

Lab 2

Insert Statements

The screenshot shows two instances of SSMS. Both windows have the title bar "scottConnection" and the tabs "Administration" and "Schemas". The left pane displays the "SCHEMAS" tree, which includes the SCOTT schema with its tables (LIBRARY, BOOK, BOOK_AUTHORS, BOOK_COPIES, BOOK_LOANS, BORROWER, LIBRARY_BRANCH, PUBLISHER), views, stored procedures, and functions.

Query 1 (Top Window):

```
1 • INSERT INTO PUBLISHER VALUES
2 ("A", "A Street", "+111"),
3 ("B", "B Street", "+222"),
4 ("C", "C Street", "+333"),
5 ("D", "D Street", "+444");
6
7 • INSERT INTO BOOK VALUES
8 (1, "The Lost Tribe", "A"),
9 (2, "Harry Potter", "B"),
10 (3, "One Piece", "C"),
11 (4, "Mockingbird", "D");
12
13 • INSERT INTO BOOK_AUTHORS VALUES
14 (1, "Generic Author"),
15 (2, "JK Rowling"),
16 (3, "Eiichiro Oda"),
17 (4, "Generic Author");
18
19 • INSERT INTO LIBRARY_BRANCH VALUES
20 (1, "Branch 1", "Branch 1 Street"),
21 (2, "Branch 2", "Branch 2 Street"),
22 (3, "Branch 3", "Branch 3 Street"),
23 (4, "Branch 4", "Branch 4 Street");
24
25 • INSERT INTO BORROWER VALUES
26 (111, "AAA", "A Street", "+111"),
27 (222, "BBB", "B Street", "+222"),
28 (333, "CCC", "C Street", "+333"),
29 (444, "DDD", "A Street", "+444");
30
31 • INSERT INTO BOOK_COPIES VALUES
32 (3, 1, 1068),
33 (3, 2, 1068),
34 (3, 3, 1068),
35 (3, 4, 1068),
36 (1, 2, 100),
37 (2, 3, 100),
38 (4, 4, 200);
39
40 • INSERT INTO BOOK_LOANS VALUES
41 (3,1,111,'2008-7-04', '2008-7-04'),
42 (3,2,222,'2008-7-04', '2008-7-04'),
43 (2,1,444,'2008-7-04', '2008-7-04'),
44 (1,2,333, '2008-7-04', '2008-7-04');
45
46 • INSERT INTO LIBRARY_BRANCH VALUES
47 (5, "Sharpstown", "23 Sharpstown Street");
48
49 • INSERT INTO BOOK_COPIES VALUES
50 (1, 1, 100),
51 (1, 3, 100),
52 (1, 4, 200);
53
54 • INSERT INTO BORROWER VALUES
55 (555, "EEE", "E Street", "+555");
56
57 • INSERT INTO BOOK_COPIES VALUES
58 (1,5,250),
59 (3,5,1068);
60
61 • INSERT INTO BOOK_LOANS VALUES
62 (3,5,111,'2008-7-04', CURDATE()),
63 (1,5,111,'2008-7-04', CURDATE()),
```

Query 2 (Bottom Window):

```
30
31 • INSERT INTO BOOK_COPIES VALUES
32 (3, 1, 1068),
33 (3, 2, 1068),
34 (3, 3, 1068),
35 (3, 4, 1068),
36 (1, 2, 100),
37 (2, 3, 100),
38 (4, 4, 200);
39
40 • INSERT INTO BOOK_LOANS VALUES
41 (3,1,111,'2008-7-04', '2008-7-04'),
42 (3,2,222,'2008-7-04', '2008-7-04'),
43 (2,1,444,'2008-7-04', '2008-7-04'),
44 (1,2,333, '2008-7-04', '2008-7-04');
45
46 • INSERT INTO LIBRARY_BRANCH VALUES
47 (5, "Sharpstown", "23 Sharpstown Street");
48
49 • INSERT INTO BOOK_COPIES VALUES
50 (1, 1, 100),
51 (1, 3, 100),
52 (1, 4, 200);
53
54 • INSERT INTO BORROWER VALUES
55 (555, "EEE", "E Street", "+555");
56
57 • INSERT INTO BOOK_COPIES VALUES
58 (1,5,250),
59 (3,5,1068);
60
61 • INSERT INTO BOOK_LOANS VALUES
62 (3,5,111,'2008-7-04', CURDATE()),
63 (1,5,111,'2008-7-04', CURDATE()),
```

Both windows show the status bar at the bottom indicating "SQL Editor Opened." A tooltip on the right side of both windows states: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."

