



# BOOKSHOP

GROUP 8

# AGENDA

- Database Overview
- Tables: Books, Publishers, Authors & Genres
- Tables cont...: Customers, Orders, Order Details & Employees
- Core Requirements:
  - Using any type of the joins create a view that combines multiple tables in a logical way
  - In your database, create a stored function that can be applied to a query in your DB
  - Prepare an example query with a subquery to demonstrate how to extract data from your DB for analysis
- Advanced Requirements:
  - In your database, create a stored procedure and demonstrate how it runs
  - Create a view that uses at least 3-4 base tables; prepare and demonstrate a query that uses the view to produce a logically arranged result set for analysis.
  - Prepare an example query with group by and having to demonstrate how to extract data from your DB for analysis
- Questions!

# ANALYSIS – WHAT ARE WE TRYING TO ACHIEVE?

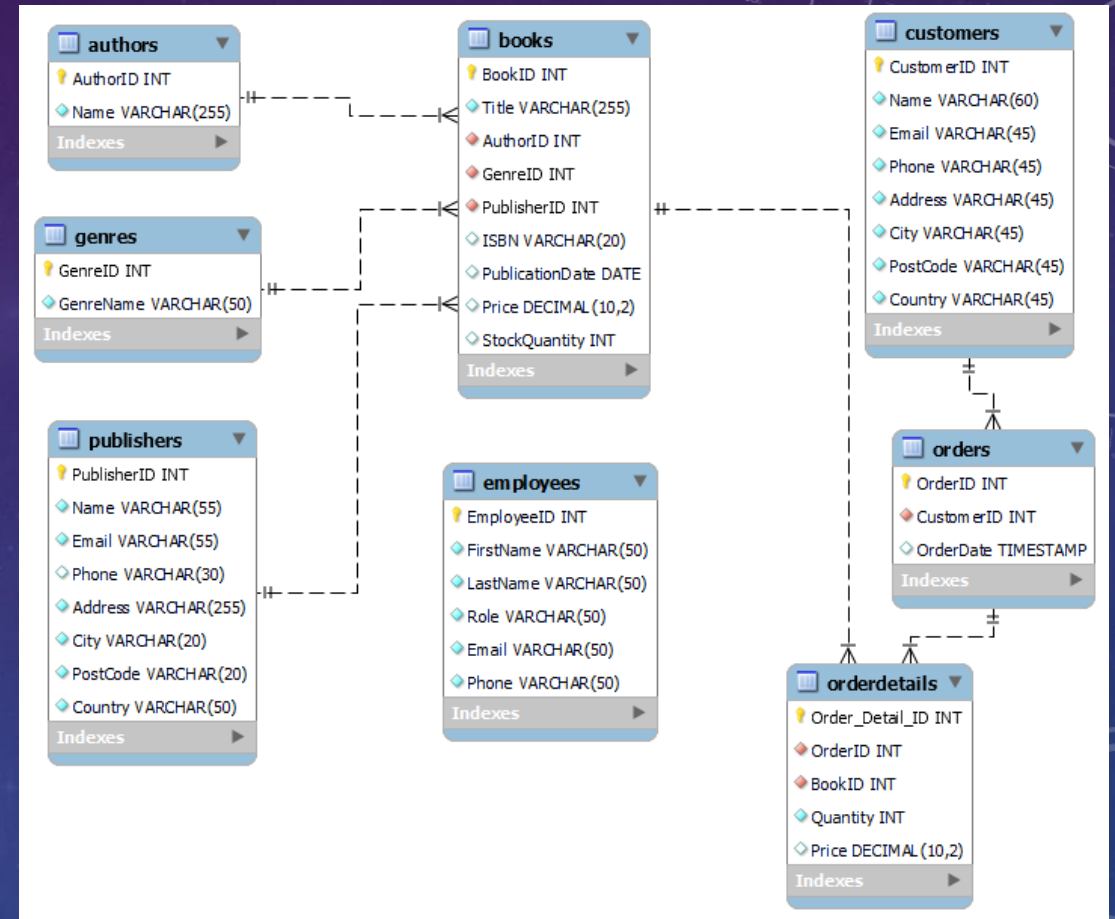
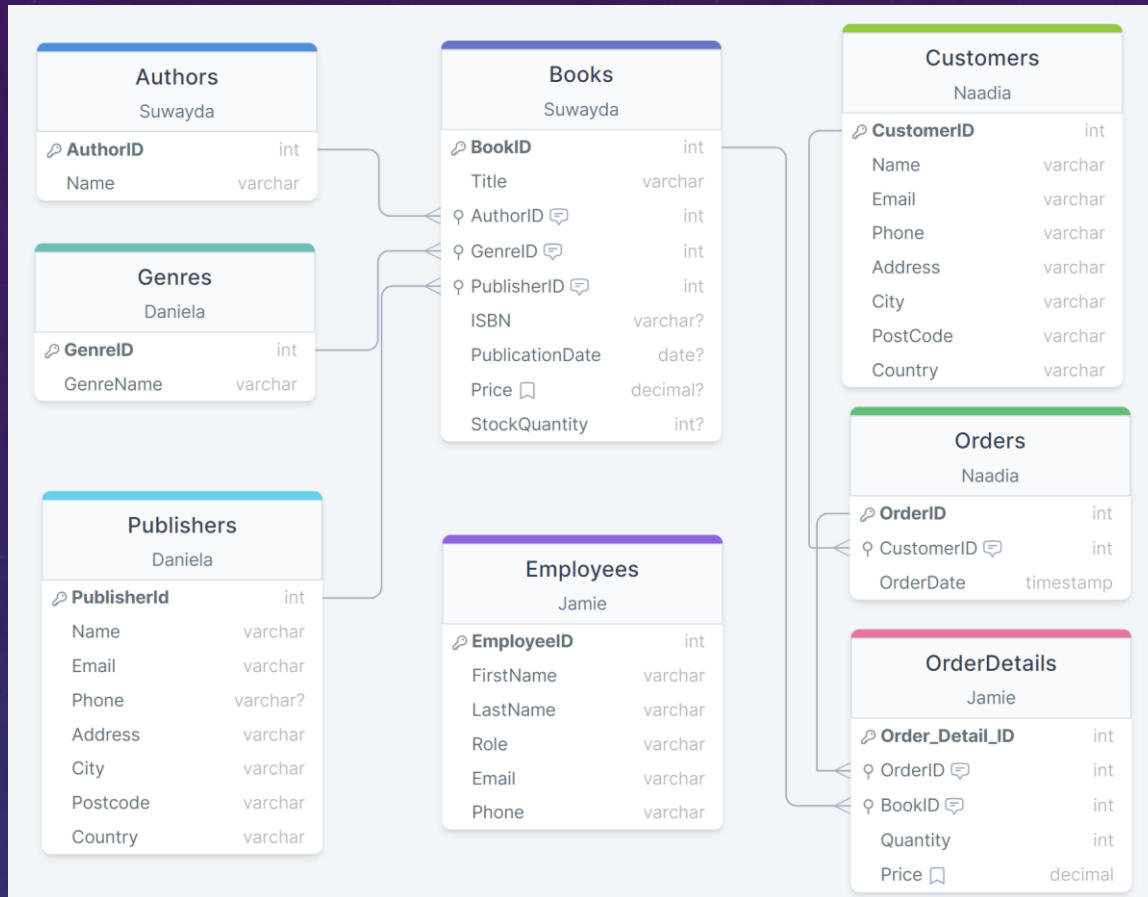
- Questions to Answer:
  - What are our total sales by country?
  - Who are the customers that belong to the country that sold the most?
  - What are our Total Sales to date?
  - How do we update the stock quantity?
  - What Genre's are our Top Performing to date?
  - Out of all our Genre's, which are underperforming where we sold less than or = to 10 QTY's sold to date?
- Views:
  - Sales by Country – View – Viewing total sales by country
  - Book Sales – View – Master Sales table of products sold (QTY's & Price)
- Stored Function/Stored Procedure:
  - Stored Function - Calculate Total Sales
  - Stored Procedure - Stock update in Database





