# Assignment 4 Part 2 and Assignment 5: Oracle SQL Database CPS510-Section 8

Fall 2023

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# **Library Database System**

#### **VIEWs and JOIN Queries:**

# View Query 1:

SELECT \* FROM book\_details;

# **Output:**

	⊕ BOOK_ID	∯ TITLE			∯ ISBN	GENRE_NAME	
1	104	The Catcher in the Rye	Rick Riordan	1951	9780316769488	Fiction	27
2	101	The Great Gatsby	F.Scott Fitzgerald	1925	9780743273565	Fiction	97
3	100	1984	George Orwell	1949	9780451524935	Science-Fiction	100
4	103	Moby-Dick	Herman Melville	1851	9781509826643	Adventure	87
5	102	To Kill A Mockingbird	Harper Lee	1960	9780446310789	Thriller	125

#### View Query 2:

SELECT \* FROM checked\_out\_books\_details;

		BOOK_TITLE			DATE_CHECKED_OUT	
1	2000	1984	Jeffery	David	23-09-13	23-09-27
	2001	The Great Gatsby	Amanda	Song	22-08-01	22-08-15
3	2002	To Kill A Mockingbird	Lee	Soi	22-12-27	23-01-13

# View Query 3:

```
SELECT * FROM member_checked_books;
```

# **Output:**

1 1 Jeffery David 1984 23-09-13	
2002001	23-09-27
2 2 Amanda Song The Great Gatsby 22-08-01	22-08-15
3 3 Lee Soi To Kill A Mockingbird 22-12-27	23-01-13

#### **JOIN Queries:**

# JOIN query 1:

```
SELECT b.title, a.first_name || ' ' || a.last_name AS author_name, b.publication_year, g.genre_name FROM book b

JOIN authors a ON b.author_id = a.author_id

JOIN genres g ON b.genre_id = g.genre_id;
```

# **Output:**

	∯ TITLE		₱ PUBLICATION_YEAR	GENRE_NAME
1	The Catcher in the Rye	Rick Riordan	1951	Fiction
2	The Great Gatsby	F.Scott Fitzgerald	1925	Fiction
3	1984	George Orwell	1949	Science-Fiction
4	Moby-Dick	Herman Melville	1851	Adventure
5	To Kill A Mockingbird	Harper Lee	1960	Thriller

#### **JOIN Query 2:**

```
SELECT b.title AS book_title, m.first_name AS member_first_name, m.last_name AS member_last_name, cb.date_checked_out, cb.due_date FROM checked_out_books cb

JOIN book b ON cb.book_id = b.book_id

JOIN members m ON cb.member_id = m.member_id;
```

	BOOK_TITLE			DATE_CHECKED_OUT	
1	1984	Jeffery	David	23-09-13	23-09-27
2	The Great Gatsby	Amanda	Song	22-08-01	22-08-15
3	To Kill A Mockingbird	Lee	Soi	22-12-27	23-01-13

#### **JOIN Query 3:**

```
SELECT m.first_name, m.last_name, b.title AS book_title, cb.date_checked_out, cb.due_date
FROM members m

JOIN checked_out_books cb ON m.member_id = cb.member_id

JOIN book b ON cb.book_id = b.book_id;
```

#### **Output:**

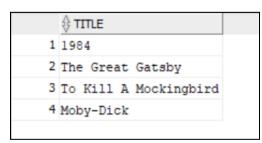
		\$ LAST_NAME	⊕ BOOK_TITLE	DATE_CHECKED_OUT	DUE_DATE
1	Jeffery	David	1984	23-09-13	23-09-27
2	Amanda	Song	The Great Gatsby	22-08-01	22-08-15
3	Lee	Soi	To Kill A Mockingbird	22-12-27	23-01-13

#### **Advanced Queries:**

#### **Advanced Query 1:**

```
SELECT b.title
FROM book b
WHERE EXISTS (
        SELECT 1
        FROM checked_out_books cb
        WHERE b.book_id = cb.book_id
);
```

# Output



# **Advanced Query 2:**

```
SELECT title AS result FROM book
UNION
SELECT first_name || ' ' || last_name AS result FROM authors;
```

```
RESULT

1 1984

2 F.Scott Fitzgerald

3 George Orwell

4 Harper Lee

5 Herman Melville

6 Moby-Dick

7 Rick Riordan

8 The Catcher in the Rye

9 The Great Gatsby

10 To Kill A Mockingbird
```

# **Advanced Query 3:**

```
SELECT COUNT(*) AS total_books
FROM book;
```

#### **Output:**

#### **Advanced Query 4:**

```
SELECT b.title
FROM book b
MINUS
SELECT b.title
FROM book b
JOIN checked_out_books cb ON b.book_id = cb.book_id;
```

#### **Output:**

#### **Advanced Query 5:**

```
SELECT m.member_id, m.first_name, m.last_name, AVG(m.books_signed_out) AS avg_books_signed_out
FROM members m
GROUP BY m.member_id, m.first_name, m.last_name
HAVING AVG(m.books_signed_out) > 0;
```

				\$ AVG_BOOKS_SIGNED_OUT
1	3	Lee	Soi	1
2	1	Jeffery	David	1
3	2	Amanda	Song	1