scottConnection

Administration Schemas Query 1 Context Help Snippets

Filter objects Limit to 1000 rows

LIBRARY

- Tables
 - BOOK
 - Columns
 - Book_id
 - Title
 - Publisher_name
- Indexes
- Foreign Keys
- Triggers
- BOOK_AUTHORS
- BOOK_COPIES
- BOOK_LOANS
- BORROWER
- LIBRARY_BRANCH
- PUBLISHER
- Views
- Stored Procedures
- Functions

No object selected

```

59   (3,5,1068);
60
61 • INSERT INTO BOOK_LOANS VALUES
62   (3,5,111,'2008-7-04', CURDATE()),
63   (1,5,111,'2008-7-04', CURDATE()),
64   (3,5,333,'2008-7-04', CURDATE());
65
66 • INSERT INTO BOOK VALUES
67   (5,"IT", "A"),
68   (6, "The Shining", "B"),
69   (7, "Fairy Tale", "C"),
70   (8, "Carrie", "D"),
71   (9, "The Stand", "A");
72
73 • Insert INTO BOOK_AUTHORS VALUES
74   (5,"Stephen King"),
75   (6,"Stephen King"),
76   (7,"Stephen King"),
77   (8,"Stephen King"),
78   (9,"Stephen King");
79
80 • INSERT INTO BOOK_LOANS VALUES
81   (5,5,111,'2008-7-04', CURDATE()),
82   (6,5,111,'2008-7-04', CURDATE()),
83   (7,5,333,'2008-7-04', CURDATE()),
84   (8,5,333,'2008-7-04', CURDATE()),
85   (9,1,333,'2008-7-04', CURDATE()),
86   (3,1,333,'2008-7-04', CURDATE()),
87   (3,2,333,'2008-7-04', CURDATE());
88
89 • INSERT INTO BOOK_LOANS VALUES
90   (7,4,111,'2008-7-04', CURDATE()),
91   (8,4,111,'2008-7-04', CURDATE()),
92   (9,4,111,'2008-7-04', CURDATE());
93
94
95
96
97
98
99
100
101
102
103
104
105

```

100% 1:60

SQL Editor Opened.

scottConnection

Administration Schemas Query 1 Context Help Snippets

Filter objects Limit to 1000 rows

LIBRARY

- Tables
 - BOOK
 - Columns
 - Book_id
 - Title
 - Publisher_name
- Indexes
- Foreign Keys
- Triggers
- BOOK_AUTHORS
- BOOK_COPIES
- BOOK_LOANS
- BORROWER
- LIBRARY_BRANCH
- PUBLISHER
- Views
- Stored Procedures
- Functions

No object selected

```

73 • Insert INTO BOOK_AUTHORS VALUES
74   (5,"Stephen King"),
75   (6,"Stephen King"),
76   (7,"Stephen King"),
77   (8,"Stephen King"),
78   (9,"Stephen King");
79
80 • INSERT INTO BOOK_LOANS VALUES
81   (5,5,111,'2008-7-04', CURDATE()),
82   (6,5,111,'2008-7-04', CURDATE()),
83   (7,5,333,'2008-7-04', CURDATE()),
84   (8,5,333,'2008-7-04', CURDATE()),
85   (9,1,333,'2008-7-04', CURDATE()),
86   (3,1,333,'2008-7-04', CURDATE()),
87   (3,2,333,'2008-7-04', CURDATE());
88
89 • INSERT INTO BOOK_LOANS VALUES
90   (7,4,111,'2008-7-04', CURDATE()),
91   (8,4,111,'2008-7-04', CURDATE()),
92   (9,4,111,'2008-7-04', CURDATE()),
93   (8,5,111,'2008-7-04', CURDATE()),
94   (9,5,111,'2008-7-04', CURDATE());
95
96 • INSERT INTO LIBRARY_BRANCH VALUES
97   (6, "Central", "Central Street");
98
99 • INSERT INTO BOOK_COPIES VALUES
100  (5, 5, 123),
101  (7, 6, 213),
102  (8, 6, 1327),
103  (9, 6, 305);
104
105

```

100% 1:88

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

SELECT Statements

A)

The screenshot shows the Oracle SQL Developer interface. The left sidebar displays the schema structure under 'SCHEMAS'. The central area contains a query editor with the following code:

```
1 •   SELECT No_Of_Copies
2     FROM BOOK, BOOK_COPIES, LIBRARY_BRANCH
3    WHERE BOOK.Book_id = BOOK_COPIES.Book_id
4      AND LIBRARY_BRANCH.Branch_id = BOOK_COPIES.Branch_id
5      AND Title='The Lost Tribe' AND Branch_name='Sharpstown';
6
7 -- SELECT LIBRARY_BRANCH.Branch_name, No_Of_Copies
8 -- FROM BOOK, BOOK_COPIES, LIBRARY_BRANCH
9 -- WHERE BOOK.Book_id = BOOK_COPIES.Book_id
10 -- AND LIBRARY_BRANCH.Branch_id = BOOK_COPIES.Branch_id
11 -- AND Title='The Lost Tribe';
12
```

The result grid shows one row of data:

No_Of_Copies
250

Below the result grid, the status bar shows 'Result 16' and 'Read Only'.

