

# MySQL PROJECT

## LIBRARY MANAGEMENT SYSTEM

```
1  -- Create the database
2  • CREATE DATABASE library;
3
4  -- Use the database
5  • USE library;
6
7  -- Create the Branch table
8  • CREATE TABLE Branch (
9      Branch_no INT PRIMARY KEY,
10     Manager_Id INT,
11     Branch_address VARCHAR(255),
12     Contact_no VARCHAR(15)
13 );
14
15 • INSERT INTO Branch (Branch_no, Manager_Id, Branch_address, Contact_no)
16 VALUES
17 (1, 101, '123 Main Street', '123-456-7890'),
18 (2, 102, '456 Oak Avenue', '987-654-3210'),
19 (3, 103, '789 Elm Drive', '456-789-0123'),
20 (4, 104, '567 Pine Road', '321-987-6543'),
21 (5, 105, '890 Maple Lane', '789-012-3456');
22 • SELECT * FROM Branch;
```

Result Grid		Filter Rows: <input type="text"/>	Edit:		Export/Import:	Wrap Cell Content:
	Branch_no	Manager_Id	Branch_address	Contact_no		
▶	1	101	123 Main Street	123-456-7890		
	2	102	456 Oak Avenue	987-654-3210		
	3	103	789 Elm Drive	456-789-0123		
	4	104	567 Pine Road	321-987-6543		
	5	105	890 Maple Lane	789-012-3456		
*	NULL	NULL	NULL	NULL		

```

25  -- Create the Employee table
26  • CREATE TABLE Employee (
27      Emp_Id INT PRIMARY KEY,
28      Emp_name VARCHAR(255),
29      Position VARCHAR(50),
30      Salary DECIMAL(10, 2),
31      Branch_no INT,
32      FOREIGN KEY (Branch_no) REFERENCES Branch(Branch_no)
33  );
34
35  • INSERT INTO Employee (Emp_Id, Emp_name, Position, Salary, Branch_no)
36  VALUES
37  (201, 'John Doe', 'Librarian', 40000.00, 1),
38  (202, 'Jane Smith', 'Assistant Librarian', 30000.00, 2),
39  (203, 'David Lee', 'Clerk', 25000.00, 3),
40  (204, 'Mary Johnson', 'Assistant Librarian', 32000.00, 4),
41  (205, 'Sarah Brown', 'Clerk', 24000.00, 5);
42  • SELECT * FROM Employee;

```

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

	Emp_Id	Emp_name	Position	Salary	Branch_no
►	201	John Doe	Librarian	40000.00	1
	202	Jane Smith	Assistant Librarian	30000.00	2
	203	David Lee	Clerk	25000.00	3
	204	Mary Johnson	Assistant Librarian	32000.00	4
	205	Sarah Brown	Clerk	24000.00	5
✱	NULL	NULL	NULL	NULL	NULL

```










Query 1 x
Limit to 1000 rows

43 -- Create the Books table
44 CREATE TABLE Books (
45     ISBN VARCHAR(20) PRIMARY KEY,
46     Book_title VARCHAR(255),
47     Category VARCHAR(100),
48     Rental_Price DECIMAL(10, 2),
49     Status ENUM('yes', 'no'),
50     Author VARCHAR(255),
51     Publisher VARCHAR(255)
52 );
53
54 INSERT INTO Books (ISBN, Book_title, Category, Rental_Price, Status, Author, Publisher)
55 VALUES
56 ('978-0061120084', 'To Kill a Mockingbird', 'Fiction', 15.00, 'yes', 'Harper Lee', 'Harper Perennial Modern Classics'),
57 ('978-0307277671', 'The Catcher in the Rye', 'Fiction', 12.00, 'yes', 'J.D. Salinger', 'Back Bay Books'),
58 ('978-0451524935', '1984', 'Fiction', 14.00, 'yes', 'George Orwell', 'Signet Classic'),
59 ('978-1451673319', 'The Great Gatsby', 'Fiction', 10.00, 'yes', 'F. Scott Fitzgerald', 'Scribner'),
60 ('978-1400033423', 'The Adventures of Huckleberry Finn', 'Fiction', 13.00, 'yes', 'Mark Twain', 'Modern Library'),
61 ('978-0062316094', 'Sapiens: A Brief History of Humankind', 'History', 20.00, 'yes', 'Yuval Noah Harari', 'Harper'),
62 ('978-0140441000', 'The Republic', 'Philosophy', 18.00, 'yes', 'Plato', 'Penguin Classics'),
63 ('978-0307477721', 'A Brief History of Time', 'Science', 25.00, 'yes', 'Stephen Hawking', 'Bantam'),
64 ('978-0143127550', 'Thinking, Fast and Slow', 'Psychology', 22.00, 'yes', 'Daniel Kahneman', 'Farrar, Straus and Giroux'),
65 ('978-0060850524', 'The Power of Habit: Why We Do What We Do in Life and Business', 'Self-Help', 16.00, 'yes', 'Charles Duhigg', 'Random House'),
66 ('978-0385490818', 'The Seven Habits of Highly Effective People: Powerful Lessons in Personal Change', 'Self-Help', 17.00, 'yes', 'Stephen R. Covey', 'Simon & Schuster'),
67 ('978-0679753351', 'The Art of Happiness', 'Self-Help', 19.00, 'yes', 'Dalai Lama', 'Riverhead Books'),
68 ('978-1594484803', 'Quiet: The Power of Introverts in a World That Cannot Stop Talking', 'Psychology', 21.00, 'yes', 'Susan Cain', 'Crown Publishers'),
69 ('978-0143128540', 'The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses', 'Business', 23.00, 'yes', 'Eric Ries', 'Crown Publishing Group'),
70 ('978-0804141329', 'The 4-Hour Workweek: Escape 9-5, Live Anywhere, and Join the New Rich', 'Business', 24.00, 'yes', 'Timothy Ferriss', 'Crown Publishing Group');






