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

CREATE DATABASE LIBRARY;

USE LIBRARY;

```
1 •    CREATE DATABASE library;
2 •    use library;
3
```

Output

Action Output ▼

#	Time	Action	Message
✓ 1	10:15:13	CREATE DATABASE library	1 row(s) affected
✓ 2	10:15:20	use library	0 row(s) affected

TABLES in the database and the attributes

1. BRANCH

BRANCH_NO - SET AS PRIMARY KEY

MANAGER_ID

BRANCH_ADDRESS

CONTACT_NO

CREATE TABLE BRANCH
(BRANCH_NO INT PRIMARY KEY AUTO_INCREMENT,
 MANAGER_ID INT NOT NULL,
 BRANCH_ADDRESS VARCHAR(255) NOT NULL,
 CONTACT_NO VARCHAR(15) NOT NULL);

```
4 •    CREATE TABLE Branch
5 ⊝    ( Branch_no INT PRIMARY KEY auto_increment,
6        Manager_Id INT not null,
7        Branch_address VARCHAR(255) not null,
8        Contact_no VARCHAR(15) not null);
```

Output

Action Output ▼

#	Time	Action	Message
✓ 1	10:35:34	CREATE TABLE Branch (Branch_no INT PRIMARY KEY auto_increment, Manager_Id INT not null, ...	0 row(s) affected

INSERT INTO BRANCH (MANAGER_ID, BRANCH_ADDRESS, CONTACT_NO) VALUES
  (101, '123 MAIN ST, KUTTANAD, KERALA', '9947561223'),
  (102, '456 ELM ST, ALAPPUZHA, KERALA', '9947561226'),
  (103, '789 PINE ST, KOCHI, KERALA', '9957561225'),
  (104, '321 OAK ST, THIRUVANANTHAPURAM, KERALA', '9934561224'),
  (105, '654 MAPLE ST, KOLLAM, KERALA', '9947581221'),
  (106, '987 BIRCH ST, THRISSUR, KERALA', '9847561222'),
  (107, '159 CEDAR ST, PALAKKAD, KERALA', '9347565223'),
  (108, '753 SPRUCE ST, MALAPPURAM, KERALA', '9957561223'),
  (109, '852 WILLOW ST, KANNUR, KERALA', '9947561238'),
  (110, '951 FIR ST, KOZHIKODE, KERALA', '9947552223');

```
10 •      INSERT INTO Branch (Manager_Id, Branch_address, Contact_no) VALUES
11        (101, '123 Main St, Kuttanad, Kerala', '9947561223'),
12        (102, '456 Elm St, Alappuzha, Kerala', '9947561226'),
13        (103, '789 Pine St, Kochi, Kerala', '9957561225'),
14        (104, '321 Oak St, Thiruvananthapuram, Kerala', '9934561224'),
15        (105, '654 Maple St, Kollam, Kerala', '9947581221'),
16        (106, '987 Birch St, Thrissur, Kerala', '9847561222'),
17        (107, '159 Cedar St, Palakkad, Kerala', '9347565223'),
18        (108, '753 Spruce St, Malappuram, Kerala', '9957561223'),
19        (109, '852 Willow St, Kannur, Kerala', '9947561238'),
20        (110, '951 Fir St, Kozhikode, Kerala', '9947552223');
21
```

Output

Action Output ▾

#	Time	Action	Message
✓	1 10:35:34	CREATE TABLE Branch (Branch_no INT PRIMARY KEY auto_increment, Manager_Id INT not null, B...	0 row(s) affected
✓	2 11:23:23	INSERT INTO Branch (Manager_Id, Branch_address, Contact_no) VALUES (101, '123 Main St, Kuttana...	10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0

SELECT * FROM BRANCH;

```
22 •      select * from branch;
23
```

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

	Branch_no	Manager_Id	Branch_address	Contact_no
▶	1	101	123 Main St, Kuttanad, Kerala	9947561223
	2	102	456 Elm St, Alappuzha, Kerala	9947561226
	3	103	789 Pine St, Kochi, Kerala	9957561225
	4	104	321 Oak St, Thiruvananthapuram, Kerala	9934561224
	5	105	654 Maple St, Kollam, Kerala	9947581221
	6	106	987 Birch St, Thrissur, Kerala	9847561222
	7	107	159 Cedar St, Palakkad, Kerala	9347565223
	8	108	753 Spruce St, Malappuram, Kerala	9957561223
	9	109	852 Willow St, Kannur, Kerala	9947561238
	10	110	951 Fir St, Kozhikode, Kerala	9947552223

branch 1 ✕   Apply

Output

Action Output ▾

#	Time	Action	Message
✓	1 10:35:34	CREATE TABLE Branch (Branch_no INT PRIMARY KEY auto_increment, Manager_Id INT not null...	0 row(s) affected
✓	2 11:23:23	INSERT INTO Branch (Manager_Id, Branch_address, Contact_no) VALUES (101, '123 Main St, Kutt...	10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0
✓	3 11:25:55	select * from branch LIMIT 0, 50000	10 row(s) returned

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

```
CREATE TABLE EMPLOYEE
 ( EMP_ID INT PRIMARY KEY AUTO_INCREMENT,
 EMP_NAME VARCHAR(100) NOT NULL,
 POSITION VARCHAR(50) NOT NULL,
 SALARY DECIMAL(10, 2) NOT NULL,
 BRANCH_NO INT,
 FOREIGN KEY (BRANCH_NO) REFERENCES BRANCH(BRANCH_NO) );
```

```
24  •      CREATE TABLE Employee
25  ⊖      ( Emp_Id INT PRIMARY KEY auto_increment,
26         Emp_name VARCHAR(100) not null,
27         Position VARCHAR(50) not null,
28         Salary DECIMAL(10, 2) not null,
29         Branch_no INT,
30         FOREIGN KEY (Branch_no)  REFERENCES Branch(Branch_no) );
31
```

