

Library Database – JOIN Queries

1. Display library ID, name, and the name of the manager.

The screenshot shows the Microsoft SQL Server Management Studio interface. The Object Explorer on the left shows the database structure for 'librarybase'. The central pane displays a query window with the following SQL code:

```
SELECT DISTINCT memberid FROM loan

SELECT
    l.libraryid,
    l.name AS LibraryName,
    s.fullname AS ManagerName
FROM library l
JOIN staff s
ON l.libraryid = s.libraryid
WHERE s.position = 'Manager';
```

The results pane shows the output of the query:

	LibraryName	ManagerName
1	Science Library	Mohammed Said

A status bar at the bottom indicates "Query executed successfully."

2. Display library names and the books available in each one.

The screenshot shows the Microsoft SQL Server Management Studio interface. The Object Explorer on the left shows the database structure for 'librarybase'. The central pane displays a query window with the following SQL code:

```
SELECT
    l.name AS LibraryName,
    b.title AS BookTitle
FROM library l
JOIN book b
ON l.libraryid = b.libraryid;
```

The results pane shows the output of the query:

LibraryName	BookTitle
Central Library	Data Structures
Central Library	Database Systems
Central Library	Python Basics
Science Library	Children Stories
Science Library	Advanced Data Analysis

A status bar at the bottom indicates "Query executed successfully."

3. Display all member data along with their loan history.

SQLQuery2.sql - DESKTOP-GILBFIO.librarybase (DESKTOP-GILBFIO\inoura (S2)) - Microsoft SQL Server Management Studio (Administrator)

```

SELECT
    m.memberid,
    m.fullname,
    m.email,
    l.loaind,
    l.loandate,
    l.duedate,
    l.returndate,
    l.status
FROM member m
LEFT JOIN loan l
ON m.memberid = l.memberid;

```

Results

memberid	fullname	email	loaind	loandate	duedate	returndate	status
1	All Hassan	all@gmail.com	1	2024-01-01	2024-01-10	NULL	issued
2	Sara Nasser	sara@gmail.com	2	2024-02-05	2024-02-15	NULL	issued

Query executed successfully.

4. Display all books located in 'Sohar or Muscat'

SQLQuery2.sql - DESKTOP-GILBFIO.librarybase (DESKTOP-GILBFIO\inoura (S2)) - Microsoft SQL Server Management Studio (Administrator)

```

FROM member m
LEFT JOIN loan l
ON m.memberid = l.memberid;

SELECT b.*
FROM book b
JOIN library l
ON b.libraryid = l.libraryid
WHERE l.location IN ('sohar', 'muscat');

```

Results

bookid	ISBN	title	genre	price	shelflocation	isavailable	libraryid
1	978-111	Data Structures	reference	300.00	A1	1	1
2	978-222	Database Systems	non-fiction	280.00	A2	1	1
3	978-333	Python Basics	fiction	189.00	B1	1	1
4	978-444	Children Stories	children	126.00	C1	1	2
5	978-555	Advanced Data Analysis	reference	450.00	A3	1	2

Query executed successfully.

5. Display all books whose titles start with 'D'.

SQLQuery2.sql - DESKTOP-GILBFIO.librarybase (DESKTOP-GILBFIO\ouura [52]) - Microsoft SQL Server Management Studio (Administrator)

```

SELECT *
FROM book
WHERE title LIKE 'DN';

```

Results

	bookid	ISBN	title	genre	price	shelflocation	isavailable	libraryid
1	1	978-111	Data Structures	reference	300.00	A1	1	1
2	2	978-222	Database Systems	non-fiction	280.00	A2	1	1

Query executed successfully.

6. List members who borrowed books priced between 100 and 300 LE.

SQLQuery2.sql - DESKTOP-GILBFIO.librarybase (DESKTOP-GILBFIO\ouura [52]) - Microsoft SQL Server Management Studio (Administrator)

```

SELECT DISTINCT
    m.memberid,
    m.fullname
FROM member m
JOIN loan l
ON m.memberid = l.memberid
JOIN book b
ON l.bookid = b.bookid
WHERE b.price BETWEEN 100 AND 300;

```

Results

memberid	fullname
1	All Hassan
2	Sara Nasser

Query executed successfully.

7. Retrieve members who borrowed and returned books titled ' Advanced Data Analysis '.

SQLQuery2.sql - DESKTOP-GILBFIO.librarybase (DESKTOP-GILBFIO\inoura [32]) - Microsoft SQL Server Management Studio (Administrator)

```

SELECT DISTINCT
    m.fullname
FROM member m
JOIN loan l
ON m.memberid = l.memberid
JOIN book b
ON l.bookid = b.bookid
WHERE b.title = 'Advanced Data Analysis'
AND l.status = 'returned';

```

Results

fullname

Query executed successfully.

8. Find all members assisted by librarian " Ahmed Salim ".

SQLQuery2.sql - DESKTOP-GILBFIO.librarybase (DESKTOP-GILBFIO\inoura [32]) - Microsoft SQL Server Management Studio (Administrator)

```

SELECT DISTINCT
    m.fullname
FROM member m
JOIN loan l
ON m.memberid = l.memberid
JOIN book b
JOIN library lib
ON b.libraryid = lib.libraryid
JOIN staff s
ON lib.libraryid = s.libraryid
WHERE s.fullname = 'Ahmed Salim';

```

Results

fullname
Ali Hassan
Sara Nasser

Query executed successfully.

9. Display each member's name and the books they borrowed, ordered by book title.

```

SELECT
    m.fullname AS MemberName,
    b.title AS BookTitle
FROM member m
JOIN loan l
ON m.memberid = l.memberid
JOIN book b
ON l.bookid = b.bookid
ORDER BY b.title;

```

MemberName	BookTitle
Ali Hassan	Data Structures
Sara Nasser	Database Systems

10. For each book located in 'Muscat Branch', show title, library name, manager, and shelf info.

```

SELECT
    b.title,
    l.name AS LibraryName,
    s.fullname AS ManagerName,
    b.shelflocation
FROM book b
JOIN library l
ON b.libraryid = l.libraryid
JOIN staff s
ON l.libraryid = s.libraryid
WHERE l.name = 'Muscat'
AND s.position = 'Manager';

```

title	LibraryName	ManagerName	shelflocation
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11. Display all staff members who manage libraries.

The screenshot shows the Microsoft SQL Server Management Studio interface. In the Object Explorer, the database 'librarybase' is selected. In the center pane, a query window displays the following SQL code:

```

SELECT
    s.staffid,
    s.fullname,
    s.position,
    l.name AS LibraryName
FROM staff s
JOIN library l
ON s.libraryid = l.libraryid
WHERE s.position = 'Manager';

```

The results pane shows a single row of data:

	staffid	fullname	position	LibraryName
1	3	Mohammed Sed	Manager	Science Library

At the bottom, a message indicates: "Query executed successfully."

12. Display all members and their reviews, even if some didn't submit any review yet

The screenshot shows the Microsoft SQL Server Management Studio interface. In the Object Explorer, the database 'librarybase' is selected. In the center pane, a query window displays the following SQL code:

```

SELECT
    m.fullname,
    r.rating,
    r.comments,
    r.reviewdate
FROM member m
LEFT JOIN review r
ON m.memberid = r.memberid;

```

The results pane shows two rows of data:

	fullname	rating	comments	reviewdate
1	Ali Hassan	5	no comments	2024-01-06
2	Sara Nasser	4	no comments	2024-02-12

At the bottom, a message indicates: "Query executed successfully."