Task 7.2C: Mini-project Part 2
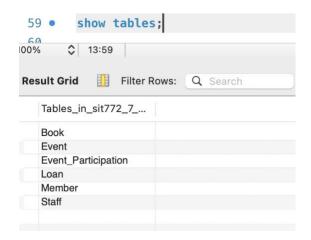
Camberwell Library

1. SQL statement

Create database SIT772_7_2C:

```
create database SIT772_7_2C;
show databases;
use SIT772_7_2C;
```

Create tables:

```
1  CREATE TABLE Member (
2      MemberID INT PRIMARY KEY,
3      Name VARCHAR(100),
4      Email VARCHAR(100),
5      Phone VARCHAR(20),
6      Address VARCHAR(255),
7      JoinDate DATE,
8      MembershipType VARCHAR(50)
9  );
10
11 CREATE TABLE Book (
12     BookID INT PRIMARY KEY,
13     Title VARCHAR(255),
14     Author VARCHAR(100),
15     Genre VARCHAR(50),
16     Publisher VARCHAR(100),
17     PublicationYear INT,
18     ISBN VARCHAR(20),
19     AvailabilityStatus VARCHAR(20)
20 );
21
```

```sql
22  CREATE TABLE Event (
23      EventID INT PRIMARY KEY,
24      EventName VARCHAR(100),
25      EventDate DATE,
26      EventTime TIME,
27      Location VARCHAR(100),
28      Organizer VARCHAR(100),
29      EventDescription TEXT
30  );
31
32  CREATE TABLE Staff (
33      StaffID INT PRIMARY KEY,
34      StaffName VARCHAR(100),
35      StaffRole VARCHAR(50),
36      StaffEmail VARCHAR(100),
37      StaffPhone VARCHAR(20)
38  );
39
40  CREATE TABLE Loan (
41      LoanID INT PRIMARY KEY,
42      MemberID INT,
43      BookID INT,
44      LoanDate DATE,
45      ReturnDate DATE,
46      LoanStatus VARCHAR(20),
47      FOREIGN KEY (MemberID) REFERENCES Member(MemberID),
48      FOREIGN KEY (BookID) REFERENCES Book(BookID)
49  );
50
51  CREATE TABLE Event_Participation (
52      Event_Participation_ID INT PRIMARY KEY,
53      Member_ID INT,
54      Event_ID INT,
55      FOREIGN KEY (Member_ID) REFERENCES Member(MemberID),
56      FOREIGN KEY (Event_ID) REFERENCES Event(EventID)
57  );
58
```

```
59 ●    show tables;
60
```

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Result Grid   ▦   Filter Rows: Q Search