Output

Action Output

#	Time	Action	Message
✓	1	10:35:34	CREATE TABLE Branch (Branch_no INT PRIMARY KEY auto_increment, Manager_Id INT not null...	0 row(s) affected
✓	2	11:23:23	INSERT INTO Branch (Manager_Id, Branch_address, Contact_no) VALUES (101, '123 Main St, Kutt...	10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0
✓	3	11:25:55	select * from branch LIMIT 0, 50000	10 row(s) returned
✓	4	12:33:06	CREATE TABLE Employee (Emp_Id INT PRIMARY KEY auto_increment, Emp_name VARCHAR(...	0 row(s) affected

INSERT INTO EMPLOYEE (EMP_NAME, POSITION, SALARY, BRANCH_NO) VALUES ('ALICE JOHNSON', 'LIBRARIAN', 45000.00, 1),
 ('RAJU MATHEW', 'ASSISTANT LIBRARIAN', 45000.00, 2),
 ('RADHA KRISHNAN', 'ARCHIVIST', 80000.00, 3),
 ('DAVID JOHNSON', 'MANAGER', 90000.00, 1),
 ('JOMON VARGHESE', 'TECHNICIAN', 38000.00, 2),
 ('KEVIN DIZSUZA', 'SECURITY', 30000.00, 3),
 ('ABU RASHEED', 'RECEPTIONIST', 35000.00, 1),
 ('KIRAN RAVI', 'HOUSE KEEPIMG', 28000.00, 2),
 ('STEVE BROWN', 'RESEARCHER', 57000.00, 3),
 ('ABDUL RAHMAN', 'IT SUPPORT', 46000.00, 1);

```
32 •     INSERT INTO Employee (Emp_name, Position, Salary, Branch_no) VALUES ('Alice Johnson', 'Librarian', 45000.00, 1),
33       ('Raju Mathew', 'Assistant Librarian', 45000.00, 2),
34       ('Radha Krishnan', 'Archivist', 80000.00, 3),
35       ('David Johnson', 'Manager', 90000.00, 1),
36       ('Jomon Varghese', 'Technician', 38000.00, 2),
37       ('Kevin Dizsuza', 'Security', 30000.00, 3),
38       ('Abu Rasheed', 'Receptionist', 35000.00, 1),
39       ('Kiran Ravi', 'House keepimg', 28000.00, 2),
40       ('steve Brown', 'Researcher', 57000.00, 3),
41       ('Abdul Rahman', 'IT Support', 46000.00, 1);
42
```

Output

Action Output ▾

	#	Time	Action	Message
✓	1	10:35:34	CREATE TABLE Branch (Branch_no INT PRIMARY KEY auto_increment, Manager_Id INT not null...	0 row(s) affected
✓	2	11:23:23	INSERT INTO Branch (Manager_Id, Branch_address, Contact_no) VALUES (101, '123 Main St, Kutt...	10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0
✓	3	11:25:55	select * from branch LIMIT 0, 50000	10 row(s) returned
✓	4	12:33:06	CREATE TABLE Employee (Emp_Id INT PRIMARY KEY auto_increment, Emp_name VARCHAR(...	0 row(s) affected
✓	5	12:56:41	INSERT INTO Employee (Emp_name, Position, Salary, Branch_no) VALUES ('Alice Johnson', 'Libraria...	10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0

SELECT * FROM EMPLOYEE;

```
43  •      select * from employee;
```

Emp_Id	Emp_name	Position	Salary	Branch_no
1	Alice Johnson	Librarian	45000.00	1
2	Raju Mathew	Assistant Librarian	45000.00	2
3	Radha Krishnan	Archivist	80000.00	3
4	David Johnson	Manager	90000.00	1
5	Jomon Varghese	Technician	38000.00	2
6	Kevin Dizsuza	Security	30000.00	3
7	Abu Rasheed	Receptionist	35000.00	1
8	Kiran Ravi	House keepimg	28000.00	2
9	steve Brown	Researcher	57000.00	3
10	Abdul Rahman	IT Support	46000.00	1

employee 2 ×

Output

Action Output

#	Time	Action	Message
3	11:25:55	select * from branch LIMIT 0, 50000	10 row(s) returned
4	12:33:06	CREATE TABLE Employee (Emp_Id INT PRIMARY KEY auto_increment, Emp_name VARCHA...	0 row(s) affected
5	12:56:41	INSERT INTO Employee (Emp_name, Position, Salary, Branch_no) VALUES ('Alice Johnson', 'Librari...	10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0
6	12:59:32	select * from employees LIMIT 0, 50000	Error Code: 1146. Table 'library.employees' doesn't exist
7	12:59:45	use library	0 row(s) affected
8	12:59:59	select * from employee LIMIT 0, 50000	10 row(s) returned

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

```sql
CREATE TABLE BOOKS ( ISBN VARCHAR(20) PRIMARY KEY,
 BOOK_TITLE VARCHAR(255) NOT NULL,
 CATEGORY VARCHAR(50) NOT NULL,
 RENTAL_PRICE DECIMAL(10, 2)NOT NULL,
 STATUS VARCHAR(3) CHECK (STATUS ='YES' OR STATUS='NO'),
 AUTHOR VARCHAR(100)NOT NULL,
 PUBLISHER VARCHAR(100)NOT NULL);
```

```sql
45  CREATE TABLE Books ( ISBN VARCHAR(20) PRIMARY KEY,
46  Book_title VARCHAR(255) not null,
47  Category VARCHAR(50) not null,
48  Rental_Price DECIMAL(10, 2)not null,
49  Status VARCHAR(3) check (status ='Yes' or status='No'),
50  Author VARCHAR(100)not null,
51  Publisher VARCHAR(100)not null);
52
```

