

Part 1: Relational Databases – Use ORACLE

A. Access Oracle Live SQL to complete Part 1.

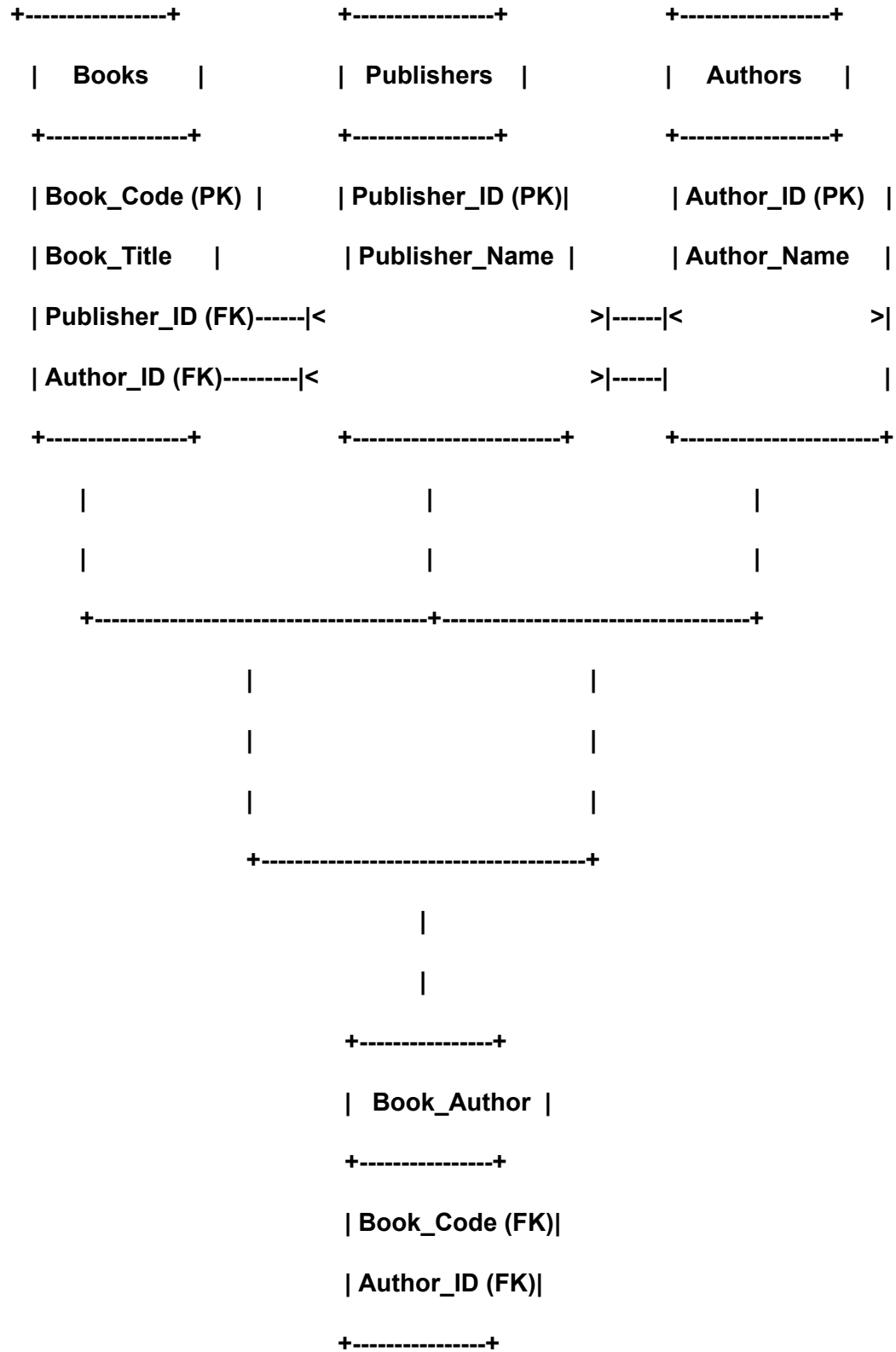
<https://livesql.oracle.com/apex/f?p=590:1000>