```

Result Grid							
Filter Rows:		Edit:		Export/Import:		Wrap Cell Content:	
ISBN	Book_title	Category	Rental_Price	Status	Author	Publisher	
978-0060850524	The Power of Habit: Why We Do What We Do i...	Self-Help	16.00	yes	Charles Duhigg	Random House	
978-0061120084	To Kill a Mockingbird	Fiction	15.00	yes	Harper Lee	Harper Perennial Modern Classics	
978-0062316094	Sapiens: A Brief History of Humankind	History	20.00	yes	Yuval Noah Harari	Harper	
978-0140441000	The Republic	Philosophy	18.00	yes	Plato	Penguin Classics	
978-0143127550	Thinking, Fast and Slow	Psychology	22.00	yes	Daniel Kahneman	Farrar, Straus and Giroux	
978-0143128540	The Lean Startup: How Today's Entrepreneurs ...	Business	23.00	yes	Eric Ries	Crown Business	
978-0307277671	The Catcher in the Rye	Fiction	12.00	yes	J.D. Salinger	Back Bay Books	
978-0307477721	A Brief History of Time	Science	25.00	yes	Stephen Hawking	Bantam	
978-0385490818	The Seven Habits of Highly Effective People: Po...	Self-Help	17.00	yes	Stephen R. Covey	Simon & Schuster	
978-0451524935	1984	Fiction	14.00	yes	George Orwell	Signet Classic	
978-0679753351	The Art of Happiness	Self-Help	19.00	yes	Dalai Lama	Riverhead Books	
978-0804141329	The 4-Hour Workweek: Escape 9-5, Live Anywh...	Business	24.00	yes	Timothy Ferriss	Crown Publishing Group	
978-1400033423	The Adventures of Huckleberry Finn	Fiction	13.00	yes	Mark Twain	Modern Library	
978-1451673319	The Great Gatsby	Fiction	10.00	yes	F. Scott Fitzgerald	Scribner	
978-1594484803	Quiet: The Power of Introverts in a World That ...	Psychology	21.00	yes	Susan Cain	Crown Publishers	
NULL	NULL	NULL	NULL	NULL	NULL	NULL	









Query 1 x



Limit to 1000 rows



```
64 -- Create the Customer table
65
66 • CREATE TABLE Customer (
67     Customer_Id INT PRIMARY KEY,
68     Customer_name VARCHAR(255),
69     Customer_address VARCHAR(255),
70     Reg_date DATE
71 );
72
73 • INSERT INTO Customer (Customer_Id, Customer_name, Customer_address, Reg_date)
74 VALUES
75 (301, 'Alice Johnson', '123 Elm Street', '2023-01-15'),
76 (302, 'Bob Smith', '456 Oak Avenue', '2023-02-20'),
77 (303, 'Charlie Brown', '789 Maple Drive', '2023-03-25'),
78 (304, 'Diana Lee', '567 Pine Road', '2023-04-30'),
79 (305, 'Eva Martinez', '890 Oak Lane', '2023-05-05');
80 • SELECT * FROM Customer;
```