Output

Action Output

#	Time	Action	Message
✓ 1	13:18:02	CREATE TABLE Books (ISBN VARCHAR(20) PRIMARY KEY, Book_title VARCHAR(255) not null, ...	0 row(s) affected

```sql
INSERT INTO BOOKS (ISBN, BOOK_TITLE, CATEGORY, RENTAL_PRICE, STATUS, AUTHOR, PUBLISHER) VALUES
  ('978-3-16-148410-0', 'INTRODUCTION TO SQL', 'EDUCATION', 575.00, 'YES', 'JOHN DOE', 'TECH PUBLISHERS'),
  ('978-1-234-56789-7', 'ADVANCED SQL TECHNIQUES', 'EDUCATION', 750.00, 'NO', 'JANE SMITH', 'KNOWLEDGE BOOKS'),
  ('978-0-987-65432-1', 'DATABASE DESIGN PRINCIPLES', 'EDUCATION', 1500.00, 'YES', 'MARK BROWN', 'DATA INSIGHTS'),
  ('978-3-16-148411-7', 'PYTHON FOR DATA SCIENCE', 'EDUCATION', 1000.00, 'YES', 'EMILY WHITE', 'SCIENCE PRESS'),
  ('978-1-234-56788-0', 'MACHINE LEARNING BASICS', 'TECHNOLOGY', 1500.00, 'NO', 'LAURA GREY', 'TECH WORLD'),
  ('978-0-987-65431-4', 'ANNA KARENINA', 'FINCTION', 890.00, 'YES', 'LEO TOLSTOY', 'FICTION PRESS'),
  ('978-3-16-148412-4', 'PRIDE AND PREJUDICE', 'FICTION', 900.00, 'YES', 'JANE AUSTEN', 'FICTION PUBLISHERS'),
  ('978-1-234-56787-3', 'WAR AND PEACE', 'FICTION', 899.00, 'NO', 'LEO TOLSTOY', 'FICTION PRESS'),
  ('978-0-987-65430-7', 'THE ALCHEMIST ', 'ADVENTURE', 650.00, 'YES', 'PAULO COELHO', 'SAM PUBLISHERS'),
  ('978-3-16-148413-1', 'SQL ADVANCED GUIDE', 'EDUCATION', 1750.00, 'YES', 'EVELYN KING', 'KNOWLEDGE BOOKS');
```

```
53  •    INSERT INTO Books (ISBN, Book_title, Category, Rental_Price, Status, Author, Publisher) VALUES
54       ('978-3-16-148410-0', 'Introduction to SQL', 'Education', 575.00, 'Yes', 'John Doe', 'Tech Publishers'),
55       ('978-1-234-56789-7', 'Advanced SQL Techniques', 'Education', 750.00, 'No', 'Jane Smith', 'Knowledge Books'),
56       ('978-0-987-65432-1', 'Database Design Principles', 'Education', 1500.00, 'Yes', 'Mark Brown', 'Data Insights'),
57       ('978-3-16-148411-7', 'Python for Data Science', 'Education', 1000.00, 'Yes', 'Emily White', 'Science Press'),
58       ('978-1-234-56788-0', 'Machine Learning Basics', 'Technology', 1500.00, 'No', 'Laura Grey', 'Tech World'),
59       ('978-0-987-65431-4', 'Anna Karenina', 'Finction', 890.00, 'Yes', 'Leo Tolstoy', 'Fiction Press'),
60       ('978-3-16-148412-4', 'Pride and Prejudice', 'Fiction', 900.00, 'Yes', 'Jane Austen', 'Fiction Publishers'),
61       ('978-1-234-56787-3', 'War and Peace', 'Fiction', 899.00, 'No', 'Leo Tolstoy', 'Fiction Press'),
62       ('978-0-987-65430-7', 'The Alchemist ', 'Adventure', 650.00, 'Yes', 'Paulo Coelho', 'Sam publishers'),
63       ('978-3-16-148413-1', 'SQL Advanced Guide', 'Education', 1750.00, 'Yes', 'Evelyn King', 'Knowledge Books');
64
```

Output

Action Output

#	Time	Action	Message
✓ 1	13:18:02	CREATE TABLE Books (ISBN VARCHAR(20) PRIMARY KEY, Book_title VARCHAR(255) not null, Cat...	0 row(s) affected
✓ 2	13:37:47	INSERT INTO Books (ISBN, Book_title, Category, Rental_Price, Status, Author, Publisher) VALUES ('97...	10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0

