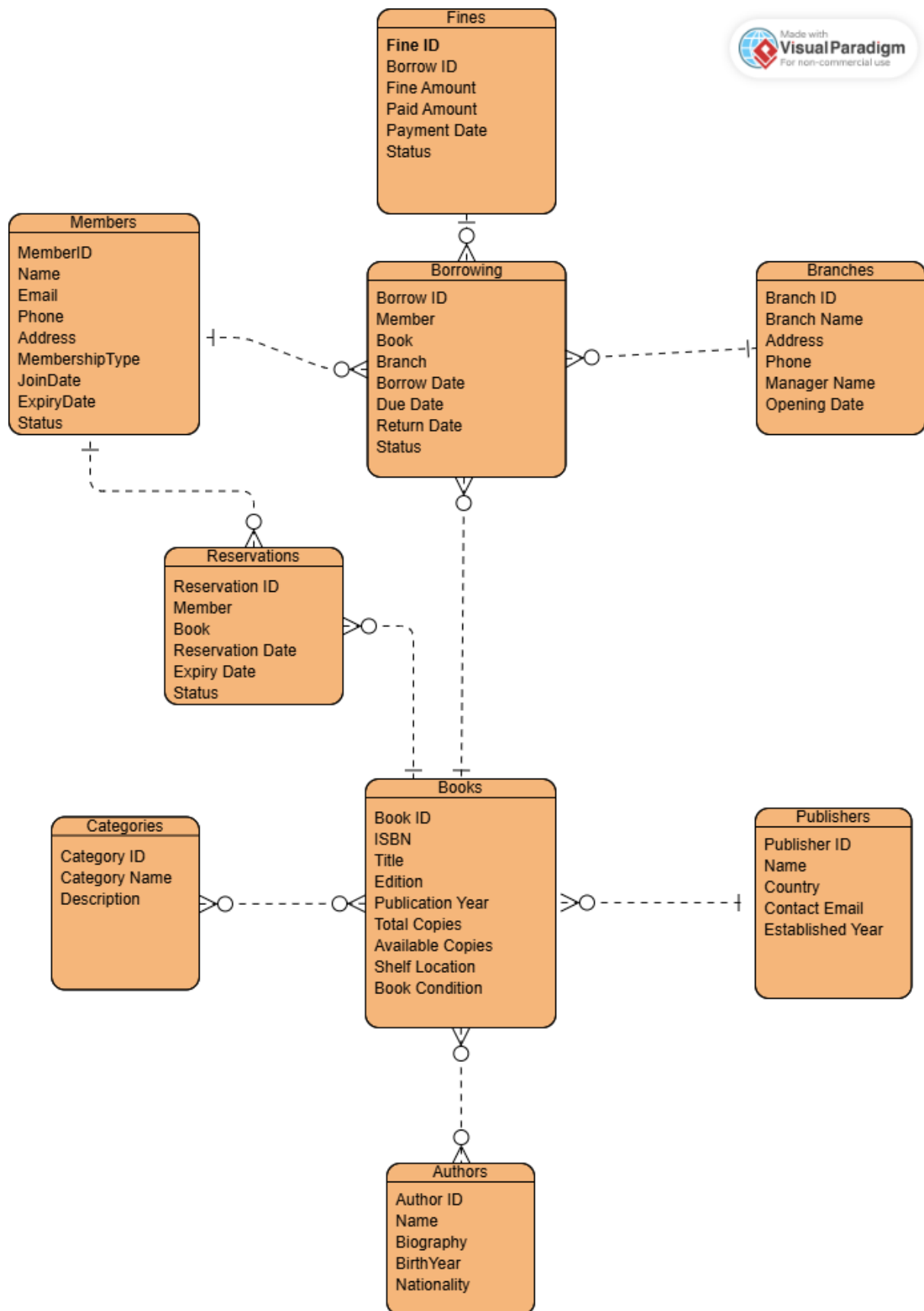


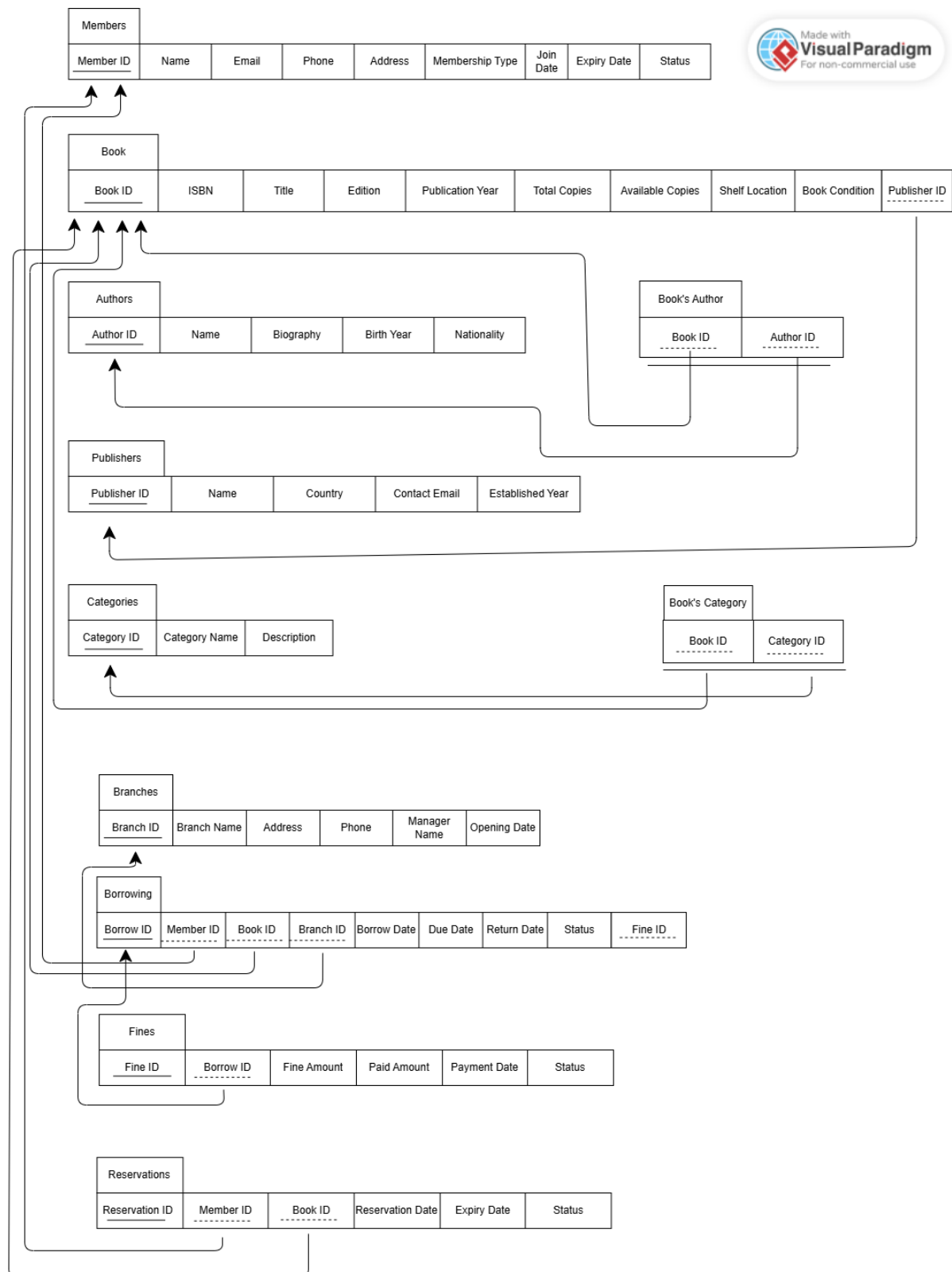
Task 1: ERD Design



Task 2: Normalization

	Issues	Example
1NF	repeating values	author_names = "Alice Smith, Bob Jones" → two authors in one cell categories = "Fiction, Drama" → two genres in one cell
2NF	Partial dependency	member_name depends only on member_id
3NF	transitive dependencies	publisher_country depends on publisher_name, not on the table key.

Task 3: Database Mapping



Task 6: SQL DQL - Basic Queries

1. List all books published after 2020

The screenshot shows the SQL Server Enterprise Manager interface. On the left, the Object Explorer displays the database structure, including tables like `dbo.Authors`, `dbo.BookAuthors`, `dbo.BookCategories`, `dbo.Books`, `dbo.Borrowing`, `dbo.Branches`, `dbo.Categories`, `dbo.Fines`, `dbo.Members`, and `dbo.Publishers`. The `dbo.Books` table is selected, showing its columns: `book_id` (PK, int, not null), `isbn` (varchar(20), not null), `title` (varchar(200), not null), `edition` (varchar(40), null), `publication_year` (smallint, not null), `total_copies` (int, not null), `available_copies` (int, not null), `shelf_location` (varchar(60), not null), `book_condition` (varchar(20), not null), `publisher_id` (FK, int, not null), and `rating` (tinyint, null). The `dbo.Books` table has a primary key on `book_id` and a foreign key on `publisher_id` pointing to `dbo.Publishers`.