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

	Customer_Id	Customer_name	Customer_address	Reg_date
▶	301	Alice Johnson	123 Elm Street	2023-01-15
	302	Bob Smith	456 Oak Avenue	2023-02-20
	303	Charlie Brown	789 Maple Drive	2023-03-25
	304	Diana Lee	567 Pine Road	2023-04-30
	305	Eva Martinez	890 Oak Lane	2023-05-05
*	NULL	NULL	NULL	NULL

```
Query 1 x
Limit to 1000 rows

91 -- Create the IssueStatus table
92
93 CREATE TABLE IssueStatus (
94     Issue_Id INT PRIMARY KEY,
95     Issued_cust INT,
96     Issued_book_name VARCHAR(255),
97     Issue_date DATE,
98     Isbn_book VARCHAR(20),
99     FOREIGN KEY (Issued_cust) REFERENCES Customer(Customer_Id),
100     FOREIGN KEY (Isbn_book) REFERENCES Books(ISBN)
101 );
102 INSERT INTO IssueStatus (Issue_Id, Issued_cust, Issued_book_name, Issue_date, Isbn_book)
103 VALUES
104 (701, 301, 'To Kill a Mockingbird', '2023-01-20', '978-0061120084'),
105 (702, 302, 'The Catcher in the Rye', '2023-02-25', '978-0307277671'),
106 (703, 303, '1984', '2023-03-30', '978-0451524935'),
107 (704, 304, 'The Great Gatsby', '2023-04-05', '978-1451673319'),
108 (705, 305, 'The Adventures of Huckleberry Finn', '2023-05-10', '978-1400033423'),
109 (706, 301, 'Sapiens: A Brief History of Humankind', '2023-06-15', '978-0062316094'),
110 (707, 302, 'The Republic', '2023-07-20', '978-0140441000'),
111 (708, 303, 'A Brief History of Time', '2023-08-25', '978-0307477721'),
112 (709, 304, 'Thinking, Fast and Slow', '2023-09-30', '978-0143127550'),
113 (710, 305, 'The Power of Habit: Why We Do What We Do in Life and Business', '2023-10-05', '978-0060850524'),
114 (711, 301, 'The Seven Habits of Highly Effective People: Powerful Lessons in Personal Change', '2023-11-10', '978-0385490818'),
115 (712, 302, 'The Art of Happiness', '2023-12-15', '978-0679753351'),
116 (713, 303, 'Quiet: The Power of Introverts in a World That Cannot Stop Talking', '2024-01-20', '978-1594484803'),
117 (714, 304, 'The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses', '2024-02-25', '978-0143128540'),
118 (715, 305, 'The 4-Hour Workweek: Escape 9-5, Live Anywhere, and Join the New Rich', '2024-03-01', '978-0804141329');
119
120 SELECT * FROM IssueStatus;
```