SELECT * FROM BOOKS;

```
65  •    select * from books;
66
```

ISBN	Book_title	Category	Rental_Price	Status	Author	Publisher
978-0-987-65430-7	The Alchemist	Adventure	650.00	Yes	Paulo Coelho	Sam publishers
978-0-987-65431-4	Anna Karenina	Finction	890.00	Yes	Leo Tolstoy	Fiction Press
978-0-987-65432-1	Database Design Principles	Education	1500.00	Yes	Mark Brown	Data Insights
978-1-234-56787-3	War and Peace	Fiction	899.00	No	Leo Tolstoy	Fiction Press
978-1-234-56788-0	Machine Learning Basics	Technology	1500.00	No	Laura Grey	Tech World
978-1-234-56789-7	Advanced SQL Techniques	Education	750.00	No	Jane Smith	Knowledge Books
978-3-16-148410-0	Introduction to SQL	Education	575.00	Yes	John Doe	Tech Publishers
978-3-16-148411-7	Python for Data Science	Education	1000.00	Yes	Emily White	Science Press
978-3-16-148412-4	Pride and Prejudice	Fiction	900.00	Yes	Jane Austen	Fiction Publishers
978-3-16-148413-1	SQL Advanced Guide	Education	1750.00	Yes	Evelyn King	Knowledge Books
NULL	NULL	NULL	NULL	NULL	NULL	NULL

books 3 ✕

Output

Action Output

#	Time	Action	Message
✓ 1	14:12:54	select * from books LIMIT 0, 50000	10 row(s) returned

CUSTOMER_ID - SET AS PRIMARY KEY

CUSTOMER_NAME

CUSTOMER_ADDRESS

REG_DATE

```sql
CREATE TABLE CUSTOMER (CUSTOMER_ID INT PRIMARY KEY,
CUSTOMER_NAME VARCHAR(100) NOT NULL,
CUSTOMER_ADDRESS VARCHAR(255) NOT NULL,
REG_DATE DATE NOT NULL);
```

```sql
68  ●  ⊖      CREATE TABLE Customer (Customer_Id INT PRIMARY KEY,
69             Customer_name VARCHAR(100)  not   null,
70             Customer_address VARCHAR(255) not null,
71             Reg_date DATE not null);
72
```

Output

Action Output ▾

#	Time	Action	Message
✓	1 14:12:54	select * from books LIMIT 0, 50000	10 row(s) returned
✓	2 14:34:30	CREATE TABLE Customer (Customer_Id INT PRIMARY KEY, Customer_name VARCHAR(100) not ...	0 row(s) affected

INSERT INTO CUSTOMER (CUSTOMER_ID, CUSTOMER_NAME, CUSTOMER_ADDRESS, REG_DATE) VALUES
 (1, 'KANNAN NAIR', '12 CHERRY LN, KUTTANAD, KERALA', '2022-01-01'),
 (2, 'MAYA RAVI', '34 MAPLE ST, ALAPPUZHA, KERALA', '2020-02-20'),
 (3, 'FRANK WILSON', '56 BIRCH AVE, KOCHI, KERALA', '2022-03-25'),
 (4, 'MANU DAVID', '78 PINE ST, THIRUVANANTHAPURAM, KERALA', '2024-04-10'),
 (5, 'GREESHMA ANIL', '90 ELM ST, KOLLAM, KERALA', '2020-05-05'),
 (6, 'ALI HASSAN', '123 CEDAR ST, THRISSUR, KERALA', '2021-06-15'),
 (7, 'ABDUL SALAM', '45 SPRUCE ST, PALAKKAD, KERALA', '2024-07-20'),
 (8, 'MARIA MICHAEL', '67 WILLOW ST, MALAPPURAM, KERALA', '2020-08-30'),
 (9, 'SURESH NAIR', '89 FIR ST, KANNUR, KERALA', '2024-01-25'),
 (10, 'JAYA SURENDRAN', '101 OAK ST, KOZHIKODE, KERALA', '2024-03-10');

```sql
73 •       INSERT INTO Customer (Customer_Id, Customer_name, Customer_address, Reg_date) VALUES
74         (1, 'kannan Nair', '12 Cherry Ln, Kuttanad, Kerala', '2022-01-01'),
75         (2, 'Maya Ravi', '34 Maple St, Alappuzha, Kerala', '2020-02-20'),
76         (3, 'Frank Wilson', '56 Birch Ave, Kochi, Kerala', '2022-03-25'),
77         (4, 'Manu david', '78 Pine St, Thiruvananthapuram, Kerala', '2024-04-10'),
78         (5, 'Greeshma Anil', '90 Elm St, Kollam, Kerala', '2020-05-05'),
79         (6, 'Ali Hassan', '123 Cedar St, Thrissur, Kerala', '2021-06-15'),
80         (7, 'Abdul Salam', '45 Spruce St, Palakkad, Kerala', '2024-07-20'),
81         (8, 'Maria Michael', '67 Willow St, Malappuram, Kerala', '2020-08-30'),
82         (9, 'Suresh Nair', '89 Fir St, Kannur, Kerala', '2024-01-25'),
83         (10, 'Jaya Surendran', '101 Oak St, Kozhikode, Kerala', '2024-03-10');
84
85 • ⊖     CREATE TABLE IssueStatus (Issue_Id INT PRIMARY KEY,
86         Issued_cust INT,
87         Issued_book_name VARCHAR(255),
88         Issue_date DATE,
89         Isbn_book VARCHAR(20),
```

Output

Action Output ▾

#	Time	Action	Message
✓	1 14:12:54	select * from books LIMIT 0, 50000	10 row(s) returned
✓	2 14:34:30	CREATE TABLE Customer (Customer_Id INT PRIMARY KEY, Customer_name VARCHAR(100) not ...	0 row(s) affected
✓	3 15:25:07	INSERT INTO Customer (Customer_Id, Customer_name, Customer_address, Reg_date) VALUES (1, '...	10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0