The SQL Query window shows the following query:

```
SELECT * FROM Books WHERE publication_year>2020
```

The Results pane displays the following data:

book_id	isbn	title	edition	publication_year	total_copies	available_copies	shelf_location	book_condition	publisher_id	rating
1	9780000000001	The Great Novel	1st	2022	5	0	FIC-1	Good	3	4
2	9780000000002	Advanced Databases	2nd	2021	3	2	TECH-3	Good	4	5
3	9780000000003	Wireless 5G Basics	1st	2023	4	4	TECH-4	New	4	5
4	9780000000006	AI for Everyone	1st	2024	5	5	TECH-1	New	3	5
5	9780000000009	Digital Signal Processing	3rd	2021	5	5	TECH-6	Good	4	5
6	9780000000011	Machine Learning Essentials	2nd	2023	6	6	TECH-7	New	3	5
7	9780000000014	Ocean Mysteries	1st	2022	3	3	MYS-3	Good	7	4
8	9780000000015	Inspiring Leaders	1st	2021	4	4	BIO-4	Good	5	5
9	9780000000016	Quantum Physics Simplified	1st	2024	5	5	SCI-1	New	3	5
10	9780000000018	Fictional Worlds	2nd	2022	6	6	FIC-2	Good	3	5
11	9780000000020	Smart Cities	1st	2023	4	4	TECH-9	New	4	5
12	9780000000021	Artificial Intelligence Ethics	1st	2024	4	4	TECH-10	New	3	5
13	9780000000026	Cultural Heritage of Oman	1st	2021	5	5	HIS-5	Good	5	5
14	9780000000027	Cloud Computing 101	1st	2023	5	5	TECH-11	New	4	5
15	9780000000029	Renewable Energy Systems	1st	2022	5	5	SCI-4	New	4	5

2. Find all members whose membership expires in the next 30 days

The screenshot shows the SQL Server Enterprise Manager interface. On the left, the Object Explorer displays the database structure, including tables like `dbo.Authors`, `dbo.BookAuthors`, `dbo.BookCategories`, `dbo.Books`, `dbo.Borrowing`, `dbo.Branches`, `dbo.Categories`, `dbo.Fines`, `dbo.Members`, and `dbo.Publishers`. The `dbo.Members` table is selected, showing its columns: `member_id` (PK, int, not null), `name` (varchar(150), not null), `country` (varchar(80), null), `contact_email` (varchar(150), not null), `established_year` (smallint, not null), `phone` (varchar(20), not null), `address` (varchar(255), not null), `membership_type` (varchar(50), not null), `join_date` (datetime, not null), `expiry_date` (datetime, not null), `status` (varchar(20), not null), and `last_login` (datetime, null). The `dbo.Members` table has a primary key on `member_id`.

The SQL Query window shows the following query:

```
SELECT * FROM Members WHERE expiry_date BETWEEN GETDATE() AND DATEADD(DAY, 30, GETDATE());
```

The Results pane displays the following data:

member_id	name	email	phone	address	membership_type	join_date	expiry_date	status	last_login	
1	3	Ali Hassan	ali.hassan@email.com	900-0003	103 Elm St	Premium	2024-12-01	2025-11-30	Active	NULL

3. Show all overdue borrowings (return_date IS NULL AND due_date < CURDATE())

The screenshot shows the SQL Server Enterprise Manager interface. On the left, the Object Explorer displays the database structure for 'library_db', including tables like 'dbo.Borrowing', 'dbo.Branches', 'dbo.Categories', 'dbo.Fines', 'dbo.Members', and 'dbo.Publishers'. The main window shows a SQL query in the 'SQLQuery14.sql' file:

```
SELECT borrow_id, member_id, book_id, due_date, status
FROM Borrowing
WHERE return_date IS NULL
AND due_date < CAST(GETDATE() AS DATE);
```

The query results are displayed in the 'Results' pane, showing 12 rows of data. The status column indicates the borrowing status, with 'Overdue' and 'Borrowed' entries.

borrow_id	member_id	book_id	due_date	status
1	1	2	2025-10-09	Overdue
2	3	3	2025-10-24	Borrowed
3	5	5	2025-08-24	Overdue
4	8	8	2025-11-01	Borrowed
5	10	10	2025-10-19	Overdue
6	12	12	2025-10-04	Borrowed
7	15	15	2025-10-25	Borrowed
8	16	16	2025-09-03	Overdue
9	17	17	2025-10-21	Borrowed
10	19	19	2025-10-01	Overdue
11	20	20	2025-10-29	Borrowed
12	25	10	2025-10-09	Overdue

