Topic: Library Management System

You are going to build a project based on the 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 the following TABLES in the database:

- 1. Branch
- 2. Employee
- 3. Books
- 4. Customer
- 5. IssueStatus
- 6. ReturnStatus

Table Branch

```
65 •
         use library;
 66
 67 • ⊖ create table Branch(
         Branch_no int PRIMARY KEY,
 68
         Manager_id int,
 69
         Branch_address varchar(100),
 70
         Contact no int);
 71
 72
 73 •
         INSERT INTO Branch VALUES
           (1, 101, '123 Main St', 5551234),
 74
           (2, 102, '456 Oak St', 5555678),
 75
           (3, 103, '789 Pine St', 5559012),
 76
 77
           (4, 104, '101 Elm St', 5553456),
 78
           (5, 105, '202 Maple Ave', 5557890),
 79
           (6, 106, '303 Birch Ln', 5552345),
 80
           (7, 107, '404 Cedar Rd', 5556789),
Result Grid
               Filter Rows:
                                            Edit:
   Branch_no
              Manager_id
                         Branch_address
                                        Contact_no
   1
             101
                         123 Main St
                                        5551234
   2
             102
                         456 Oak St
                                        5555678
   3
             103
                         789 Pine St
                                        5559012
   4
             104
                         101 Elm St
                                        5553456
   5
             105
                         202 Maple Ave
                                        5557890
  6
             106
                         303 Birch Ln
                                        5552345
   7
             107
                         404 Cedar Rd
                                        5556789
  8
                         505 Walnut Dr 5551234
             108
  9
             109
                         606 Spruce Ct
                                        5555678
```

Table Employee 87 • ⊖ create table Employee(Emp_Id int PRIMARY KEY, 88 Emp_name varchar(30) not null, 89 Position varchar(20) not null, 90 Salary decimal(10,2), 91 Branch no int, 92 FOREIGN KEY(Branch no) REFERENCES Branch(Branch no)); 93 94 INSERT INTO Employee VALUES 95 • (001, 'John Doe', 'Manager', 60000, 1), 96 (002, 'Jane Smith', 'Clerk', 40000, 1), 97 (003, 'Bob Johnson', 'Assistant Manager', 50000, 1), 98 (004, 'Alice Williams', 'Librarian', 45000, 2), 99 (005, 'Charlie Brown', 'Clerk', 40000, 3), 100 (006, 'Diana Davis', 'Assistant Manager', 52000, 3), 101 Edit: 🚄 🖶 🖶 Export/Import: 🏣 🌄 | Wrap Cell Con Emp_Id Emp_name Position Salary Branch_no John Doe 1 Manager 60000.00 1 Jane Smith Clerk 40000.00 2 1 3 Bob Johnson Assistant Manager 50000.00 1 4 Alice Williams Librarian 45000.00 2 5 Charlie Brown Clerk 40000.00 3 Diana Davis 3 6 Assistant Manager 52000.00 7 Edward Evans Librarian 46000.00 4 8 Frank Fisher Clerk 4 41000.00