Tables_in_sit772_7_...
Book
Event
Event_Participation
Loan
Member
Staff

2. Insert at least FIVE records

```
62 ●    INSERT INTO Member VALUES (1, 'Alice Smith', 'alice@email.com', '0411111111', '123 Main St', '2022-01-01', 'Adult');
63 ●    INSERT INTO Member VALUES (2, 'Bob Jones', 'bob@email.com', '0422222222', '456 Side St', '2022-02-01', 'Student');
64 ●    INSERT INTO Member VALUES (3, 'Cathy Brown', 'cathy@email.com', '0433333333', '789 Hill St', '2023-03-01', 'Senior');
65 ●    INSERT INTO Member VALUES (4, 'David Lee', 'david@email.com', '0444444444', '321 Lake Rd', '2023-04-01', 'Adult');
66 ●    INSERT INTO Member VALUES (5, 'Eva Green', 'eva@email.com', '0455555555', '654 River Dr', '2023-05-01', 'Student');
67
68 ●    INSERT INTO Book VALUES (1, 'Book A', 'Author A', 'Fiction', 'Publisher X', 2010, 'ISBN001', 'Available');
69 ●    INSERT INTO Book VALUES (2, 'Book B', 'Author B', 'Science', 'Publisher Y', 2012, 'ISBN002', 'Borrowed');
70 ●    INSERT INTO Book VALUES (3, 'Book C', 'Author C', 'History', 'Publisher Z', 2015, 'ISBN003', 'Available');
71 ●    INSERT INTO Book VALUES (4, 'Book D', 'Author D', 'Technology', 'Publisher X', 2018, 'ISBN004', 'Available');
72 ●    INSERT INTO Book VALUES (5, 'Book E', 'Author E', 'Fiction', 'Publisher Y', 2020, 'ISBN005', 'Borrowed');
73
74 ●    INSERT INTO Event VALUES (1, 'Book Club', '2024-05-10', '14:00:00', 'Meeting Room 1', 'Alice Smith', 'Monthly book discussion.');
75 ●    INSERT INTO Event VALUES (2, 'Children Storytime', '2024-05-12', '10:00:00', 'Kids Area', 'Bob Jones', 'Stories for children.');
76 ●    INSERT INTO Event VALUES (3, 'Author Talk', '2024-06-01', '16:00:00', 'Main Hall', 'Library Staff', 'Meet a local author.');
77 ●    INSERT INTO Event VALUES (4, 'Tech Help', '2024-06-05', '11:00:00', 'Computer Lab', 'David Lee', 'Help with technology.');
78 ●    INSERT INTO Event VALUES (5, 'Seminar Series', '2024-06-10', '15:00:00', 'Conference Room', 'Eva Green', 'Educational sessions.');
79
80 ●    INSERT INTO Staff VALUES (1, 'John White', 'Librarian', 'john@email.com', '0466666666');
81 ●    INSERT INTO Staff VALUES (2, 'Jane Black', 'Event Manager', 'jane@email.com', '0477777777');
82 ●    INSERT INTO Staff VALUES (3, 'Peter Gray', 'Support Staff', 'peter@email.com', '0488888888');
83 ●    INSERT INTO Staff VALUES (4, 'Mary Blue', 'Librarian', 'mary@email.com', '0499999999');
84 ●    INSERT INTO Staff VALUES (5, 'Tom Red', 'Event Manager', 'tom@email.com', '0410101010');
85
86 ●    INSERT INTO Loan VALUES (1, 1, 1, '2024-04-01', '2024-04-15', 'Returned');
87 ●    INSERT INTO Loan VALUES (2, 2, 2, '2024-04-03', NULL, 'Borrowed');
88 ●    INSERT INTO Loan VALUES (3, 3, 3, '2024-04-05', '2024-04-20', 'Returned');
89 ●    INSERT INTO Loan VALUES (4, 4, 4, '2024-04-07', NULL, 'Borrowed');
90 ●    INSERT INTO Loan VALUES (5, 5, 5, '2024-04-09', '2024-04-25', 'Returned');
91
92 ●    INSERT INTO Event_Participation VALUES (1, 1, 1);
93 ●    INSERT INTO Event_Participation VALUES (2, 2, 2);
94 ●    INSERT INTO Event_Participation VALUES (3, 3, 3);
95 ●    INSERT INTO Event_Participation VALUES (4, 4, 4);
96 ●    INSERT INTO Event_Participation VALUES (5, 5, 5);
97
98
```

```
9 •    select * from Member;
10
```

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Result Grid | Filter Rows: 🔍 Search   Edit: ✏️ 📥 📤   Export/Import: 💾

MemberID	Name	Email	Phone	Address	JoinDate	MembershipType
1	Alice Smith	alice@email.com	0411111111	123 Main St	2022-01-01	Adult
2	Bob Jones	bob@email.com	0422222222	456 Side St	2022-02-01	Student
3	Cathy Brown	cathy@email.com	0433333333	789 Hill St	2023-03-01	Senior
4	David Lee	david@email.com	0444444444	321 Lake Rd	2023-04-01	Adult
5	Eva Green	eva@email.com	0455555555	654 River Dr	2023-05-01	Student
NULL	NULL	NULL	NULL	NULL	NULL	NULL

```
9 •    select * from Book;
10
```

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Result Grid | Filter Rows: 🔍 Search   Edit: ✏️ 📥 📤   Export/Import: 💾