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

4. List books that have never been borrowed

The screenshot shows the SQL Server Enterprise Manager interface. On the left, the Object Explorer displays the database structure for 'library_db'. The main window shows a SQL query in the 'SQLQuery2.sql' file:

```
SELECT *
FROM Books b LEFT JOIN Borrowing br ON b.book_id = br.book_id
WHERE br.book_id IS NULL;
```

The query results are displayed in the 'Results' pane, showing 5 rows of data. The status column indicates the borrowing status, with 'Overdue' and 'Borrowed' entries.

book_id	isbn	title	edition	publication_year	total_copies	available_copies	shelf_location	book_condition	publisher_id	rating	borrow_id	member_id	book_id	branch_id	borrow_date	due_date	return
1	9780000000028	Cultural Heritage of Oman	1st	2021	5	5	HB-5	Good	5	5	NULL	NULL	NULL	NULL	NULL	NULL	NULL
2	9780000000027	Cloud Computing 101	1st	2023	5	5	TECH-11	New	4	5	NULL	NULL	NULL	NULL	NULL	NULL	NULL
3	9780000000028	Stories for Children	1st	2018	7	7	CH-3	Good	6	5	NULL	NULL	NULL	NULL	NULL	NULL	NULL
4	9780000000029	Renewable Energy Systems	1st	2022	5	5	SC-4	New	4	5	NULL	NULL	NULL	NULL	NULL	NULL	NULL
5	9780000000030	Global Biographies	1st	2020	3	3	BIO-5	Good	5	4	NULL	NULL	NULL	NULL	NULL	NULL	NULL

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

5. Find members with pending fines greater than \$10

The screenshot shows the SQL Server Enterprise Manager interface. The Object Explorer on the left displays the database structure for 'library_db'. The SQL Query window on the right contains the following query:

```
SELECT m.member_id, m.name, SUM(f.fine_amount - f.paid_amount) AS pending_balance
FROM Fines f
JOIN Borrowing br ON f.borrow_id = br.borrow_id
JOIN Members m ON br.member_id = m.member_id
WHERE f.status = 'Pending'
GROUP BY m.member_id, m.name
HAVING SUM(f.fine_amount - f.paid_amount) >= 10;
```

The Results pane shows the following data:

member_id	name	pending_balance
5	Omar Saleh	10.00

The status bar at the bottom indicates: Query executed successfully.

6. Show all books in 'Fiction' category

The screenshot shows the SQL Server Enterprise Manager interface. The Object Explorer on the left displays the database structure for 'library_db'. The SQL Query window on the right contains the following query:

```
SELECT * FROM Books b
JOIN Categories c ON category_name='Fiction'
JOIN BookCategories bc ON b.book_id=bc.book_id And c.category_id=bc.category_id
```

The Results pane shows the following data:

book_id	isbn	title	edition	publication_year	total_copies	available_copies	shelf_location	book_condition	publisher_id	rating	category_id	category_name	description	book_id	category_id
2	9780000000001	The Great Novel	1st	2022	5	0	FIC-1	Good	3	4	1	Fiction	General fiction	2	1
19	9780000000018	Fictional Worlds	2nd	2022	6	6	FIC-2	Good	3	5	1	Fiction	General fiction	19	1

The status bar at the bottom indicates: Query executed successfully.

7. Display books with less than 2 available copies

The screenshot shows the SQL Server Enterprise Manager interface. The Object Explorer on the left displays the database structure for 'HJUFAILI (SQL Server 15.0.2000.5 - Hjufaili\ga)'. The main pane shows a query window with the following SQL statement:

```
SELECT * FROM Books WHERE available_copies < 2
```

The query results are displayed in a table with the following columns: book_id, isbn, title, edition, publication_year, total_copies, available_copies, shelf_location, book_condition, publisher_id, and rating. The results show three rows of data:

book_id	isbn	title	edition	publication_year	total_copies	available_copies	shelf_location	book_condition	publisher_id	rating
2	9780000000001	The Great Novel	1st	2022	5	0	FIC-1	Good	3	4
5	9780000000004	Modern History	3rd	2019	2	1	HIS-2	Fair	5	3
14	9780000000013	World War Chronicles	1st	2019	2	1	HIS-3	Fair	5	4

The status bar at the bottom indicates 'Query executed successfully.' and 'HJUFAILI (15.0 RTM)'.

8. List all authors from 'USA' or 'UK'

The screenshot shows the SQL Server Enterprise Manager interface. The Object Explorer on the left displays the database structure for 'HJUFAILI (SQL Server 15.0.2000.5 - Hjufaili\ga)'. The main pane shows a query window with the following SQL statement:

```
SELECT * FROM Authors WHERE nationality = 'UK' OR nationality = 'USA'
```

The query results are displayed in a table with the following columns: author_id, name, biography, birth_year, and nationality. The results show one row of data:

author_id	name	biography	birth_year	nationality
2	Bob Jones	NULL	1968	UK

The status bar at the bottom indicates 'Query executed successfully.'