SELECT * FROM CUSTOMER;

```
86 •      select  * from customer;
```

Customer_Id	Customer_name	Customer_address	Reg_date
1	kannan Nair	12 Cherry Ln, Kuttanad, Kerala	2022-01-01
2	Maya Ravi	34 Maple St, Alappuzha, Kerala	2020-02-20
3	Frank Wilson	56 Birch Ave, Kochi, Kerala	2022-03-25
4	Manu david	78 Pine St, Thiruvananthapuram, Kerala	2024-04-10
5	Greeshma Anil	90 Elm St, Kollam, Kerala	2020-05-05
6	Ali Hassan	123 Cedar St, Thrissur, Kerala	2021-06-15
7	Abdul Salam	45 Spruce St, Palakkad, Kerala	2024-07-20
8	Maria Michael	67 Willow St, Malappuram, Kerala	2020-08-30
9	Suresh Nair	89 Fir St, Kannur, Kerala	2024-01-25
10	Jaya Surendran	101 Oak St, Kozhikode, Kerala	2024-03-10
NULL	NULL	NULL	NULL

customer 4 ×   Apply

Output

Action Output

#	Time	Action	Message
1	14:12:54	select * from books LIMIT 0, 50000	10 row(s) returned
2	14:34:30	CREATE TABLE Customer (Customer_Id INT PRIMARY KEY, Customer_name VARCHAR(100) not ...	0 row(s) affected
3	15:25:07	INSERT INTO Customer (Customer_Id, Customer_name, Customer_address, Reg_date) VALUES (1, '...	10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0
4	15:29:28	select * from customer LIMIT 0, 50000	10 row(s) returned

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

```sql
CREATE TABLE ISSUESTATUS (ISSUE_ID INT PRIMARY KEY,
 ISSUED_CUST INT NOT NULL,
 ISSUED_BOOK_NAME VARCHAR(255) NOT NULL,
 ISSUE_DATE DATE NOT NULL,
 ISBN_BOOK VARCHAR(20) NOT NULL,
 FOREIGN KEY (ISSUED_CUST) REFERENCES CUSTOMER(CUSTOMER_ID),
 FOREIGN KEY (ISBN_BOOK) REFERENCES BOOKS(ISBN));
```

```sql
88   CREATE TABLE IssueStatus (Issue_Id INT PRIMARY KEY,
89      Issued_cust INT not null,
90      Issued_book_name VARCHAR(255) not null,
91      Issue_date DATE not null,
92      Isbn_book VARCHAR(20) not null,
93      FOREIGN KEY (Issued_cust) REFERENCES Customer(Customer_Id),
```

Output

Action Output ▾

#	Time	Action	Message
✓	2	14:34:30	CREATE TABLE Customer (Customer_Id INT PRIMARY KEY, Customer_name VARCHAR(100) no...	0 row(s) affected
✓	3	15:25:07	INSERT INTO Customer (Customer_Id, Customer_name, Customer_address, Reg_date) VALUES (...	10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0
✓	4	15:29:28	select * from customer LIMIT 0, 50000	10 row(s) returned
✓	5	18:08:52	CREATE TABLE IssueStatus (Issue_Id INT PRIMARY KEY, Issued_cust INT not null, Issued_bo...	0 row(s) affected

INSERT INTO ISSUESTATUS (ISSUE_ID, ISSUED_CUST, ISSUED_BOOK_NAME,
 ISSUE_DATE, ISBN_BOOK) VALUES (1, 1, 'INTRODUCTION TO SQL', '2024-01-20', '978-3-16-
148410-0'),
 (2, 2, 'ADVANCED SQL TECHNIQUES', '2024-02-25', '978-1-234-56789-7'),
 (3, 3, 'DATABASE DESIGN PRINCIPLES', '2024-03-30', '978-0-987-65432-1'),
 (4, 4, 'PYTHON FOR DATA SCIENCE', '2024-04-15', '978-3-16-148411-7'),
 (5, 5, 'MACHINE LEARNING BASICS', '2024-05-10', '978-1-234-56788-0'),
 (6, 6, 'ANNA KARENINA', '2024-06-05', '978-0-987-65431-4'),
 (7, 7, 'PRIDE AND PREJUDICE', '2024-07-20', '978-3-16-148412-4'),
 (8, 8, 'WAR AND PEACE', '2024-08-25', '978-1-234-56787-3'),
 (9, 9, 'THE ALCHEMIST ', '2024-09-15', '978-0-987-65430-7'),
 (10, 10, 'SQL ADVANCED GUIDE', '2024-10-05', '978-3-16-148413-1');

```
96  •⊖    INSERT INTO IssueStatus (Issue_Id, Issued_cust, Issued_book_name,
97         Issue_date, Isbn_book) VALUES (1, 1, 'Introduction to SQL', '2024-01-20', '978-3-16-148410-0'),
98         (2, 2, 'Advanced SQL Techniques', '2024-02-25', '978-1-234-56789-7'),
99         (3, 3, 'Database Design Principles', '2024-03-30', '978-0-987-65432-1'),
100        (4, 4, 'Python for Data Science', '2024-04-15', '978-3-16-148411-7'),
101        (5, 5, 'Machine Learning Basics', '2024-05-10', '978-1-234-56788-0'),
102        (6, 6, 'Anna Karenina', '2024-06-05', '978-0-987-65431-4'),
103        (7, 7, 'Pride and Prejudice', '2024-07-20', '978-3-16-148412-4'),
104        (8, 8, 'War and Peace', '2024-08-25', '978-1-234-56787-3'),
105        (9, 9, 'The Alchemist ', '2024-09-15', '978-0-987-65430-7'),
106        (10, 10, 'SQL Advanced Guide', '2024-10-05', '978-3-16-148413-1');
107
```

Output

Action Output ▾

#	Time	Action	Message
✓	3 15:25:07	INSERT INTO Customer (Customer_Id, Customer_name, Customer_address, Reg_date) VALUES (...	10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0
✓	4 15:29:28	select *from customer LIMIT 0, 50000	10 row(s) returned
✓	5 18:08:52	CREATE TABLE IssueStatus (Issue_Id INT PRIMARY KEY, Issued_cust INT not null, Issued_bo...	0 row(s) affected
✓	6 18:11:55	INSERT INTO IssueStatus (Issue_Id, Issued_cust, Issued_book_name, Issue_date, Isbn_book) V...	10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0

