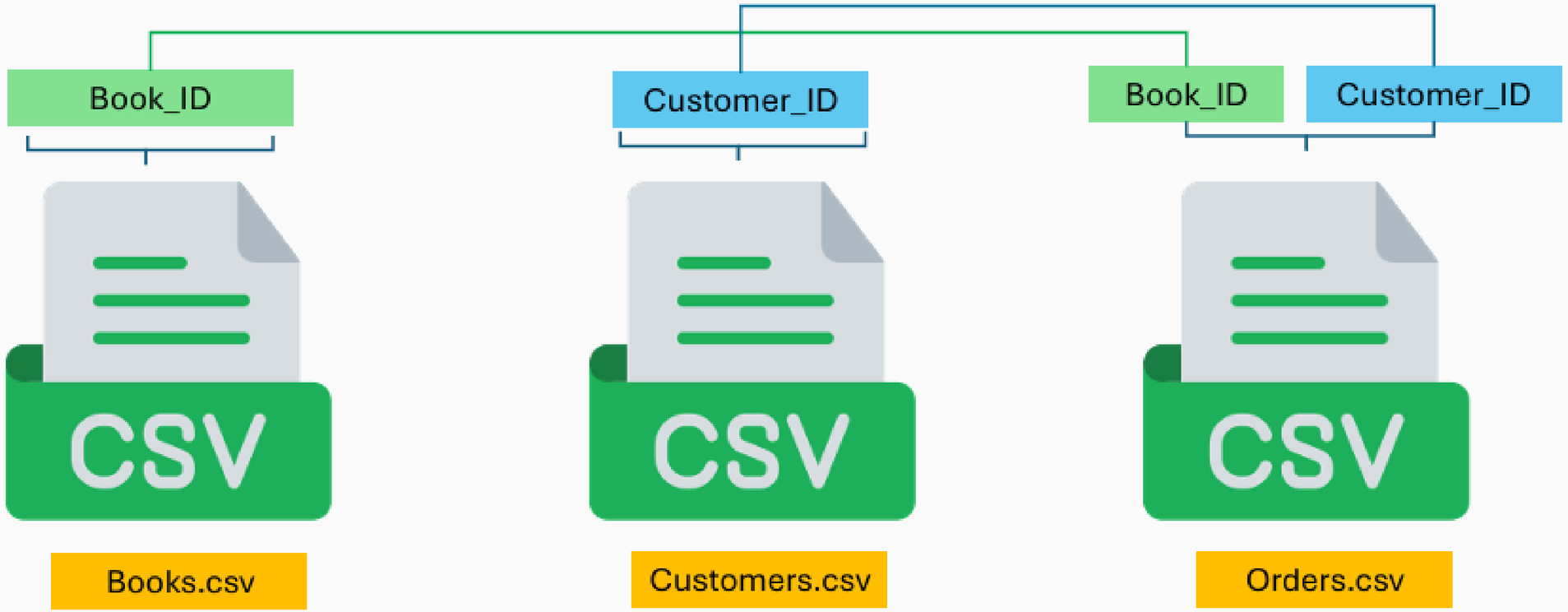

SQL
Project on
Online Book store

3 CSV Files

Tables must have at least one common column with same column name and same data type



Basic Queries

1) Retrieve all books in the "Fiction" genre
2) Find books published after the year 1950
3) List all customers from the Canada
4) Show orders placed in November 2023
5) Retrieve the total stock of books available
6) Find the details of the most expensive book
7) Show all customers who ordered more than 1 quantity of a book
8) Retrieve all orders where the total amount exceeds $20
9) List all genres available in the Books table
10) Find the book with the lowest stock
11) Calculate the total revenue generated from all orders

Advance Queries

1) Retrieve the total number of books sold for each genre
2) Find the average price of books in the "Fantasy" genre
3) List customers who have placed at least 2 orders
4) Find the most frequently ordered book
5) Show the top 3 most expensive books of 'Fantasy' Genre
6) Retrieve the total quantity of books sold by each author
7) List the cities where customers who spent over $30 are located
8) Find the customer who spent the most on orders
9) Calculate the stock remaining after fulfilling all order