B)

The screenshot shows the Oracle SQL Developer interface. The left sidebar displays the schema structure under 'SCHEMAS'. The central area contains a query editor with the following code:

```
1 -- SELECT No_Of_Copies
2 -- FROM BOOK, BOOK_COPIES, LIBRARY_BRANCH
3 -- WHERE BOOK.Book_id = BOOK_COPIES.Book_id
4 -- AND LIBRARY_BRANCH.Branch_id = BOOK_COPIES.Branch_id
5 -- AND Title='The Lost Tribe' AND Branch_name='Sharpstown';
6
7 •   SELECT LIBRARY_BRANCH.Branch_name, No_Of_Copies
8     FROM BOOK, BOOK_COPIES, LIBRARY_BRANCH
9    WHERE BOOK.Book_id = BOOK_COPIES.Book_id
10   AND LIBRARY_BRANCH.Branch_id = BOOK_COPIES.Branch_id
11   AND Title='The Lost Tribe';
12
```

The result grid shows multiple rows of data:

Branch_name	No_Of_Copies
Branch 1	100
Branch 2	100
Branch 3	100
Branch 4	200
Sharpstown	250

Below the result grid, the status bar shows 'Result 17' and 'Read Only'.

C)

The screenshot shows the Oracle SQL Developer interface with a dark theme. The left sidebar displays the schema structure under 'SCHEMAS' for the 'scottsConnection' database. The 'LIBRARY' schema contains tables like 'BOOK', 'BORROWER', and 'BOOK_COPIES'. A query editor window is open with the following SQL code:

```

9 --- WHERE BOOK.Book_id = BOOK_COPIES.Book_id
10 --- AND LIBRARY_BRANCH.Branch_id = BOOK_COPIES.Branch_id
11 --- AND Title='The Lost Tribe';
12
13 • SELECT Name
14   FROM BORROWER
15 WHERE Card_no NOT IN (SELECT Card_no FROM BOOK_LOANS);
16
17 --- SELECT BOOK.Title, BORROWER.Name, BORROWER.Address
18   FROM BOOK, BORROWER, BOOK_LOANS, LIBRARY_BRANCH
19 WHERE BORROWER.Card_no = BOOK_LOANS.Card_no
20 --- AND BOOK_LOANS.Book_id = BOOK.Book_id

```

The results grid shows two rows: 'EEE' and 'FFF'. The status bar at the bottom indicates 'Query Completed'.

D)

The screenshot shows the Oracle SQL Developer interface with a dark theme. The left sidebar displays the schema structure under 'SCHEMAS' for the 'scottsConnection' database. The 'LIBRARY' schema contains tables like 'BOOK', 'BORROWER', and 'BOOK_COPIES'. A query editor window is open with the following SQL code:

```

17 • SELECT BOOK.Title, BORROWER.Name, BORROWER.Address
18   FROM BOOK, BORROWER, BOOK_LOANS, LIBRARY_BRANCH
19 WHERE BORROWER.Card_no = BOOK_LOANS.Card_no
20 AND BOOK_LOANS.Book_id = BOOK.Book_id
21 AND LIBRARY_BRANCH.Branch_id = BOOK_LOANS.Branch_id
22 AND BOOK_LOANS.Due_date = '2022-11-28' AND Branch_name = "Sharpstown";
23 -- 2022-11-28 is here instead of CurDate()
24
25 --- SELECT LIBRARY_BRANCH.Branch_name, COUNT(BOOK_LOANS.Book_id)
26 --- FROM BOOK_LOANS, LIBRARY_BRANCH
--- WHERE LIBRARY_BRANCH.Branch_id = BOOK_LOANS.Branch_id

```

The results grid shows multiple rows of book titles, names, and addresses. The status bar at the bottom indicates 'Query Completed'.