SELECT * FROM ISSUESTATUS;

```
108 •      select * from issuestatus;
```

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

Issue_Id	Issued_cust	Issued_book_name	Issue_date	Isbn_book
1	1	Introduction to SQL	2024-01-20	978-3-16-148410-0
2	2	Advanced SQL Techniques	2024-02-25	978-1-234-56789-7
3	3	Database Design Principles	2024-03-30	978-0-987-65432-1
4	4	Python for Data Science	2024-04-15	978-3-16-148411-7
5	5	Machine Learning Basics	2024-05-10	978-1-234-56788-0
6	6	Anna Karenina	2024-06-05	978-0-987-65431-4
7	7	Pride and Prejudice	2024-07-20	978-3-16-148412-4
8	8	War and Peace	2024-08-25	978-1-234-56787-3
9	9	The Alchemist	2024-09-15	978-0-987-65430-7
10	10	SQL Advanced Guide	2024-10-05	978-3-16-148413-1
NULL	NULL	NULL	NULL	NULL

issuestatus 5 ×   App

Output

Action Output ▼

#	Time	Action	Message
✓	5 18:08:52	CREATE TABLE IssueStatus (Issue_Id INT PRIMARY KEY, Issued_cust INT not null, Issued_bo...	0 row(s) affected
✓	6 18:11:55	INSERT INTO IssueStatus (Issue_Id, Issued_cust, Issued_book_name, Issue_date, Isbn_book) V...	10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0
✗	7 18:20:31	select * from issue_status LIMIT 0, 50000	Error Code: 1146. Table 'library.issue_status' doesn't exist
✓	8 18:20:43	select * from issuestatus LIMIT 0, 50000	10 row(s) returned

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
CREATE TABLE RETURNSTATUS(RETURN_ID INT PRIMARY KEY,
 RETURN_CUST INT,
 RETURN_BOOK_NAME VARCHAR(255),
 RETURN_DATE DATE,
 ISBN_BOOK VARCHAR(20),
 FOREIGN KEY (RETURN_CUST) REFERENCES CUSTOMER(CUSTOMER_ID),
 FOREIGN KEY (ISBN_BOOK) REFERENCES BOOKS(ISBN));
```

```sql
---
110      CREATE TABLE ReturnStatus(Return_Id INT PRIMARY KEY,
111          Return_cust INT,
112          Return_book_name VARCHAR(255),
113          Return_date DATE,
114          Isbn_book VARCHAR(20),
115          FOREIGN KEY (Return_cust) REFERENCES Customer(Customer_Id),
116          FOREIGN KEY (Isbn_book) references Books(ISBN));
117
```

Output

Action Output ▼			
#	Time	Action	Message
✓ 1	10:33:39	use library	0 row(s) affected
✓ 2	10:33:45	CREATE TABLE ReturnStatus(Return_Id INT PRIMARY KEY, Return_cust INT, Return_book_name V...	0 row(s) affected

INSERT INTO RETURNSTATUS (RETURN_ID, RETURN_CUST, RETURN_BOOK_NAME, RETURN_DATE, ISBN_BOOK) VALUES
(1, 1, 'INTRODUCTION TO SQL', '2024-02-01', '978-3-16-148410-0'),
(2, 2, 'ADVANCED SQL TECHNIQUES', '2024-03-01', '978-1-234-56789-7'),
(3, 3, 'DATABASE DESIGN PRINCIPLES', '2024-04-01', '978-0-987-65432-1'),
(4, 4, 'PYTHON FOR DATA SCIENCE', '2024-05-01', '978-3-16-148411-7'),
(5, 5, 'MACHINE LEARNING BASICS', '2024-06-01', '978-1-234-56788-0'),
(6, 6, 'ANNA KARENINA', '2024-07-01', '978-0-987-65431-4'),
(7, 7, 'PRIDE AND PREJUDICE', '2024-08-01', '978-3-16-148412-4'),
(8, 8, 'WAR AND PEACE', '2024-09-01', '978-1-234-56787-3'),
(9, 9, 'THE ALCHEMIST', '2024-10-01', '978-0-987-65430-7'),
(10, 10, 'SQL ADVANCED GUIDE', '2024-11-01', '978-3-16-148413-1');

```
118  ●⊖    INSERT INTO ReturnStatus (Return_Id, Return_cust, Return_book_name,
119         Return_date, Isbn_book) VALUES (1, 1, 'Introduction to SQL', '2024-02-01', '978-3-16-148410-0'),
120         (2, 2, 'Advanced SQL Techniques', '2024-03-01', '978-1-234-56789-7'),
121         (3, 3, 'Database Design Principles', '2024-04-01', '978-0-987-65432-1'),
122         (4, 4, 'Python for Data Science', '2024-05-01', '978-3-16-148411-7'),
123         (5, 5, 'Machine Learning Basics', '2024-06-01', '978-1-234-56788-0'),
124         (6, 6, 'Anna Karenina', '2024-07-01', '978-0-987-65431-4'),
125         (7, 7, 'Pride and Prejudice', '2024-08-01', '978-3-16-148412-4'),
126         (8, 8, 'War and Peace', '2024-09-01', '978-1-234-56787-3'),
127         (9, 9, 'The Alchemist', '2024-10-01', '978-0-987-65430-7'),
128         (10, 10, 'SQL Advanced Guide', '2024-11-01', '978-3-16-148413-1');
129
130
131
132
```

Output

Action Output

#	Time	Action	Message
✓	1 10:33:39	use library	0 row(s) affected
✓	2 10:33:45	CREATE TABLE ReturnStatus(Return_Id INT PRIMARY KEY, Return_cust INT, Return_book_name V...	0 row(s) affected
✓	3 10:34:13	INSERT INTO ReturnStatus (Return_Id, Return_cust, Return_book_name, Return_date, Isbn_book) VA...	10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0