# DATABASE OVERVIEW

# DATABASE OVERVIEW - SCHEMA



- Core Requirements:
  - Create relational DB of your choice with minimum 5 tables (8 for groups)
  - Set Primary and Foreign Key constraints to create relations between the tables
  - Create DB diagram where all table relations are shown

# SCHEMA - TABLES

- Books
- Publishers
- Authors
- Genres

Result Grid									
Filter Rows:									
Edit: Export/Import: Wrap Cell Content:									
BookID	Title	AuthorID	GenreID	PublisherID	ISBN	PublicationDate	Price	StockQuantity	
1	Shadows of Time	1	1	1	978-0452789631	2018-01-01	15.99	12	
2	Beyond the Horizon	2	12	2	978-0395874562	2020-01-01	13.99	14	
3	Whispers in Tokyo	3	7	3	978-0486895234	2019-01-01	16.99	11	
4	Lights of Paris	4	8	4	978-0678112345	2017-01-01	14.99	16	
5	Galactic Dreams	5	12	5	978-0567945673	2021-01-01	18.99	10	
6	Legends of Olympus	6	12	6	978-0452789631	2016-01-01	17.99	14	
7	Chronicles of the Modern Age	7	2	7	978-0395874562	2018-01-01	19.99	15	
8	Invisible Ties	8	7	8	978-0486895234	2017-01-01	12.99	11	
9	The Garden of Secrets	9	12	9	978-0678112345	2020-01-01	14.99	15	
10	Enchanted Realms	10	3	10	978-0567945673	2019-01-01	11.99	11	
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	

PublisherID	PublisherName	PublisherEmail	PublisherPhone	PublisherAddress	PublisherCity	PublisherPostCode	PublisherCountry
1	Black Stone	blackstone@email.com	45676-4657	45 Cornell Street	London	E65 8UI	United Kingdom
2	Transworld	transworld@gmail.com	8753-9898	35 Pathway Road	New York	NY6 789	United State of America
3	Orion Books	orion@email.com	6453-9008	25 Holland Road	Tokyo	TY9 675	Japan
4	Endeavour	endeavour@email.com	1234-6789	65 Parkview	Paris	FR8 908	France
5	Voyager	voyager@email.com	9878-3425	85 Dressden Street	Berlin	DE4 098	Germany
6	Octopus	octopus@email.com	8765-0987	105 Konstantin Road	Athens	Gk98 098	Greece
7	Profile Books	profile@email.com	8976-9876	68, Whitecross Street	London	EC3 9RG	United Kingdom
8	Blind Carrier	blindcarrier@email.com	2345-8987	51 Orange Road	London	E20 8YT	United Kingdom
9	Blue Bell	bluebell@email.com	2649-8463	17 Amsterdam Street	Brussels	BE4 9OP	Belgium
10	Magic Hat	magichat@email.com	3459-0987	98 Shetland Road	Cambridge	C76 7TD	United Kingdom
	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Result Grid		
Filter Rows:		
AuthorID Name		
1	Evelyn Hart	
2	Marcus Reed	
3	Lily Tanaka	
4	Alexandre Dubois	
5	Heidi Schmidt	
6	Nikos Stavros	
7	Richard Grayson	
8	Sarah Jenkins	
9	Emma Laurent	
10	Olivia Brown	
	NULL	NULL

GenreID	GenreName
1	Fiction
2	Non-Fiction
3	Children
4	Teen & Young Adult
5	Graphic Novels and Manga
6	Education and Revision book
7	Crime, Mystery and Thrillers
8	Romance Fiction
9	Biography & Autobiography
10	Cookery Books
11	Travel Guides & Maps
12	Science Fiction & Fantasy
	NULL