The screenshot shows the Oracle SQL Developer interface. The top navigation bar includes tabs for Administration, Schemas, and Query 1, along with various toolbar icons. The left sidebar displays the database schema structure under the LIBRARY node, including tables like BOOK, BORROWER, and BOOK_LOANS, and their columns and relationships. The main area contains a query editor with the following SQL code:

```
-- SELECT Name
-- FROM BORROWER
-- WHERE Card_no NOT IN (SELECT Card_no FROM BOOK_LOANS);
-- 
-- SELECT BOOK.Title, BORROWER.Name, BORROWER.Address
FROM BOOK, BORROWER, BOOK_LOANS, LIBRARY_BRANCH
WHERE BORROWER.Card_no = BOOK_LOANS.Card_no
AND BOOK_LOANS.Book_id = BOOK.Book_id
AND LIBRARY_BRANCH.Branch_id = BOOK_LOANS.Branch_id
AND BOOK_LOANS.Due_date = curdate() AND Branch_name = "Sharpstown";

```

The results grid below the query editor is currently empty, showing three columns: Title, Name, and Address. A status bar at the bottom indicates "Result 23" and "Read Only". On the right side, there is a vertical panel titled "Context Help" which is disabled, and a "Result Grid" tab is selected from a list of other tabs: Result Grid, Form Editor, Field Types, Query Stats, and Execution Plan.

E)

The screenshot shows the Oracle SQL Developer interface. The top navigation bar includes tabs for Administration, Schemas, and Query 1, with the Query 1 tab active. The left sidebar displays the schema tree under the SCHEMAS section, showing the structure of the library database. The main pane contains a query editor with the following SQL code:

```
18 --- FROM BOOK, BORROWER, BOOK_LOANS, LIBRARY_BRANCH
19 --- WHERE BORROWER.Card_no = BOOK_LOANS.Card_no
20 --- AND BOOK_LOANS.Book_id = BOOK.Book_id
21 --- AND LIBRARY_BRANCH.Branch_id = BOOK_LOANS.Branch_id
22 --- AND BOOK_LOANS.Due_date = curdate() AND Branch_name = "Sharpstown";
23
24
25 • SELECT LIBRARY_BRANCH.Branch_name, COUNT(BOOK_LOANS.Book_id)
26 FROM BOOK_LOANS, LIBRARY_BRANCH
27 WHERE LIBRARY_BRANCH.Branch_id = BOOK_LOANS.Branch_id
28 GROUP BY LIBRARY_BRANCH.Branch_name;
29
```

The result grid below the query shows the following data:

Branch_name	COUNT(BOOK_LOANS.Book_id)
Branch 1	4
Branch 2	3
Branch 4	3
Sharpstown	9

The right sidebar contains various tools and help links, including:

- Context Help (disabled)
- Snippets
- Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
- Result Grid
- Form Editor
- Field Types
- Query Stats
- Execution Plan

At the bottom, the status bar indicates "Result 24" and "Read Only".

F)

The screenshot shows the Oracle SQL Developer interface. The left sidebar displays the schema structure under 'SCHEMAS'. The central pane contains a query editor with the following SQL code:

```
24
25 -- SELECT LIBRARY_BRANCH.Branch_name, COUNT(BOOK_LOANS.Book_id)
26 -- FROM BOOK_LOANS, LIBRARY_BRANCH
27 -- WHERE LIBRARY_BRANCH.Branch_id = BOOK_LOANS.Branch_id
28 -- GROUP BY LIBRARY_BRANCH.Branch_name;
29
30 • SELECT BORROWER.name, BORROWER.Address, count(BOOK_LOANS.card_no)
31 FROM BORROWER, BOOK_LOANS
32 WHERE BORROWER.card_no = BOOK_LOANS.card_no
33 Group by (Borrower.CARD_No)
34 Having count(BOOK_LOANS.Card_no) > 5;
35
```

The 'Result Grid' shows the following data:

name	Address	count(BOOK_LOANS.card_n...)
AAA	A Street	10
CCC	C Street	7

Execution statistics: Result 25 | Read Only

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

G)

The screenshot shows the Oracle SQL Developer interface. The left sidebar displays the schema structure under 'SCHEMAS'. The central pane contains a query editor with the following SQL code:

```
32 -- WHERE BORROWER.card_no = BOOK_LOANS.card_no
33 -- Group by (Borrower.CARD_No)
34 -- Having count(BOOK_LOANS.Card_no) > 5;
35
36 • SELECT BOOK.Title, BOOK_COPIES.No_of_copies
37 FROM BOOK, LIBRARY_BRANCH, BOOK_COPIES, BOOK_AUTHORS
38 WHERE BOOK_AUTHORS.Author_name = "Stephen King"
39 AND LIBRARY_BRANCH.Branch_name = "Central"
40 AND BOOK_AUTHORS.Book_id = BOOK.Book_id
41 AND BOOK_COPIES.Book_id = BOOK.Book_id
42 AND BOOK_COPIES.Branch_id = LIBRARY_BRANCH.Branch_id
43
```

The 'Result Grid' shows the following data:

Title	No_of_copies
Fairy Tale	213
Carrie	1327
The Stand	305

Execution statistics: Result 26 | Read Only

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.