9. Find books published by 'Penguin Random House'

The screenshot shows the SQL Server Enterprise Manager interface. The Object Explorer on the left displays the database structure, including tables like `Books` and `Publishers`. The SQL Query window on the right contains the following query:

```
SELECT * FROM Books b JOIN Publishers p ON p.name='Penguin Random House' AND b.publisher_id=p.publisher_id
```

The Results pane shows the output of the query, displaying columns: `book_id`, `isbn`, `title`, `edition`, `publication_year`, `total_copies`, `available_copies`, `shelf_location`, `book_condition`, `publisher_id`, `rating`, `publisher_id`, `name`, `country`, `contact_email`, and `established_year`. The results show three books published by Penguin Random House.

book_id	isbn	title	edition	publication_year	total_copies	available_copies	shelf_location	book_condition	publisher_id	rating	publisher_id	name	country	contact_email	established_year
1	9780000000007	Mystery on the Hill	1st	2017	2	3	MY9-2	Good	7	4	7	Penguin Random House	Oman	fatma1234@gmail.com	2025
2	9780000000014	Ocean Mysteries	1st	2022	3	3	MY9-3	Good	7	4	7	Penguin Random House	Oman	fatma1234@gmail.com	2025
3	9780000000025	The Last Detective	1st	2016	4	3	MY9-4	Fair	7	4	7	Penguin Random House	Oman	fatma1234@gmail.com	2025

Query executed successfully. HJUFALI (15.0 RTM) | HJUFALI\galkha (69) | library_db | 00:00:00 | 3 rows

10. Show borrowings from last month using BETWEEN

The screenshot shows the SQL Server Enterprise Manager interface. The Object Explorer on the left displays the database structure, including tables like `Borrowing` and `Books`. The SQL Query window on the right contains the following query:

```
SELECT * FROM Borrowing WHERE borrow_date BETWEEN DATEADD(MONTH, -1, DATEFROMPARTS(YEAR(GETDATE()), MONTH(GETDATE()), 1)) AND DATEADD(DAY, -1, DATEFROMPARTS(YEAR(GETDATE()), MONTH(GETDATE()), 1));
```

The Results pane shows the output of the query, displaying columns: `borrow_id`, `member_id`, `book_id`, `branch_id`, `borrow_date`, `due_date`, `return_date`, and `status`. The results show 11 borrowings from last month.

borrow_id	member_id	book_id	branch_id	borrow_date	due_date	return_date	status
1	3	3	4	2025-10-10	2025-10-24	NULL	Borrowed
2	7	7	8	1	2025-10-15	2025-10-29	Returned
3	8	8	9	2	2025-10-18	2025-11-01	Borrowed
4	10	10	11	4	2025-10-05	2025-10-19	Overdue
5	13	13	14	2	2025-10-01	2025-10-15	Returned
6	15	15	16	4	2025-10-11	2025-10-25	NULL
7	17	17	18	1	2025-10-07	2025-10-21	NULL
8	20	20	21	4	2025-10-15	2025-10-29	NULL
9	22	4	23	1	2025-10-20	2025-11-03	NULL
10	23	6	24	2	2025-10-25	2025-11-08	NULL
11	24	8	25	3	2025-10-05	2025-10-19	Returned

Query executed successfully. HJUFALI (15.0 RTM) | HJUFALI\galkha (69) |

Task 7: SQL Joins

INNER JOIN:

1. List all borrowed books with member names and book titles

The screenshot displays the SQL Server Enterprise Manager interface. On the left, the Object Explorer shows the database structure for 'library_db', including tables like 'dbo.BookCategories', 'dbo.Books', 'dbo.Borrowing', 'dbo.Branches', 'dbo.Categories', 'dbo.Fines', 'dbo.Members', and 'dbo.Publisher'. The 'dbo.Borrowing' table is selected. The main pane shows a SQL query window with the following query:

```
SELECT  
    br.borrow_id,  
    m.name AS member_name,  
    b.title AS book_title,  
    br.borrow_date,  
    br.due_date,  
    br.status  
FROM Borrowing br  
INNER JOIN Members m ON br.member_id = m.member_id  
INNER JOIN Books b ON br.book_id = b.book_id  
WHERE br.status='Borrowed'
```

Below the query window, the Results pane shows the output of the query, displaying 8 rows of data. The columns are: borrow_id, member_name, book_title, borrow_date, due_date, and status.