B. Normalize the data in Table 1 attached – show the EER diagram for your final results

Table 1

Book_Code	Book_Title	Publisher	Author
22	Stranger	Vintage	Camus
13	Dreamcatcher	Scribner	King
18	Beloved	Plume	Morrison
37	Nine	LB Books	Salinger
57	Catch 22	Scribner	Heller
61	Jazz	Plume	Morrison
69	Franny	LB Books	Salinger
75	Fall	Vintage	Camus
96	Grapes	Penguin	Morrison
98	Catcher	LB Books	Salinger

EER Diagram



C. For each of the following steps, include screenshots of your code and results

1. Use SQL code to create the tables you identified in the EER diagram
2. Use SQL code to show that each of the tables has been created

SQL Worksheet

```
1 v CREATE TABLE Publishers (  
2     Publisher_ID INT GENERATED ALWAYS AS IDENTITY PRIMARY KEY,  
3     Publisher_Name VARCHAR2(30)  
4 );  
5
```

Table created.

```
6 v CREATE TABLE Authors (  
7     Author_ID INT GENERATED ALWAYS AS IDENTITY PRIMARY KEY,  
8     Author_Name VARCHAR2(30)  
9 );  
10
```

Table created.

```
11 v CREATE TABLE Books (  
12     Book_Code INT PRIMARY KEY,  
13     Book_Title VARCHAR2(30),  
14     Publisher_ID INT,  
15     Author_ID INT,  
16     FOREIGN KEY (Publisher_ID) REFERENCES Publishers(Publisher_ID),  
17     FOREIGN KEY (Author_ID) REFERENCES Authors(Author_ID)  
18 );  
19
```

Table created.

```

20 v CREATE TABLE Book_Author (
21     Book_Code INT,
22     Author_ID INT,
23     PRIMARY KEY (Book_Code, Author_ID),
24     FOREIGN KEY (Book_Code) REFERENCES Books(Book_Code),
25     FOREIGN KEY (Author_ID) REFERENCES Authors(Author_ID)
26 );
27

```

Table created.

3. Use SQL code to enter the information displayed in Table 1 into the tables you created

```

36 INSERT INTO Publishers (Publisher_Name) VALUES ('Vintage');
37 INSERT INTO Publishers (Publisher_Name) VALUES ('Scribner');
38 INSERT INTO Publishers (Publisher_Name) VALUES ('Plume');
39 INSERT INTO Publishers (Publisher_Name) VALUES ('LB Books');
40 INSERT INTO Publishers (Publisher_Name) VALUES ('Penguin');
41

```

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

```
43 INSERT INTO Authors (Author_Name) VALUES ('Camus');
44 INSERT INTO Authors (Author_Name) VALUES ('King');
45 INSERT INTO Authors (Author_Name) VALUES ('Morrison');
46 INSERT INTO Authors (Author_Name) VALUES ('Salinger');
47 INSERT INTO Authors (Author_Name) VALUES ('Heller');
48
```

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

```
49 INSERT INTO Books (Book_Code, Book_Title, Publisher_ID, Author_ID) VALUES (22, 'Stranger', 1, 1);
50 INSERT INTO Books (Book_Code, Book_Title, Publisher_ID, Author_ID) VALUES (13, 'Dreamcatcher', 2, 2);
51 INSERT INTO Books (Book_Code, Book_Title, Publisher_ID, Author_ID) VALUES (18, 'Beloved', 3, 3);
52 INSERT INTO Books (Book_Code, Book_Title, Publisher_ID, Author_ID) VALUES (37, 'Nine', 4, 4);
53 INSERT INTO Books (Book_Code, Book_Title, Publisher_ID, Author_ID) VALUES (57, 'Catch 22', 2, 5);
54 INSERT INTO Books (Book_Code, Book_Title, Publisher_ID, Author_ID) VALUES (61, 'Jazz', 3, 3);
55 INSERT INTO Books (Book_Code, Book_Title, Publisher_ID, Author_ID) VALUES (69, 'Franny', 4, 4);
56 INSERT INTO Books (Book_Code, Book_Title, Publisher_ID, Author_ID) VALUES (75, 'Fall', 1, 1);
57 INSERT INTO Books (Book_Code, Book_Title, Publisher_ID, Author_ID) VALUES (96, 'Grapes', 5, 3);
58 INSERT INTO Books (Book_Code, Book_Title, Publisher_ID, Author_ID) VALUES (98, 'Catcher', 4, 4);
59
```