BookID	Title	Author	Genre	Publisher	PublicationYear	ISBN	AvailabilityStat...
1	Book A	Author A	Fiction	Publisher X	2010	ISBN001	Available
2	Book B	Author B	Science	Publisher Y	2012	ISBN002	Borrowed
3	Book C	Author C	History	Publisher Z	2015	ISBN003	Available
4	Book D	Author D	Technology	Publisher X	2018	ISBN004	Available
5	Book E	Author E	Fiction	Publisher Y	2020	ISBN005	Borrowed
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

```
9 •    select * from Event;
10
```

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Result Grid | Filter Rows: 🔍 Search   Edit: ✏️ 📥 📤   Export/Import: 💾

EventID	EventName	EventDate	EventTime	Location	Organizer	EventDescription
1	Book Club	2024-05-10	14:00:00	Meeting Room 1	Alice Smith	Monthly book discussion.
2	Children Storytime	2024-05-12	10:00:00	Kids Area	Bob Jones	Stories for children.
3	Author Talk	2024-06-01	16:00:00	Main Hall	Library Staff	Meet a local author.
4	Tech Help	2024-06-05	11:00:00	Computer Lab	David Lee	Help with technology.
5	Seminar Series	2024-06-10	15:00:00	Conference Room	Eva Green	Educational sessions.
NULL	NULL	NULL	NULL	NULL	NULL	NULL

```
9 •    select * from Staff;
10
```

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Result Grid | Filter Rows: 🔍 Search   Edit: ✏️ 📥

StaffID	StaffName	StaffRole	StaffEmail	StaffPhone
1	John White	Librarian	john@email.com	0466666666
2	Jane Black	Event Manager	jane@email.com	0477777777
3	Peter Gray	Support Staff	peter@email.com	0488888888
4	Mary Blue	Librarian	mary@email.com	0499999999
5	Tom Red	Event Manager	tom@email.com	0410101010
NULL	NULL	NULL	NULL	NULL

```
9 •    select * from Loan;
10
```

Result Grid | Filter Rows: Search | Edit:

LoanID	MemberID	BookID	LoanDate	ReturnDate	LoanStatus
1	1	1	2024-04-01	2024-04-15	Returned
2	2	2	2024-04-03	NULL	Borrowed
3	3	3	2024-04-05	2024-04-20	Returned
4	4	4	2024-04-07	NULL	Borrowed
5	5	5	2024-04-09	2024-04-25	Returned
NULL	NULL	NULL	NULL	NULL	NULL

```
9 •    select * from Event_Participation;
10
```

Result Grid | Filter Rows: Search | Edit:

Event_Participation...	Member_ID	Event_ID
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
NULL	NULL	NULL

3. add one additional column (attribute) :

- Name of table you want to add a new column is: Member
- Name of data is: Status
- Data type: Varchar(20)
- Default value: Active

SQL Statement:

```
99 •    ALTER TABLE Member ADD COLUMN Status VARCHAR(20) DEFAULT 'Active';
100
9 •    select * from member;
10
```

Result Grid | Filter Rows: Search | Edit: | Export/Import:

MemberID	Name	Email	Phone	Address	JoinDate	MembershipType	Status
1	Alice Smith	alice@email.com	0411111111	123 Main St	2022-01-01	Adult	Active
2	Bob Jones	bob@email.com	0422222222	456 Side St	2022-02-01	Student	Active
3	Cathy Brown	cathy@email.com	0433333333	789 Hill St	2023-03-01	Senior	Active
4	David Lee	david@email.com	0444444444	321 Lake Rd	2023-04-01	Adult	Active
5	Eva Green	eva@email.com	0455555555	654 River Dr	2023-05-01	Student	Active
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

4. **SQL statement condition**:

- What is the condition you want to use to filter the rows?
    - filter the rows where the "JoinDate" is **before 2023-01-01**.
- What is the new value of the newly added column you want to set for those selected rows?
    - set the new value of the "Status" column to **'Inactive'** for those selected rows.