borrow_id	member_name	book_title	borrow_date	due_date	status
3	Ali Hassan	Wireless 5G Basics	2025-10-10	2025-10-24	Borrowed
8	Mohammed Al-Balushi	Biography of a Pioneer	2025-10-18	2025-11-01	Borrowed
12	Salim Al-Harthy	Network Security Basics	2025-09-20	2025-10-04	Borrowed
15	Amal Al-Farsi	Inspiring Leaders	2025-10-11	2025-10-25	Borrowed
17	Talib Al-Rawahi	Drama of Dreams	2025-10-07	2025-10-21	Borrowed
20	Khalid Al-Mahrooqi	Smart Cities	2025-10-15	2025-10-29	Borrowed
22	Maryam Khan	Drama in the Storm	2025-10-20	2025-11-03	Borrowed
23	Sara Ahmed	Science Explorers	2025-10-25	2025-11-08	Borrowed

At the bottom, a status bar indicates "Query executed successfully."

2. Show all books with their author names (handle multiple authors)

The screenshot shows the SQL Server Enterprise Manager interface. On the left, the Object Explorer displays the database structure for 'library_db', including tables like 'BookCategories', 'Books', 'Borrowing', 'Branches', 'Categories', 'Members', 'Publishers', and 'Publishers'. The 'Books' table is expanded, showing columns like 'book_id', 'isbn', 'title', 'edition', 'publication_year', 'total_copies', 'available_copies', 'shelf_location', 'book_condition', 'publisher_id', and 'rating'. The main window displays a SQL query in the 'SQLQuery26.sql' file:

```
SELECT
    b.book_id,
    b.title,
    a.name AS author_name
FROM Books b
INNER JOIN BookAuthors ba ON b.book_id = ba.book_id
INNER JOIN Authors a ON ba.author_id = a.author_id
```

The query results are displayed in a table with the following columns: 'book_id', 'title', and 'author_name'. The results show 16 rows of data, including books like 'Advanced Databases', 'Adventures in Space', 'AI for Everyone', 'Artificial Intelligence Ethics', 'Biography of a Pioneer', 'Children of Tomorrow', 'Cloud Computing 101', 'Cultural Heritage of Oman', 'Digital Signal Processing', 'Drama in the Storm', 'Drama of Dreams', 'Fairy Tales', 'Fictional Worlds', 'Global Biographies', 'Historical Moments', and 'Inspiring Leaders'.

book_id	title	author_name
3	Advanced Databases	Bob Jones
25	Adventures in Space	Chen Wei
7	AI for Everyone	Fatima Noor
22	Artificial Intelligence Ethics	Fatima Noor
9	Biography of a Pioneer	Carlos Mendes
11	Children of Tomorrow	Sophia Turner
28	Cloud Computing 101	Fatima Noor
27	Cultural Heritage of Oman	Ahmed Al-Harthy
10	Digital Signal Processing	Chen Wei
23	Drama in the Storm	Sophia Turner
18	Drama of Dreams	Sophia Turner
6	Fairy Tales	Sophia Turner
19	Fictional Worlds	Alharith
31	Global Biographies	Elena Petrova
20	Historical Moments	Diego Perez
16	Inspiring Leaders	Carlos Mendes
12	Machines Learning Essentials	Fatima Noor

The query executed successfully.

3. Display current borrowings with branch information

The screenshot shows the SQL Server Enterprise Manager interface. On the left, the Object Explorer displays the database structure for 'library_db'. The main window displays a SQL query in the 'SQLQuery26.sql' file:

```
SELECT * FROM Borrowing br
INNER JOIN Members m ON br.member_id = m.member_id
INNER JOIN Books b ON br.book_id = b.book_id
INNER JOIN Branches brn ON br.branch_id = brn.branch_id
WHERE br.status IN ('Borrowed', 'Overdue');
```

The query results are displayed in a table with the following columns: 'borrow_id', 'member_id', 'book_id', 'branch_id', 'borrow_date', 'due_date', 'return_date', 'status', 'member_id', 'name', 'email', 'phone', 'address', 'membership_type', 'join_date', 'expiry_date', and 'status'. The results show 14 rows of data, including borrowings for books like 'Advanced Databases', 'Adventures in Space', 'AI for Everyone', 'Artificial Intelligence Ethics', 'Biography of a Pioneer', 'Children of Tomorrow', 'Cloud Computing 101', 'Cultural Heritage of Oman', 'Digital Signal Processing', 'Drama in the Storm', 'Drama of Dreams', 'Fairy Tales', 'Fictional Worlds', 'Global Biographies', 'Historical Moments', and 'Inspiring Leaders'.