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

```
60 INSERT INTO Book_Author (Book_Code, Author_ID) VALUES (22, 1);
61 INSERT INTO Book_Author (Book_Code, Author_ID) VALUES (13, 2);
62 INSERT INTO Book_Author (Book_Code, Author_ID) VALUES (18, 3);
63 INSERT INTO Book_Author (Book_Code, Author_ID) VALUES (37, 4);
64 INSERT INTO Book_Author (Book_Code, Author_ID) VALUES (57, 5);
65 INSERT INTO Book_Author (Book_Code, Author_ID) VALUES (61, 3);
66 INSERT INTO Book_Author (Book_Code, Author_ID) VALUES (69, 4);
67 INSERT INTO Book_Author (Book_Code, Author_ID) VALUES (75, 1);
68 INSERT INTO Book_Author (Book_Code, Author_ID) VALUES (96, 3);
69 INSERT INTO Book_Author (Book_Code, Author_ID) VALUES (98, 4);
```

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

4. Use SQL code to show that the information has been entered into the appropriate tables

62 `SELECT * FROM Publishers;`

PUBLISHER_ID	PUBLISHER_NAME
1	Vintage
2	Scribner
3	Plume
4	LB Books
5	Penguin

Download CSV

5 rows selected.

63 `SELECT * FROM Authors;`

AUTHOR_ID	AUTHOR_NAME
1	Camus
2	King
3	Morrison
4	Salinger
5	Heller

Download CSV

5 rows selected.

64 `SELECT * FROM Books;`

BOOK_CODE	BOOK_TITLE	PUBLISHER_ID	AUTHOR_ID
22	Stranger	1	1
13	Dreamcatcher	2	2
18	Beloved	3	3
37	Nine	4	4
57	Catch 22	2	5
61	Jazz	3	3
69	Franny	4	4
75	Fall	1	1
96	Grapes	5	3
98	Catcher	4	4

Download CSV

10 rows selected.

65 | `SELECT * FROM Book_Author;`

BOOK_CODE	AUTHOR_ID
13	2
18	3
22	1
37	4
57	5
61	3
69	4
75	1
96	3
98	4

Download CSV

10 rows selected.

5. Run the following queries:
 - a. For each author name, show the book title. Your output should include author name and book title. Order the output by author name in descending order

```

68 v SELECT Authors.Author_Name, Books.Book_Title
69 FROM Books
70 JOIN Book_Author ON Books.Book_Code = Book_Author.Book_Code
71 JOIN Authors ON Book_Author.Author_ID = Authors.Author_ID
72 ORDER BY Authors.Author_Name DESC;

```

AUTHOR_NAME	BOOK_TITLE
Salinger	Nine
Salinger	Catcher
Salinger	Franny
Morrison	Grapes
Morrison	Beloved
Morrison	Jazz
King	Dreamcatcher
Heller	Catch 22
Camus	Stranger
Camus	Fall

Download CSV

10 rows selected.

b. For each publisher, show the books they have published. Your output should include publisher name and book title. Order the output by publisher name in ascending order.

```
75 v SELECT Publishers.Publisher_Name, Books.Book_Title
76 FROM Books
77 JOIN Publishers ON Books.Publisher_ID = Publishers.Publisher_ID
78 ORDER BY Publishers.Publisher_Name ASC;
79
```

PUBLISHER_NAME	BOOK_TITLE
LB Books	Franny
LB Books	Nine
LB Books	Catcher
Penguin	Grapes
Plume	Beloved
Plume	Jazz
Scribner	Dreamcatcher
Scribner	Catch 22
Vintage	Stranger
Vintage	Fall

Download CSV

10 rows selected.