SQL statement:

```sql
UPDATE Member
SET Status = 'Inactive'
WHERE JoinDate < '2023-01-01';
```

```sql
9 • select * from member;
10
```

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esult Grid | Filter Rows: Q Search | Edit: | Export/Import:

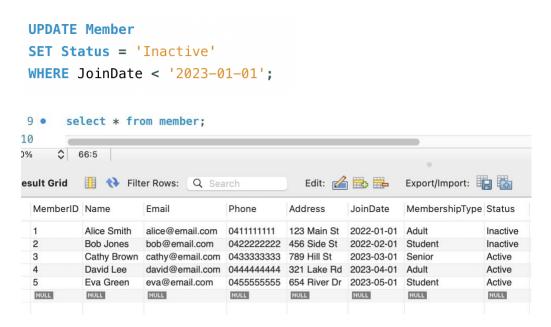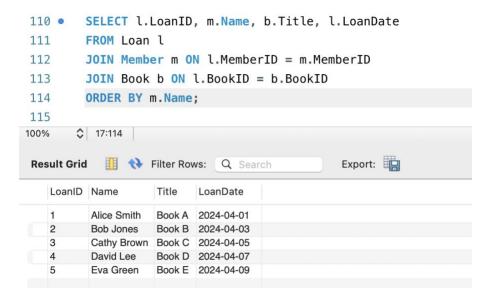| MemberID	Name	Email	Phone	Address	JoinDate	MembershipType	Status
1	Alice Smith	alice@email.com	0411111111	123 Main St	2022-01-01	Adult	Inactive
2	Bob Jones	bob@email.com	0422222222	456 Side St	2022-02-01	Student	Inactive
3	Cathy Brown	cathy@email.com	0433333333	789 Hill St	2023-03-01	Senior	Active
4	David Lee	david@email.com	0444444444	321 Lake Rd	2023-04-01	Adult	Active
5	Eva Green	eva@email.com	0455555555	654 River Dr	2023-05-01	Student	Active
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

5. **SQL queries to interact with the database**

A, Watch list loan records with member names ordered by name

```sql
110 • SELECT l.LoanID, m.Name, b.Title, l.LoanDate
111    FROM Loan l
112    JOIN Member m ON l.MemberID = m.MemberID
113    JOIN Book b ON l.BookID = b.BookID
114    ORDER BY m.Name;
115
```

100% | 17:114

Result Grid | Filter Rows: Q Search | Export:

LoanID	Name	Title	LoanDate
1	Alice Smith	Book A	2024-04-01
2	Bob Jones	Book B	2024-04-03
3	Cathy Brown	Book C	2024-04-05
4	David Lee	Book D	2024-04-07
5	Eva Green	Book E	2024-04-09

B, Find all books in genres Fiction or Science

```
117 •    SELECT * FROM Book WHERE Genre IN ('Fiction', 'Science');
118
```

BookID	Title	Author	Genre	Publisher	PublicationYear	ISBN	AvailabilityStat...
1	Book A	Author A	Fiction	Publisher X	2010	ISBN001	Available
2	Book B	Author B	Science	Publisher Y	2012	ISBN002	Borrowed
5	Book E	Author E	Fiction	Publisher Y	2020	ISBN005	Borrowed
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

C, Get all members who joined in the year 2023

```
120 •    SELECT * FROM Member WHERE YEAR(JoinDate) = 2023;
```

MemberID	Name	Email	Phone	Address	JoinDate	MembershipType	Status
3	Cathy Brown	cathy@email.com	0433333333	789 Hill St	2023-03-01	Senior	Active
4	David Lee	david@email.com	0444444444	321 Lake Rd	2023-04-01	Adult	Active
5	Eva Green	eva@email.com	0455555555	654 River Dr	2023-05-01	Student	Active
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

D, Create view of active loans

```
123 •    CREATE VIEW ActiveLoansView AS
124      SELECT l.LoanID, m.Name AS MemberName, b.Title AS BookTitle
125      FROM Loan l
126      JOIN Member m ON l.MemberID = m.MemberID
127      JOIN Book b ON l.BookID = b.BookID
128      WHERE l.LoanStatus = 'Borrowed';
129
130 •    SELECT * FROM ActiveLoansView;
131
```

LoanID	MemberName	BookTitle
2	Bob Jones	Book B
4	David Lee	Book D