borrow_id	member_id	book_id	branch_id	borrow_date	due_date	return_date	status	member_id	name	email	phone	address	membership_type	join_date	expiry_date	status	
1	1	1	2	2025-09-25	2025-10-09	NULL	Overdue	1	Alharith	hufaili@gmail.com	96743282	23 Ibra	Standard	2025-01-01	2025-12-31	Active	
2	3	3	4	2025-10-10	2025-10-24	NULL	Borrowed	3	Ali Hassan	ali.hassan@email.com	900-0003	103 Elm St	Premium	2024-12-01	2025-11-30	Active	
3	5	5	6	2025-09-10	2025-09-24	NULL	Overdue	5	Omar Saleh	omar.saleh@email.com	900-0005	105 Elm St	Standard	2023-10-01	2024-09-30	Expire	
4	8	8	9	2025-10-18	2025-11-01	NULL	Borrowed	8	Mohammed Al-Balushi	mohammed.balushi@email.com	900-0008	108 Elm St	Premium	2024-05-01	2025-05-01	Active	
5	10	10	11	4	2025-10-05	2025-10-19	Overdue	10	Aisha Said	aisha.said@email.com	900-0010	110 Elm St	Premium	2025-01-15	2026-01-14	Active	
6	12	12	13	1	2025-09-20	2025-10-04	NULL	Borrowed	12	Salim Al-Harthy	salim.harthy@email.com	900-0012	112 Elm St	Premium	2023-11-20	2024-11-20	Expire
7	15	15	16	4	2025-10-11	2025-10-25	NULL	Borrowed	15	Amal Al-Farsi	amal.farsi@email.com	900-0015	115 Elm St	Premium	2024-02-25	2025-02-25	Active
8	16	16	17	5	2025-09-20	2025-09-03	NULL	Overdue	16	Huda Al-Dharmi	huda.ahmadi@email.com	900-0016	116 Elm St	Standard	2025-05-01	2026-05-01	Active
9	17	17	18	1	2025-10-07	2025-10-21	NULL	Borrowed	17	Talib Al-Rawahi	talib.rawahi@email.com	900-0017	117 Elm St	Premium	2024-07-05	2025-07-05	Active
10	19	19	20	3	2025-09-17	2025-10-01	NULL	Overdue	19	Muna Al-Rashdi	muna.rashdi@email.com	900-0019	119 Elm St	Premium	2023-09-01	2024-09-01	Suspe
11	20	20	21	4	2025-10-15	2025-10-29	NULL	Borrowed	20	Khalid Al-Mahrooqi	khalid.mahrooqi@email.com	900-0020	120 Elm St	Standard	2024-12-12	2025-12-12	Active
12	22	4	23	1	2025-10-20	2025-11-03	NULL	Borrowed	4	Mayam Khan	mayam.khan@email.com	900-0004	104 Elm St	Premium	2024-01-15	2025-01-14	Expire
13	23	6	24	2	2025-10-25	2025-11-08	NULL	Borrowed	6	Sara Al-Nadad	sara.alnadad@email.com	900-0006	106 Elm St	Premium	2025-03-01	2026-03-01	Active
14	25	10	26	4	2025-09-25	2025-10-09	NULL	Overdue	10	Aisha Said	aisha.said@email.com	900-0010	110 Elm St	Premium	2025-01-15	2026-01-14	Active

The query executed successfully.

LEFT JOIN:

4. List ALL books and show if they're currently borrowed (include books not borrowed)

The screenshot displays the SQL Server Enterprise Manager interface. On the left, the Object Explorer shows the database structure for 'library_db', including tables like 'dbo.BookCategories', 'dbo.Books', 'dbo.Borrowing', and 'dbo.Publishers'. The 'dbo.Books' table is expanded, showing columns such as 'book_id', 'isbn', 'title', 'edition', 'publication_year', 'total_copies', 'available_copies', 'shelf_location', 'book_condition', 'publisher_id', and 'rating'.

The central pane shows the SQL query editor with the following query:

```
SELECT  
    b.book_id,  
    b.title,  
    br.borrow_id,  
    br.status AS borrow_status  
FROM Books b  
LEFT JOIN Borrowing br ON b.book_id = br.book_id  
AND br.status IN ('Borrowed', 'Overdue')
```