# SCHEMA – TABLES CONT..

CustomerID	Name	Email	Phone	Address	City	PostCode	Country
1	Steve Wonder	stevewonder@email.com	45676-4657	45 Cornell Street	London	E65 8UI	United Kingdom
2	Oliva Woolf	owoolfd@gmail.com	8753-9898	35 Pathway Road	New York	NY6 789	United State of America
3	Mary Smith	marySmith@email.com	6453-9008	25 Holland Road	Tokyo	TY9 675	Japan
4	John Brown	johnbrown@email.com	1234-6789	65 Parkview	Paris	FR8 908	France
5	Jessica Hilton	jessicahilton@email.com	9878-3425	85 Dressden Street	Berlin	DE4 098	Germany
6	Fred James	fredjames@email.com	8765-0987	105 Konstantin Road	Athens	Gk98 098	Greece
7	Camila Paker	camilaparker@email.com	8976-9876	68, Whitecross Street	London	EC3 9RG	United Kingdom
8	Marc Pierre	marcpierre@email.com	2345-8987	51 Orange Road	London	E20 8YT	United Kingdom

- Customers
- Orders
- Order Details
- Employees

OrderID	CustomerID	OrderDate
1	1	2023-10-20 08:00:27
2	3	2023-10-25 10:00:35
3	2	2023-11-01 19:15:41
4	8	2023-11-02 14:20:15
5	7	2023-11-02 19:15:32
6	7	2023-12-05 11:45:15
7	5	2023-12-13 09:22:09
8	5	2023-12-20 12:15:27
9	6	2023-12-22 08:06:44
10	4	2023-12-22 15:22:32

Order_Detail_ID	OrderID	BookID	Quantity	Price
1	1	1	3	15.99
2	1	8	4	12.99
3	1	4	7	14.99
4	4	6	10	17.99
5	5	2	5	13.99
6	2	3	6	16.99
7	2	1	5	15.99
8	7	8	5	12.99
9	7	9	4	14.99
10	3	10	7	11.99
11	8	5	3	18.99
12	8	2	5	13.99
13	6	7	6	19.99
14	9	7	4	19.99
15	10	1	3	15.99

EmployeeID	FirstName	LastName	Role	Email	Phone
1	Luke	Skywalker	Software Engineer	LukeSkywalker@gmail.com	793-456-1234
2	Helena	Velez	Software Engineer	HelenaVelez@outlook.com	443-645-5554
3	Soren	Wolf	Customer Service Representative	SorenWolf55@gmail.com	755-899-7812
4	Guillermo	Costa	Customer Service Representative	MrGuillermoCosta@outlook.com	763-487-3335
5	Lexie	Eaton	Financial Controller	LexieEaton@outlook.com	415-845-6785
6	Anahi	Silva	Commercial Finance Director	AnahiSilva@outlook.com	755-634-8788



# REQUIREMENTS

ANSWERS TO OUR QUESTIONS



# DANIELA

## Questions

How much is the total sale per country?

Using a view that joins the relevant tables and show the total sales.

Who are the customers that belong to the country that sold the most?

Using query to list the customers linked to a subquery that uses the view (above) to find the list of customers from the country which sold the most.

## Requirements

Using any type of the joins create a view that combines multiple tables in a logical way.

Prepare an example query with a subquery to demonstrate how to extract data from your DB for analysis

Total Sales per Country: Using **TotalsPerCountry** view to analyse total sales per Country in Descending order to see our top performing Countries.

```
USE bookshop;

CREATE VIEW vw_TotalsPerCountry AS
SELECT
    Customers.Country AS Country,
    SUM(OrderDetails.Price) AS Total
FROM OrderDetails
INNER JOIN Orders ON Orders.OrderID = OrderDetails.OrderID
INNER JOIN Customers ON Customers.CustomerID = Orders.CustomerID
GROUP BY Customers.Country
ORDER BY Total Desc;
```

Country	Total
United Kingdom	95.94
Germany	60.96
Japan	32.98
Greece	19.99
France	15.99
United State of America	11.99

List of customer using a subquery that uses the TotalsPerCountry view, showing customers details from the country which should the most.

```
USE bookshop;

SELECT
    Customers.Name,
    Customers.Email,
    Customers.Phone,
    Customers.Address,
    Customers.City
FROM Customers
WHERE Customers.Country = (SELECT Country FROM vw_TotalsPerCountry
LIMIT 1);
```

Name	Email	Phone	Address	City
Steve Wonder	steveWonder@email.com	45676-4657	45 Cornell Street	London
Camila Parker	camilaparker@email.com	8976-9876	68 Whitecross Street	London
Marc Pierre	marcpierre@email.com	2345-8987	51 Orange Road	London

# SUWAYDA

Questions What is the total order amount?