- c. For each author, show the publisher who has published his work. Your output should include the author's name and the publisher's name. Order the output by author's name in ascending order.

```
80 v SELECT Authors.Author_Name, Publishers.Publisher_Name
81 FROM Authors
82 JOIN Book_Author ON Authors.Author_ID = Book_Author.Author_ID
83 JOIN Books ON Book_Author.Book_Code = Books.Book_Code
84 JOIN Publishers ON Books.Publisher_ID = Publishers.Publisher_ID
85 ORDER BY Authors.Author_Name ASC;
```

AUTHOR_NAME	PUBLISHER_NAME
Camus	Vintage
Camus	Vintage
Heller	Scribner
King	Scribner
Morrison	Plume
Morrison	Penguin
Morrison	Plume
Salinger	LB Books
Salinger	LB Books
Salinger	LB Books

Download CSV

10 rows selected.

- d. List the title of all the books which Salinger has written.

```
87 v SELECT Books.Book_Title
88 FROM Books
89 JOIN Book_Author ON Books.Book_Code = Book_Author.Book_Code
90 JOIN Authors ON Book_Author.Author_ID = Authors.Author_ID
91 WHERE Authors.Author_Name = 'Salinger';
```

BOOK_TITLE
Nine
Franny
Catcher

Download CSV

3 rows selected.

- e. List the title of all the books published by publisher Vintage

```
93 v SELECT Books.Book_Title
94 FROM Books
95 JOIN Publishers ON Books.Publisher_ID = Publishers.Publisher_ID
96 WHERE Publishers.Publisher_Name = 'Vintage';
```

BOOK_TITLE
Stranger
Fall

Download CSV

2 rows selected.

f. List the title of all the books and the publisher's name for all books published by Vintage, LB Books or Plume (use IN)

```
98 v SELECT Books.Book_Title, Publishers.Publisher_Name
99 FROM Books
100 JOIN Publishers ON Books.Publisher_ID = Publishers.Publisher_ID
101 WHERE Publishers.Publisher_Name IN ('Vintage', 'LB Books', 'Plume');
```

BOOK_TITLE	PUBLISHER_NAME
Stranger	Vintage
Beloved	Plume
Nine	LB Books
Jazz	Plume
Franny	LB Books
Fall	Vintage
Catcher	LB Books

Download CSV

7 rows selected.

- g. List the title of the books and the publisher name for all books published by Scribner or Plume (use OR) ***NOTE: you should only have four lines of output

```
103 v SELECT Books.Book_Title, Publishers.Publisher_Name
104 FROM Books
105 JOIN Publishers ON Books.Publisher_ID = Publishers.Publisher_ID
106 WHERE Publishers.Publisher_Name = 'Scribner' OR Publishers.Publisher_Name = 'Plume';
```

BOOK_TITLE	PUBLISHER_NAME
Dreamcatcher	Scribner
Beloved	Plume
Catch 22	Scribner
Jazz	Plume

Download CSV

4 rows selected.

- h. List the title of the book and the publisher name for all books published by Penguin and written by Morrison (use AND)

```
108 v SELECT Books.Book_Title, Publishers.Publisher_Name
109 FROM Books
110 JOIN Publishers ON Books.Publisher_ID = Publishers.Publisher_ID
111 JOIN Book_Author ON Books.Book_Code = Book_Author.Book_Code
112 JOIN Authors ON Book_Author.Author_ID = Authors.Author_ID
113 WHERE Publishers.Publisher_Name = 'Penguin' AND Authors.Author_Name = 'Morrison';
```

BOOK_TITLE	PUBLISHER_NAME
Grapes	Penguin

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