65000.00

42000.00

5

9

10

Grace Green

Harry Harris

Manager

Clerk

Table Books

```
120 • ⊖ create table Books(
121
         ISBN int PRIMARY KEY,
122
         Book_title varchar(100) not null,
123
         Category varchar(50),
         Rental_Price decimal(8,2),
124
125
         Status Enum('Yes','no') Not null,
126
         Author varchar(100),
127
         Publisher varchar(100));
128
       INSERT INTO Books VALUES
129 •
130
            ('1001', 'The Catcher in the Rye', 'Fiction', 3.99, 'Yes', 'J.D. Salinger', 'Little, Brown and Company'),
131
            ('1002', 'To Kill a Mockingbird', 'Fiction', 4.99, 'Yes', 'Harper Lee', 'J.B. Lippincott & Co.'),
            ('1003', '1984', 'Dystopian', 5.99, 'Yes', 'George Orwell', 'Secker & Warburg'),
132
            ('1004', 'The Great Gatsby', 'Classic', 3.99, 'No', 'F. Scott Fitzgerald', 'Scribner'),
133
          ('1005', 'The Hobbit', 'Fantasy', 6.99, 'Yes', 'J.R.R. Tolkien', 'Allen & Unwin'),
134
<
| Edit: 🚄 🖶 | Export/Import: 📳 🐻 | Wrap Cell Content: 🖽
   ISBN
        Book_title
                                         Category
                                                       Rental_Price Status Author
                                                                                                  Publisher
  1001
         The Catcher in the Rye
                                         Fiction
                                                                   Yes
                                                                                                  Little, Brown and Company
  1002 To Kill a Mockingbird
                                         Fiction
                                                      4.99
                                                                                                  J.B. Lippincott & Co.
                                                                  Yes
                                                                          Harper Lee
   1003 1984
                                         Dystopian
                                                      5.99
                                                                          George Orwell
                                                                                                  Secker & Warburg
   1004 The Great Gatsby
                                                      3.99
                                                                          F. Scott Fitzgerald
                                                                                                  Scribner
                                         Classic
                                                                  no
   1005 The Hobbit
                                         Fantasy
                                                      6.99
                                                                  Yes
                                                                          J.R.R. Tolkien
                                                                                                  Allen & Unwin
   1006 The Renaissance: Art and Culture
                                                      14.50
                                                                          Michael Renaissance Scholar
                                                                                                  Artistic Books
                                         History
                                                                  no
   1007 The Da Vinci Code
                                                      7.99
                                                                          Dan Brown
                                                                                                  Doubleday
                                         Mystery
                                                                  no
   1008 Harry Potter and the Sorcerer's Stone
                                         Fantasy
                                                      6.99
                                                                  Yes
                                                                          J.K. Rowling
                                                                                                  Bloomsbury
   1009 The History of Ancient Civilizations
                                                                                                  Academic Press
                                         History
                                                      12.99
                                                                  Yes
                                                                          John Historian
  1010 The Hunger Games
                                         Science Fiction
                                                      5.99
                                                                          Suzanne Collins
                                                                                                  Scholastic
Books 1 ×
```

```
Table Customer
143 • ⊖ create table Customer(
         Customer Id int PRIMARY KEY,
144
145
         Customer name varchar(20) not null,
146
         Customer address varchar(200),
         Reg date date);
147
148
         INSERT INTO Customer VALUES
149 •
            (1, 'Alice Johnson', '123 Main St', '2021-01-01'),
150
            (2, 'Bob Smith', '456 Oak St', '2024-01-02'),
151
            (3, 'Charlie Brown', '789 Pine St', '2021-08-03'),
152
           (4, 'Diana Davis', '101 Elm St', '2024-01-04'),
153
           (5, 'Edward Evans', '202 Maple Ave', '2022-01-05'),
154
           (6, 'Frank Fisher', '303 Birch Ln', '2024-06-06'),
155
            (7, 'Grace Green', '404 Cedar Rd', '2021-04-07'),
156
157
            (8, 'Harry Harris', '505 Walnut Dr', '2020-03-08'),
<
| Edit: 🚄 🖶 | Export/Import: 📳 🐻 | Wrap Cell Content
    Customer_Id Customer_name
                              Customer_address
                                              Reg_date
               Alice Johnson
                              123 Main St
                                              2021-01-01
   1
   2
               Bob Smith
                              456 Oak St
                                              2024-01-02
   3
               Charlie Brown
                              789 Pine St
                                              2021-08-03
               Diana Davis
                              101 Elm St
                                              2024-01-04
   5
               Edward Evans
                              202 Maple Ave
                                              2022-01-05
               Frank Fisher
                                              2024-06-06
   6
                             303 Birch Ln
               Grace Green
                              404 Cedar Rd
                                              2021-04-07
   8
               Harry Harris
                             505 Walnut Dr
                                              2020-03-08
               Ivy White
                              606 Spruce Ct
                                              2023-06-09
   10
               Jack Jones
                              707 Fir Blvd
                                              2024-01-10
Customer 1 ×
```

