA V
                     Librarian
  HARIKRISHNAN M
                     Manager
  SANTHOSH KRISHNAN Manager
```

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

```
-- List the customer names who registered before 2022-01-01 and have not issued any books yet
215 •
        SELECT Customer_name ,Reg_date AS 'Registered Date'
216
        FROM Customer
        WHERE Reg_date < '2022-01-01'
217
      AND Customer_Id NOT IN (
218
             SELECT Issued cust
219
             FROM IssueStatus
220
221
       );
                                          Export: Wrap Cell Content: IA
Result Grid Filter Rows:
                 Registered
   Customer_name
                 Date
  Lekshmi Pillai
                 2020-08-18
```

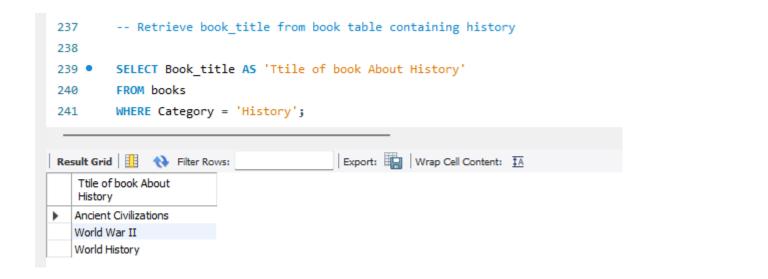
7. Display the branch numbers and the total count of employees in each branch

```
-- Display the branch numbers and the total count of employees in each branch
224
        SELECT Branch_no , COUNT(*) AS 'No of Employees'
225 •
226
        FROM employee
        GROUP BY Branch_no;
Export: Wrap Cell Content: IA
            No of
   Branch_no
            Employees
  1
           6
  2
           3
  3
           6
  4
           4
  5
           3
```

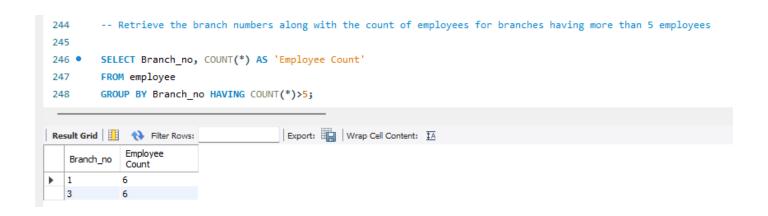
8. Display the names of customers who have issued books in the month of June 2023

```
229
230
        -- Display the names of customers who have issued books in the month of June 2023
       SELECT customer.Customer_name
231 •
        FROM issuestatus
232
233
        JOIN customer ON issuestatus.Issued_cust = customer.Customer_Id
        WHERE Issue date BETWEEN '2023-06-01' AND '2023-06-30';
234
                                        Export: Wrap Cell Content: IA
Customer_name
  Akhil Menon
  Vishnu Raj
  Ravi Nair
  Deepa Suresh
  Manu Krishnan
```

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



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

```
-- Retrieve the names of employees who manage branches and their respective branch addresse:
251
252
        SELECT employee.Emp name AS 'Name Of Employee', branch.Branch address AS 'Branch Address'
253 •
        FROM employee
254
        JOIN branch ON employee.Branch_no = branch.Branch_no
255
        WHERE employee.Position = 'Manager';
256
Export: Wrap Cell Content: IA
   Name Of Employee
                     Branch Address
  SUKUMARAN S
                     City central, Trivandrum
  GRACE DAVISs
                   Clock Tower, Kollam
  THOMAS KURIAN
                   Kakkand,Ernakulam
  HARIKRISHNAN M
                   Thalassery, Kannur
  SANTHOSH KRISHNAN Mittayi Theruvu, Kozhikode
```

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