The bottom pane shows the query results in a table with the following columns: 'book_id', 'title', 'borrow_id', and 'borrow_status'. The results are as follows:

book_id	title	borrow_id	borrow_status
2	The Great Novel	1	Overdue
3	Advanced Databases	NULL	NULL
4	Wireless 5G Basics	3	Borrowed
5	Modern History	NULL	NULL
6	Fairy Tales	5	Overdue
7	AI for Everyone	NULL	NULL
8	Mystery on the Hill	NULL	NULL
9	Biography of a Pioneer	8	Borrowed
10	Digital Signal Processing	NULL	NULL
11	Children of Tomorrow	10	Overdue
12	Machine Learning Essentials	NULL	NULL
13	Network Security Basics	12	Borrowed
14	World War Chronicles	NULL	NULL
15	Ocean Mysteries	NULL	NULL
16	Inspiring Leaders	15	Borrowed
17	Quantum Physics Simplified	16	Overdue
18	Dreams of Dreams	17	Borrowed

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

5. Show ALL members and their active borrowings (include members with no borrowings)

The screenshot displays the SQL Server Enterprise Manager interface. On the left, the Object Explorer shows the database structure for 'library_db', including tables like 'dbo.BookCategories', 'dbo.Books', 'dbo.Borrowing', 'dbo.Branches', 'dbo.Categories', 'dbo.Fines', 'dbo.Members', and 'dbo.Publishers'. The 'Columns' tab is selected for 'dbo.Books', showing fields like 'book_id', 'isbn', 'title', 'edition', 'publication_year', 'total_copies', 'available_copies', 'shelf_location', 'book_condition', 'publisher_id', and 'rating'.

The central pane shows a SQL query in the 'SQLQuery26.sql' file:

```
SELECT  
    m.member_id,  
    m.name AS member_name,  
    br.borrow_id,  
    b.title AS borrowed_book,  
    br.status  
FROM Members AS m  
LEFT JOIN Borrowing AS br ON m.member_id = br.member_id  
    AND br.status IN ('Borrowed', 'Overdue')  
LEFT JOIN Books AS b ON br.book_id = b.book_id
```

The bottom pane shows the 'Results' tab with a table of 17 rows and 6 columns: 'member_id', 'member_name', 'borrow_id', 'borrowed_book', and 'status'. The data is as follows:

member_id	member_name	borrow_id	borrowed_book	status
9	Abdullah Rashid	NULL	NULL	NULL
10	Aisha Said	10	Children of Tomorrow	Overdue
10	Aisha Said	25	The Last Detective	Overdue
1	Alharith	1	The Great Novel	Overdue
3	Ali Hassan	3	Wireless 5G Basics	Borrowed
15	Amal Al-Farsi	15	Inspiring Leaders	Borrowed
7	Fatima Noor	NULL	NULL	NULL
11	Hassan Al-Lamki	NULL	NULL	NULL
16	Huda Al-Shamsi	16	Quantum Physics Simplified	Overdue
2	Jane Smith	NULL	NULL	NULL
20	Khalid Al-Mahrooqi	20	Smart Cities	Borrowed
13	Layla Al-Hinai	NULL	NULL	NULL
4	Maryam Khan	22	Drama in the Storm	Borrowed
8	Mohammed Al-Balushi	8	Biography of a Pioneer	Borrowed
19	Muna Al-Rashdi	19	Historical Moments	Overdue
14	Nasser Al-Kindi	NULL	NULL	NULL
5	Omar Salih	5	Five Tales	Overdue

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

RIGHT JOIN / FULL OUTER JOIN (if supported):

6. Show all categories and count of books (include categories with no books)

The screenshot shows the SQL Server Enterprise Manager interface. On the left, the Object Explorer displays the 'library_db' database structure, including tables like 'dbo.BookCategories' and 'dbo.Books'. The main pane shows a SQL query window with the following query:

```
SELECT
    c.category_id,
    c.category_name,
    COUNT(bc.book_id) total_books
FROM Categories c
LEFT JOIN BookCategories bc ON c.category_id = bc.category_id
GROUP BY c.category_id, c.category_name
ORDER BY c.category_name;
```

The Results pane shows the output of the query:

category_id	category_name	total_books
1	Biography	3
2	Children	3
3	Drama	3
4	Fiction	2
5	History	4
6	Mystery	3
7	Science	7
8	Technology	9

The screenshot shows the SQL Server Enterprise Manager interface. On the left, the Object Explorer displays the 'library_db' database structure, including tables like 'dbo.Categories' and 'dbo.Books'. The main pane shows a SQL query window with the following query:

```
SELECT
    c.category_id,
    c.category_name,
    COUNT(bc.book_id) total_books
FROM Categories c
FULL OUTER JOIN BookCategories bc
ON c.category_id = bc.category_id
GROUP BY c.category_id, c.category_name
ORDER BY c.category_name;
```

The Results pane shows the output of the query:

category_id	category_name	total_books
1	Biography	3
2	Children	3
3	Drama	3
4	Fiction	2
5	History	4
6	Mystery	3
7	Science	7
8	Technology	9