1) Retrieve all books in the "Fiction" genre

```
Select * from books
where Genre = 'Fiction';
```

Output:

	book_id [PK] integer	title character varying (100)	author character varying (100)	genre character varying (58)	published_year integer	price numeric (10,2)	stock integer
1	4	Customizable 24hour product	Christopher Andrews	Fiction	2020	43.52	8
2	22	Multi-layered optimizing migration	Wesley Escobar	Fiction	1908	39.23	78
3	28	Expanded analyzing portal	Lisa Coffey	Fiction	1941	37.51	79
4	29	Quality-focused multi-tasking challenge	Katrina Underwood	Fiction	1905	31.12	100

2) Find books published after the year 1950

```
Select * from customers
where Country = 'Canada';
```

Output:

	book_id [PK] integer	title character varying (100)	author character varying (100)	genre character varying (58)	published_year integer	price numeric (10,2)	stock integer
1	2	Persevering reciprocal knowledge user	Mario Moore	Fantasy	1971	35.80	19
2	4	Customizable 24hour product	Christopher Andrews	Fiction	2020	43.52	8
3	5	Adaptive 5thgeneration encoding	Juan Miller	Fantasy	1956	10.95	16
4	6	Advanced encompassing implementation	Bryan Morgan	Biography	1985	6.56	2

3) List all customers from the Canada

```sql
Select * from customers
where Country = 'Canada';
```

Output:

customer_id [PK] integer	name character varying (100)	emai1 character varying (100)	phone character varying (15)	city character varying (50)	country character varying (150)
38	Nicholas Harris	christine93@perkins.com	1234567928	Davistown	Canada
415	James Ramirez	robert54@hall.com	1234568305	Maxwelltown	Canada
468	David Hart	stokesrebecca@gmail.c...	1234568358	Thompsonfurt	Canada

4) Show orders placed in November 2023

```sql
select * from orders
where Order_date between '2023-11-01' AND '2023-11-30';
```

Output:

	order_id [PK] integer	customer_id integer	book_id integer	order_date date	quantity integer	total_amount numeric (10,2)
1	4	433	343	2023-11-25	7	301.21
2	19	496	60	2023-11-17	9	316.26
3	75	291	375	2023-11-30	5	170.75
4	132	469	333	2023-11-22	7	194.32

5) Retrieve the total stock of books available

```
Select SUM(Stock) AS Total_Stock
from books;
```

Output:

	total_stock bigint
1	25056

6) Find the details of the most expensive book

```
select * from books
ORDER BY Price DESC
LIMIT 1;
```

Output:

book_id [PK] integer	title character varying (100)	author character varying (100)	genre character varying (58)	published_year integer	price numeric (10,2)	stock integer
340	Proactive system-worthy orchestrati...	Robert Scott	Mystery	1907	49.98	88

7) Show all customers who ordered more than 1 quantity of a book

```
select * from Orders
where Quantity > 1;
```

Output:

order_id [PK] integer	customer_id integer	book_id integer	order_date date	quantity integer	total_amount numeric (10,2)
1	84	169	2023-05-26	8	188.56
2	137	301	2023-01-23	10	216.60
3	216	261	2024-05-27	6	85.50
4	433	343	2023-11-25	7	301.21

8) Retrieve all orders where the total amount exceeds $20

```
select * from Orders
where total_amount >20;
```

Output:

order_id [PK] integer	customer_id integer	book_id integer	order_date date	quantity integer	total_amount numeric (10,2)
1	84	169	2023-05-26	8	188.56
2	137	301	2023-01-23	10	216.60
3	216	261	2024-05-27	6	85.50
4	433	343	2023-11-25	7	301.21

9) List all genres available in the Books table

```
select DISTINCT Genre from Books;
```

Output:

genre character varying (58)
Romance
Biography
Mystery
Fantasy

10) Find the book with the lowest stock

```
select * from books
order by stock limit 1;
```