```
130 •        select * from ReturnStatus;
```

Return_Id	Return_cust	Return_book_name	Return_date	Isbn_book
1	1	Introduction to SQL	2024-02-01	978-3-16-148410-0
2	2	Advanced SQL Techniques	2024-03-01	978-1-234-56789-7
3	3	Database Design Principles	2024-04-01	978-0-987-65432-1
4	4	Python for Data Science	2024-05-01	978-3-16-148411-7
5	5	Machine Learning Basics	2024-06-01	978-1-234-56788-0
6	6	Anna Karenina	2024-07-01	978-0-987-65431-4
7	7	Pride and Prejudice	2024-08-01	978-3-16-148412-4
8	8	War and Peace	2024-09-01	978-1-234-56787-3
9	9	The Alchemist	2024-10-01	978-0-987-65430-7
10	10	SQL Advanced Guide	2024-11-01	978-3-16-148413-1
NULL	NULL	NULL	NULL	NULL

Display all the tables

Write the following queries:

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

SELECT BOOK_TITLE,CATEGORY,RENTAL_PRICE FROM BOOKS ORDER BY BOOK_TITLE;

```
139 •        select book_title,category,rental_price from books
```

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

book_title	category	rental_price
Advanced SQL Techniques	Education	35.00
Anna Karenina	Finction	45.00
Database Design Principles	Education	35.00
Introduction to SQL	Education	25.00
Machine Learning Basics	Technology	45.00
Pride and Prejudice	Fiction	35.00
Python for Data Science	Education	40.00
SQL Advanced Guide	Education	30.00
The Alchemist	Adventure	25.00
War and Peace	Fiction	35.00

books 6 ×

Output

Action Output

#	Time	Action	Message
❌	6 11:52:25	select * from employees LIMIT 0, 50000	Error Code: 1146.
✅	7 11:52:43	select * from employee LIMIT 0, 50000	10 row(s) returned
✅	8 11:53:44	select emp_name,salary from employee order by salary desc LIMIT 0, 50000	10 row(s) returned
✅	9 11:57:36	select book_title,category,rental_price from books order by book_title LIMIT 0, 50000	10 row(s) returned

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

SELECT EMP_NAME,SALARY FROM EMPLOYEE ORDER BY SALARY DESC;

```
142 •      select emp_name,salary from employee
143        order by salary desc;
144
```

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

emp_name	salary
David Johnson	90000.00
Radha Krishnan	80000.00
steve Brown	57000.00
Abdul Rahman	46000.00
Alice Johnson	45000.00
Raju Mathew	45000.00
Jomon Varghese	38000.00
Abu Rasheed	35000.00
Kevin Dizsuza	30000.00
Kiran Ravi	28000.00

employee 7 ×

Output

Action Output

#	Time	Action	Message
✓	7 11:52:43	select * from employee LIMIT 0, 50000	10 row(s) returned
✓	8 11:53:44	select emp_name,salary from employee order by salary desc LIMIT 0, 50000	10 row(s) returned

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

SELECT CUSTOMER_NAME,ISSUED_BOOK_NAME FROM CUSTOMER,ISSUESTATUS
  WHERE CUSTOMER_ID=ISSUED_CUST;

```
146 •      select customer_name,Issued_book_name from customer,IssueStatus
147        where customer_id=Issued_cust;
```

customer_name	Issued_book_name
kannan Nair	Introduction to SQL
Maya Ravi	Advanced SQL Techniques
Frank Wilson	Database Design Principles
Manu david	Python for Data Science
Greeshma Anil	Machine Learning Basics
Ali Hassan	Anna Karenina
Abdul Salam	Pride and Prejudice
Maria Michael	War and Peace
Suresh Nair	The Alchemist
Jaya Surendran	SQL Advanced Guide

Result 10 ×

Output

Action Output ▾

#	Time	Action	Message
✓	11 12:02:41	select *from customer LIMIT 0, 50000	10 row(s) returned
✗	12 15:29:16	select *from customer,	Error Code: 1064. Yc
✓	13 15:29:23	select *from customer LIMIT 0, 50000	10 row(s) returned
✓	14 15:33:48	select customer_name,Issued_book_name from customer,IssueStatus where customer_id=Issued_...	10 row(s) returned

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

SELECT CATEGORY,COUNT(BOOK_TITLE) FROM BOOKS GROUP BY CATEGORY;

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

SELECT EMP_NAME AS 'EMPLOYEE NAME',POSITION,SALARY FROM EMPLOYEE WHERE SALARY > 50000;

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

SELECT CUSTOMER_ID,CUSTOMER_NAME,REG_DATE
FROM CUSTOMER
WHERE REG_DATE<'2022-01-01' AND CUSTOMER_ID NOT IN (
    SELECT ISSUED_CUST
    FROM ISSUESTATUS
    WHERE CUSTOMER_ID=ISSUED_CUST);