Result Grid					
Filter Rows:					
Edit:					
Export/Import:					
Wrap Cell Content:					
	Issue_Id	Issued_cust	Issued_book_name	Issue_date	Isbn_book
▶	701	301	To Kill a Mockingbird	2023-01-20	978-0061120084
	702	302	The Catcher in the Rye	2023-02-25	978-0307277671
	703	303	1984	2023-03-30	978-0451524935
	704	304	The Great Gatsby	2023-04-05	978-1451673319
	705	305	The Adventures of Huckleberry Finn	2023-05-10	978-1400033423
	706	301	Sapiens: A Brief History of Humankind	2023-06-15	978-0062316094
	707	302	The Republic	2023-07-20	978-0140441000
	708	303	A Brief History of Time	2023-08-25	978-0307477721
	709	304	Thinking, Fast and Slow		978-0143127550
	710	305	The Power of Habit: Why We Do What We Do i...	2023-10-05	978-0060850524
	711	301	The Seven Habits of Highly Effective People: Po...	2023-11-10	978-0385490818
	712	302	The Art of Happiness	2023-12-15	978-0679753351
	713	303	Quiet: The Power of Introverts in a World That ...	2024-01-20	978-1594484803
	714	304	The Lean Startup: How Today's Entrepreneurs ...	2024-02-25	978-0143128540
	715	305	The 4-Hour Workweek: Escape 9-5, Live Anywh...	2024-03-01	978-0804141329
✱	NULL	NULL	NULL	NULL	NULL



```
Query 1 x
Limit to 1000 rows

121 -- Create the ReturnStatus table
122
123 CREATE TABLE ReturnStatus (
124     Return_Id INT PRIMARY KEY,
125     Return_cust INT,
126     Return_book_name VARCHAR(255),
127     Return_date DATE,
128     Isbn_book2 VARCHAR(20),
129     FOREIGN KEY (Return_cust) REFERENCES Customer(Customer_Id),
130     FOREIGN KEY (Isbn_book2) REFERENCES Books(ISBN)
131 );
132 INSERT INTO ReturnStatus (Return_Id, Return_cust, Return_book_name, Return_date, Isbn_book2)
133 VALUES
134 (801, 301, 'To Kill a Mockingbird', '2023-02-05', '978-0061120084'),
135 (802, 302, 'The Catcher in the Rye', '2023-03-10', '978-0307277671'),
136 (803, 303, '1984', '2023-04-15', '978-0451524935'),
137 (804, 304, 'The Great Gatsby', '2023-05-20', '978-1451673319'),
138 (805, 305, 'The Adventures of Huckleberry Finn', '2023-06-25', '978-1400033423'),
139 (806, 301, 'Sapiens: A Brief History of Humankind', '2023-07-10', '978-0062316094'),
140 (807, 302, 'The Republic', '2023-08-15', '978-0140441000'),
141 (808, 303, 'A Brief History of Time', '2023-09-20', '978-0307477721'),
142 (809, 304, 'Thinking, Fast and Slow', '2023-10-25', '978-0143127550'),
143 (810, 305, 'The Power of Habit: Why We Do What We Do in Life and Business', '2023-11-30', '978-0060850524'),
144 (811, 301, 'The Seven Habits of Highly Effective People: Powerful Lessons in Personal Change', '2023-12-05', '978-0385490818'),
145 (812, 302, 'The Art of Happiness', '2024-01-10', '978-0679753351'),
146 (813, 303, 'Quiet: The Power of Introverts in a World That Cannot Stop Talking', '2024-02-15', '978-1594484803'),
147 (814, 304, 'The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses', '2024-03-20', '978-0143128540'),
148 (815, 305, 'The 4-Hour Workweek: Escape 9-5, Live Anywhere, and Join the New Rich', '2024-04-25', '978-0804141329');
149
150 SELECT * FROM ReturnStatus;
---
```

Result Grid						Filter Rows:	Edit:	Export/Import:	Wrap Cell Content:
	Return_Id	Return_cust	Return_book_name	Return_date	Isbn_book2				
▶	801	301	To Kill a Mockingbird	2023-02-05	978-0061120084				
	802	302	The Catcher in the Rye	2023-03-10	978-0307277671				
	803	303	1984	2023-04-15	978-0451524935				
	804	304	The Great Gatsby	2023-05-20	978-1451673319				
	805	305	The Adventures of Huckleberry Finn	2023-06-25	978-1400033423				
	806	301	Sapiens: A Brief History of Humankind	2023-07-10	978-0062316094				
	807	302	The Republic	2023-08-15	978-0140441000				
	808	303	A Brief History of Time	2023-09-20	978-0307477721				
	809	304	Thinking, Fast and Slow	2023-10-25	978-0143127550				
	810	305	The Power of Habit: Why We Do What We Do i...	2023-11-30	978-0060850524				
	811	301	The Seven Habits of Highly Effective People: Po...	2023-12-05	978-0385490818				
	812	302	The Art of Happiness	2024-01-10	978-0679753351				
	813	303	Quiet: The Power of Introverts in a World That ...	2024-02-15	978-1594484803				
	814	304	The Lean Startup: How Today's Entrepreneurs ...	2024-03-20	978-0143128540				
	815	305	The 4-Hour Workweek: Escape 9-5, Live Anywh...	2024-04-25	978-0804141329				
*	NULL	NULL	NULL	NULL	NULL				

Query 1 x

Limit to 1000 rows

```

152  -- Queries
153
154  -- 1. Retrieve the book title, category, and rental price of all available books.
155
156  •  SELECT Book_title, Category, Rental_Price FROM Books WHERE Status = 'yes';
157
158  -- 2. List the employee names and their respective salaries in descending order of salary.

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: [IA](#)

Book_title	Category	Rental_Price
The Power of Habit: Why We Do What We Do i...	Self-Help	16.00
To Kill a Mockingbird	Fiction	15.00
Sapiens: A Brief History of Humankind	History	20.00
The Republic	Philosophy	18.00
Thinking, Fast and Slow	Psychology	22.00
The Lean Startup: How Today's Entrepreneurs ...	Business	23.00
The Catcher in the Rye	Fiction	12.00
A Brief History of Time	Science	25.00
The Seven Habits of Highly Effective People: Po...	Self-Help	17.00
1984	Fiction	14.00
The Art of Happiness	Self-Help	19.00
The 4-Hour Workweek: Escape 9-5, Live Anywh...	Business	24.00
The Adventures of Huckleberry Finn	Fiction	13.00
The Great Gatsby	Fiction	10.00
Quiet: The Power of Introverts in a World That ...	Psychology	21.00

Query 1 x

Limit to 1000 rows