Output:

k_id integer	title character varying (100)	author character varying (100)	genre character varying (58)	published_year integer	price numeric (10,2)	stock intege
44	Networked systemic implementati...	Ryan Frank	Science Fiction	1965	13.55	

11) Calculate the total revenue generated from all orders

```
select SUM(total_amount) as Revenue
from orders;
```

Output:

	revenue numeric
1	75628.66

Advance Queries

1) Retrieve the total number of books sold for each genre

```
Select b.Genre, SUM(o.Quantity) as Total_Books_sold
from Orders o
join books b on o.book_id = b.book_id
Group by b.Genre;
```

Output:

genre character varying (58)	total_books_sold bigint
Romance	439
Biography	285
Mystery	504
Fantasy	446

2) Find the average price of books in the "Fantasy" genre

```
select AVG(price) as Average_price
from Books
where Genre = 'Fantasy';
```

Output:

	average_price numeric
1	25.9816901408450704

3) List customers who have placed at least 2 orders

```
select o.customer_id, count(o.order_id) AS order_count
from orders o
join customers c ON o.customer_id=c.customer_id
group by o.customer_id, c.name
having count(order_id) >=2;
```

Output:

customer_id integer	order_count bigint
225	2
418	3
322	3
325	4

4) Find the most frequently ordered book

```
SELECT o.Book_id, b.title, COUNT(o.order_id) AS ORDER_COUNT
FROM orders o
join  books b ON o.book_id = b.book_id
GROUP BY o.book_id, b.title
ORDER BY ORDER_COUNT DESC LIMIT 1;
```

Output:

book_id integer	title character varying (100)	order_count bigint
88	Robust tangible hardwa...	4

5) Show the top 3 most expensive books of 'Fantasy' Genre

```
select * from books
where genre = 'Fantasy'
order by price desc limit 3;
```

Output:

book_id [PK] integer	title character varying (100)	author character varying (100)	genre character varying (58)	published_year integer	price numeric (10,2)	stock integer
240	Stand-alone content-based hub	Lisa Ellis	Fantasy	1957	49.90	41
462	Innovative 3rdgeneration datab...	Allison Contreras	Fantasy	1988	49.23	62
238	Optimized even-keeled analyzer	Sherri Griffith	Fantasy	1975	48.97	72

6) Retrieve the total quantity of books sold by each author

```
select b.author, SUM(o.quantity) AS Total_Books_sold
from orders o
join books b ON o.book_id=b.book_id
Group by b.author;
```

Output:

author character varying (100)	total_books_sold bigint
Jared Cortez	10
Tracy Parker	11
Taylor Wang	9
Cathy Knight	6

7) List the cities where customers who spent over $30 are located

```
select Distinct c.city,total_amount
from orders o
join customers c ON o.customer_id=c.customer_id
where o.total_amount >30;
```

Output:

city character varying (50)	total_amount numeric (10,2)
Taylorfurt	189.45
Leeport	141.39
Port Jasonview	149.12
Port Aaronstad	145.44

8) Find the customer who spent the most on orders

```sql
select c.customer_id, c.name, SUM(total_amount) as Total_Spent
from orders o
join customers c ON o.customer_id=c.customer_id
group by c.customer_id, c.name
Order by Total_Spent Desc LIMIT 1;
```

Output:

customer_id [PK] integer	name character varying (100)	total_spent numeric
457	Kim Turner	1398.90

9) Calculate the stock remaining after fulfilling all orders

```
select b.book_id, b.title, b.stock,COALESCE(SUM(o.quantity),0) as Order_Quantity,
       b.stock- COALESCE(SUM(o.quantity),0) as Remaining_Quantity
       from books b
left join orders o ON b.book_id=o.book_id
Group by b.book_id
order by b.book_id;
```

Output:

book_id [PK] integer	title character varying (100)	stock integer	order_quantity bigint	remaining_quantity bigint
1	Configurable modular throughput	100	3	97
2	Persevering reciprocal knowledge user	19	0	19
3	Streamlined coherent initiative	27	5	22
4	Customizable 24hour product	8	0	8


Thank
You