

## Output of OverDueBooks

The screenshot shows the pgAdmin 4 interface with the following components:

- Object Explorer:** Displays the database structure, including Schemas (1), public, and Tables (7). The 'Tables (7)' folder is expanded, showing tables like bills, department\_info, doctor, patient, rooms, student, and test\_report.
- Query Editor:** Contains a SQL script with the following lines:

```
120 -- Insert a loan that is already overdue (due_date < today and return_date IS NULL)
121
122 INSERT INTO Loans (book_id, member_id, loan_date, due_date, return_date)
123 VALUES (3, 1, CURRENT_DATE - 10, CURRENT_DATE - 5, NULL);
124
125
126 SELECT * FROM Notifications;
127
128 SELECT * FROM BorrowedBooks;
129
130 SELECT * FROM OverdueBooks;
131
132
133 SELECT
134     M.name AS member_name,
135     COUNT(L.loan_id) AS total_loans
136 FROM Members M
137 JOIN Loans L ON M.member_id = L.member_id
138 WHERE L.due_date < CURRENT_DATE;
```
- Data Output:** Displays the results of the query. The first two rows are from the 'OverdueBooks' table:

loan_id	title	borrower	loan_date	due_date
4	The Hobbit	Alice	2025-07-06	2025-07-11
1	Harry Potter	Alice	2025-07-01	2025-07-10
- Status Bar:** Shows 'Total rows: 2' and 'Query complete 00:00:00.192'. A green message box indicates 'Successfully run. Total query runtime: 192 msec. 2 rows affected.'

# Output of Joins Query

pgAdmin 4

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Query Query History

SELECT \* FROM Notifications;

SELECT \* FROM BorrowedBooks;

SELECT \* FROM OverdueBooks;

SELECT

M.name AS member\_name,

COUNT(L.loan\_id) AS total\_loans

FROM Members M

JOIN Loans L ON M.member\_id = L.member\_id

GROUP BY M.name;

Data Output Messages Notifications

Showing rows: 1 to 2 Page No: 1 of 1

	member_name	total_loans
1	Alice	2
2	Bob	1

Total rows: 2 Query complete 00:00:00.126

Successfully run. Total query runtime: 126 msec. 2 rows affected.

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## Output of trigger and notification

The screenshot displays the pgAdmin 4 interface. On the left, the Object Explorer shows the database structure, with the 'public' schema expanded and 'Tables (7)' selected. The main pane shows a SQL query with the following content:

```
110 DROP TRIGGER IF EXISTS trigger_due_date_notification ON Loans;
111
112
113 -- Create the trigger
114 CREATE TRIGGER trigger_due_date_notification
115 AFTER INSERT OR UPDATE ON Loans
116 FOR EACH ROW
117 WHEN (NEW.return_date IS NULL AND NEW.due_date < CURRENT_DATE)
118 EXECUTE FUNCTION notify_due_date();
119
120
121 -- Insert a loan that is already overdue (due_date < today and return_date IS NULL)
122 INSERT INTO Loans (book_id, member_id, loan_date, due_date, return_date)
123 VALUES (3, 1, CURRENT_DATE - 10, CURRENT_DATE - 5, NULL);
124
125
126 SELECT * FROM Notifications;
127
128
```

Below the query editor, the 'Data Output' tab is active, showing a single row of data from the 'Notifications' table:

notification_id [PK] integer	message text	notified_at timestamp without time zone
1	Book "The Hobbit" is overdue for member Alice	2025-07-16 22:45:06.82846

The status bar at the bottom indicates 'Total rows: 1' and 'Query complete 00:00:00.318'.

# Output of Borrowed Books

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