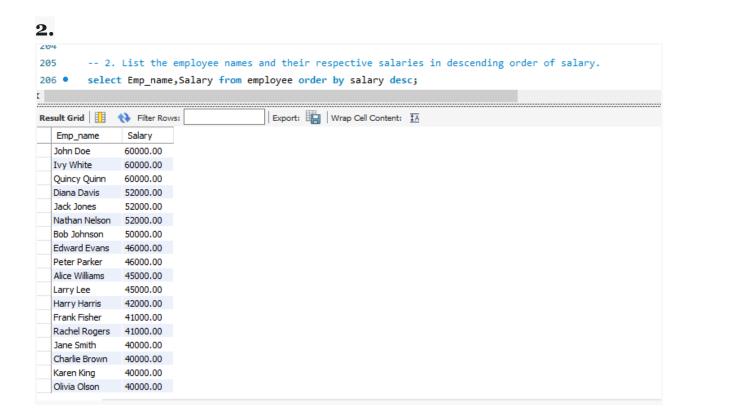
Table IssueStatus 163 • ⊝ create table IssueStatus(164 Issue Id int PRIMARY KEY, Issued_cust int, 165 Issued_book_name varchar(200) not null, 166 167 Issue date date, Isbn_book int, 168 169 FOREIGN KEY(Issued_cust) references Customer(customer_id), FOREIGN KEY(Isbn_book) references Books(ISBN)); 170 171 172 • INSERT INTO IssueStatus(Issue_id,Issued_cust,Issued_book_name,Issue_date) VALUES (201, 1, 'The Catcher in the Rye', '2023-06-15'), 173 (202, 2, 'To Kill a Mockingbird', '2024-01-16'), 174 (203, 3, '1984', '2023-06-17'), 175 (204, 4, 'The Great Gatsby', '2024-01-18'), 176 (205, 5, 'The Hobbit', '2024-01-19'); 177 178 179 • select * from IssueStatus; < | Edit: 🚄 🖶 | Export/Import: 🏭 👸 | Wrap Cell Content: 🖽 Issue_date Isbn_book 2023-06-15 NULL ▶ 201 The Catcher in the Rye 1 2024-01-16 NULL 202 To Kill a Mockingbird 2023-06-17 NULL 203 1984 2024-01-18 NULL 4 The Great Gatsby 204 2024-01-19 NULL 205 The Hobbit NULL NULL

Table ReturnStatus

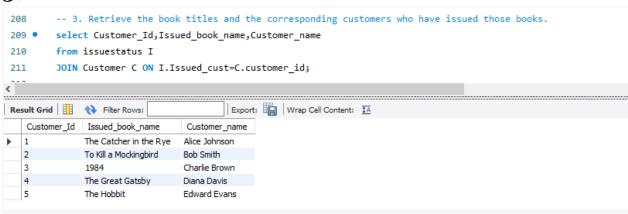
```
181 • ⊝ create table ReturnStatus(
         Return Id int PRIMARY KEY,
182
183
         Return cust int,
         Return_book_name varchar(100) not null,
184
185
         Return date date,
186
         Isbn book2 int,
187
         FOREIGN KEY(Isbn_book2) references Books(ISBN));
188
189 •
         INSERT INTO ReturnStatus (Return_Id, Return_cust, Return_book_name, Return_date, Isbn_book2)
190
         VALUES
191
           (301, 1, 'The Catcher in the Rye', '2024-02-01', '1001'),
           (302, 2, 'To Kill a Mockingbird', '2024-02-02', '1002'),
192
193
           (303, 3, '1984', '2024-02-03', '1003'),
194
           (304, 4, 'The Great Gatsby', '2024-02-04', '1004'),
195
           (305, 5, 'The Hobbit', '2024-02-05', '1005');
<
| Edit: 🚄 🖶 | Export/Import: 🏣 🐻 | Wrap Cell Content: 🛂
   Return_Id Return_cust Return_book_name
                                           Return_date
                                                      Isbn_book2
             1
                        The Catcher in the Rye
                                           2024-02-01
                                                       1001
   302
                        To Kill a Mockingbird
                                           2024-02-02
                                                       1002
   303
             3
                        1984
                                           2024-02-03
                                                       1003
   304
            4
                        The Great Gatsby
                                           2024-02-04
                                                       1004
   305
                        The Hobbit
                                           2024-02-05
                                                       1005
             5
NULL
            NULL
                        NULL
                                                      NULL
```

Queries

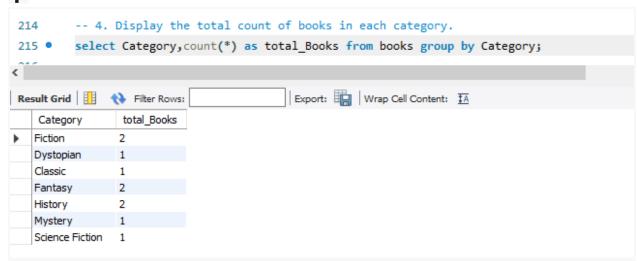
1. 202 -- 1. Retrieve the book title, category, and rental price of all available books. 203 • select Book_title,Category,Rental_Price from Books where status='Yes'; 204 < Export: Wrap Cell Content: IA Book_title Rental_Price Category The Catcher in the Rye 3.99 Fiction To Kill a Mockingbird Fiction 4.99 1984 Dystopian 5.99 The Hobbit Fantasy 6.99 Harry Potter and the Sorcerer's Stone Fantasy 6.99 The History of Ancient Civilizations History 12.99







4.



5•