```
171 •        SELECT customer_id,customer_name,reg_date
172      FROM customer
173    ⊖ WHERE reg_date<'2022-01-01' and customer_id NOT IN (
174          SELECT issued_cust
175          FROM issuestatus
176          WHERE customer_id=issued_cust);
```

Result Grid | 🔢 | ↔ Filter Rows: [   ] | Export: 💾 | Wrap Cell Content: 🔤

customer_id	customer_name	reg_date
▶ 11	mahalaxmi Iyer	2021-01-30

customer 13 ✕

Output

Action Output ▼

#	Time	Action	Message
✅	1	11:58:15	select * from customer LIMIT 0, 50000	10 row(s) returned
✅	2	11:58:29	INSERT INTO Customer (Customer_Id, Customer_name, Customer_address, Reg_date) VALUES (11...	1 row(s) affected
✅	3	11:58:39	SELECT customer_id,customer_name,reg_date FROM customer WHERE reg_date<'2022-01-01' an...	1 row(s) returned

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

SELECT BRANCH_NO,COUNT(EMP_NAME)
 FROM EMPLOYEE GROUP BY BRANCH_NO;

```
185 •      select branch_no,count(emp_name)
186        from employee group by branch_no;
```

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

branch_no	count(emp_name)
1	4
2	3
3	3

Result 19 ✕

Output

Action Output

#	Time	Action	Message
✓	8 12:10:54	select branch_no,count(emp_name) from employee group by branch_no LIMIT 0, 50000	3 row(s) returned

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

```sql
SELECT CUSTOMER_NAME,CUSTOMER_ID,ISSUE_DATE FROM CUSTOMER,ISSUESTATUS
  WHERE CUSTOMER_ID=ISSUED_CUST
  AND ISSUE_DATE BETWEEN '2024-06-01' AND '2024-06-30';
```

```
190 •     select customer_name,customer_id,issue_date from customer,issuestatus
191       where customer_id=issued_cust
192       and issue_date between '2024-06-01' and '2024-06-30';
```

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

customer_name	customer_id	issue_date
Ali Hassan	6	2024-06-05

Result 25 ✕

Output

Action Output

#	Time	Action	Message
✓	1 12:31:03	select customer_name,customer_id,issue_date from customer,issuestatus where customer_id=issued...	1 row(s) returned

9. Retrieve book_title from book table containing Adventure.

SELECT BOOK_TITLE,AUTHOR FROM BOOKS

WHERE CATEGORY LIKE 'ADV%';

```
196 •    select book_title,author from books
197      where category like 'adv%';
```

book_title	author
The Alchemist	Paulo Coelho

books 32 ×

Output

Action Output ▾

#	Time	Action	Message
✓ 1	12:49:23	select *from books LIMIT 0, 50000	10 row(s) returned
✓ 2	12:49:26	select book_title,author from books where category like 'adv%' LIMIT 0, 50000	1 row(s) returned

10.Retrieve the branch numbers along with the count of employees for branches having more than 3 employees

SELECT BRANCH_NO,COUNT(EMP_NAME)
FROM EMPLOYEE GROUP BY BRANCH_NO
HAVING COUNT(EMP_NAME)>3;

```
199 •      select branch_no,count(emp_name)
200        from employee group by branch_no
201        having count(emp_name)>3;
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:

	branch_no	count(emp_name)
▶	1	4

Result 34 ×

Output

Action Output

#	Time	Action	Message
✓	1 13:06:07	select branch_no,count(emp_name) from employee group by branch_no having count(emp_name)...	1 row(s) returned

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

SELECT E.EMP_NAME,E.BRANCH_NO,B.BRANCH_ADDRESS FROM EMPLOYEE E
INNER JOIN BRANCH B ON E.BRANCH_NO = B.BRANCH_NO
WHERE E.POSITION LIKE '%MANAGER';

```
203 •      SELECT e.emp_name,e.branch_no,b.branch_address from employee e
204      INNER JOIN branch b  ON e.branch_no = b.branch_no
205      where e.position like '%manager';
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:

emp_name	branch_no	branch_address
David Johnson	1	123 Main St, Kuttanad, Kerala

Result 1 ×

Output

Action Output

#	Time	Action	Message
✓ 1	11:17:55	use library	0 row(s) affected
✓ 2	11:18:02	SELECT e.emp_name,e.branch_no,b.branch_address from employee e INNER JOIN branch b ON e....	1 row(s) returned

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

SELECT
CUSTOMER_ID,CUSTOMER_NAME,
BOOK_TITLE,RENTAL_PRICE
FROM
BOOKS
JOIN
ISSUESTATUS ON ISBN_BOOK = ISBN
JOIN
CUSTOMER ON ISSUED_CUST = CUSTOMER_ID
WHERE
RENTAL_PRICE>25
ORDER BY CUSTOMER_ID;

```
218 •      SELECT
219        customer_id,customer_name,
220        book_title,rental_price
221        FROM
222        books
223        JOIN
224        issuestatus ON ISBN_book = isbn
225        JOIN
226        customer ON issued_cust = customer_id
227        WHERE
228        rental_price>25
229        order by customer_id;
230
```

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

customer_id	customer_name	book_title	rental_price
2	Maya Ravi	Advanced SQL Techniques	35.00
3	Frank Wilson	Database Design Principles	35.00
4	Manu david	Python for Data Science	40.00
5	Greeshma Anil	Machine Learning Basics	45.00
6	Ali Hassan	Anna Karenina	45.00
7	Abdul Salam	Pride and Prejudice	35.00
8	Maria Michael	War and Peace	35.00
10	Jaya Surendran	SQL Advanced Guide	30.00

Result 19 ✕

Output

Action Output

#	Time	Action	Message
✓	1 13:03:53	SELECT customer_id,customer_name, book_title,rental_price FROM books JOIN issuestatus ON ISB...	8 row(s) returned