```

158  -- 2. List the employee names and their respective salaries in descending order of salary.
159
160  •  SELECT Emp_name, Salary FROM Employee ORDER BY Salary DESC;
161
162

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: [IA](#)

Emp_name	Salary
John Doe	40000.00
Mary Johnson	32000.00
Jane Smith	30000.00
David Lee	25000.00
Sarah Brown	24000.00

Query 1 x

Limit to 1000 rows

```

163  -- 3. Retrieve the book titles and the corresponding customers who have issued those books.
164  •  SELECT b.Book_title, c.Customer_name
165      FROM IssueStatus i
166      JOIN Books b ON i.Isbn_book = b.ISBN
167      JOIN Customer c ON i.Issued_cust = c.Customer_Id;
168

```

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

	Book_title	Customer_name
▶	To Kill a Mockingbird	Alice Johnson
	Sapiens: A Brief History of Humankind	Alice Johnson
	The Seven Habits of Highly Effective People: Po...	Alice Johnson
	The Catcher in the Rye	Bob Smith
	The Republic	Bob Smith
	The Art of Happiness	Bob Smith
	1984	Charlie Brown
	A Brief History of Time	Charlie Brown
	Quiet: The Power of Introverts in a World That ...	Charlie Brown
	The Great Gatsby	Diana Lee
	Thinking, Fast and Slow	Diana Lee
	The Lean Startup: How Today's Entrepreneurs ...	Diana Lee
	The Adventures of Huckleberry Finn	Eva Martinez
	The Power of Habit: Why We Do What We Do i...	Eva Martinez
	The 4-Hour Workweek: Escape 9-5, Live Anywh...	Eva Martinez

Query 1 x

Limit to 1000 rows

```

169
170  -- 4. Display the total count of books in each category.
171
172  •  SELECT Category, COUNT(*) AS Total_Count FROM Books GROUP BY Category;
173

```

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

	Category	Total_Count
▶	Self-Help	3
	Fiction	5
	History	1
	Philosophy	1
	Psychology	2
	Business	2
	Science	1



Query 1 x

Limit to 1000 rows

```

173
174 -- 5. Retrieve the employee names and their positions for the employees whose salaries are above Rs.30,000.
175
176 • SELECT Emp_name, Position FROM Employee WHERE Salary > 30000;
177

```

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

Emp_name	Position
John Doe	Librarian
Mary Johnson	Assistant Librarian

```

180 -- 6. List the customer names who registered before 2022-01-01 and have not issued any books yet.
181
182 • SELECT Customer_name FROM Customer
183 WHERE Reg_date < '2023-05-05'
184 AND Customer_Id NOT IN (SELECT Issued_cust FROM IssueStatus);

```

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

Customer_name
John Smith

Query 1 x

Limit to 1000 rows

```

186
187 -- 7. Display the branch numbers and the total count of employees in each branch.
188
189 • SELECT Branch_no, COUNT(*) AS Total_Employees FROM Employee GROUP BY Branch_no;
190

```

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

Branch_no	Total_Employees
1	1
2	1
3	1
4	1
5	1

Query 1 x

Limit to 1000 rows

```

191 -- 8. Display the names of customers who have issued books in the month of June 2023.
192
193 • SELECT DISTINCT c.Customer_name
194 FROM IssueStatus i
195 JOIN Customer c ON i.Issued_cust = c.Customer_Id
196 WHERE YEAR(Issue_date) = 2023 AND MONTH(Issue_date) = 6;

```

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

Customer_name
Alice Johnson

Query 1 x

Limit to 1000 rows

```

197
198 -- 9. Retrieve book_title from book table containing history.
199
200 • SELECT Book_title FROM Books WHERE Category = 'history';
201

```

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

Book_title
Sapiens: A Brief History of Humankind

Query 1 x

Limit to 1000 rows

```

203
204 -- 10. Retrieve the branch numbers along with the count of employees for branches having more than 1 employees.
205
206
207 • SELECT Branch_no, COUNT(*) AS Total_Employees
208 FROM Employee
209 GROUP BY Branch_no
210 HAVING COUNT(*) > 1;

```

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

Branch_no	Total_Employees
1	2

AJEESH M

DSML 19