How to update the stock quantity?

Requirements In your database, create a stored function that can be applied to a query in your DB

In your database, create a stored procedure and demonstrate how it runs

Finding out the total order amount by calculating the sum of all the orders with the same OrderID in the OrderDetails table

```
Functions
f() CalculateTotalOrderAmount
DELIMITER $$
CREATE FUNCTION CalculateTotalOrderAmount(order_id INT)
RETURNS DECIMAL(10, 2)
DETERMINISTIC
READS SQL DATA
BEGIN
    DECLARE total DECIMAL(10, 2);

    SELECT SUM(Price * Quantity) INTO total
    FROM OrderDetails
    WHERE OrderID = order_id;

    RETURN IFNULL(total, 0.00);
END$$
DELIMITER ;
```

Orders	
Naadia	
OrderID	int
CustomerID	int
OrderDate	timestamp
OrderDetails	
Jamie	
Order_Detail_ID	int
OrderID	int
BookID	int
Quantity	int
Price	decimal

Using a stored procedure to update the stock quantity of a book.

```
Stored Procedures
UpdateBookStock
Delimiter $$
CREATE PROCEDURE UpdateBookStock(
    IN bookID INT,
    IN newStockQty INT
)
BEGIN
    UPDATE Books
    SET StockQuantity = newStockQty
    WHERE BookID = bookID;
END$$
DELIMITER ;
```

```
CALL UpdateBookStock(3, 25);

SELECT BookID, Title, StockQuantity
FROM Books
WHERE BookID = 3;
```

BookID	Title	StockQuantity
3	Whispers in Tokyo	25

Calling the function

```
SELECT CalculateTotalOrderAmount(1) AS TotalAmount;
```

Result Grid	
	TotalAmount
▶	1220.23

# JAMIE

## Questions

What Genre's are our Top Performing to date?

Out of all our Genre's, which are underperforming where we sold less than or = to 10 QTY's sold to date

## Requirements

1. Create a view that uses at least 3-4 base tables; prepare and demonstrate a query that uses the view to produce a logically arranged result set for analysis.

2. Prepare an example query with group by and having to demonstrate how to extract data from your DB for analysis

```
-- Syntax: Table name.table column name
-- "AS" clause is used to rename column
```

```
USE bookshop;
```

```
CREATE VIEW BookSales AS
SELECT
```

```
Books.BookID,
Books.Title,
Authors.Name AS Author,
Genres.GenreName,
Customers.Name AS Customer,
Orders.OrderDate,
OrderDetails.Quantity AS QuantitySold,
OrderDetails.Price,
OrderDetails.Quantity * OrderDetails.Price AS TotalSales
```

```
-- Joining (linking up) FK's to PK's to retrieve the details for the above view, example: author/customer names
FROM
```

```
Books
JOIN Authors ON Books.AuthorID = Authors.AuthorID
JOIN Genres ON Books.GenreID = Genres.GenreID
JOIN OrderDetails ON Books.BookID = OrderDetails.BookID
JOIN Orders ON OrderDetails.OrderID = Orders.OrderID
JOIN Customers ON Orders.CustomerID = Customers.CustomerID;
```

Top Performing Genre's: Using **BookSales** view to analyse total sales & QTY's by Genre in Descending order to see our top performing Genre's sold

```
SELECT
    GenreName,
    SUM(TotalSales) AS TotalSales,
    SUM(QuantitySold) AS TotalQuantitySold
FROM BookSales
GROUP BY GenreName
ORDER BY TotalSales DESC;
```

Underperforming Genre's: QTY's sold less than or equal to 10

```
SELECT
    Genres.GenreName,
    COALESCE(SUM(BookSales.TotalSales), 0) AS TotalSales,
    COALESCE(SUM(BookSales.QuantitySold), 0) AS TotalQuantitySold
FROM Genres
LEFT JOIN BookSales ON Genres.GenreName = BookSales.GenreName
GROUP BY Genres.GenreName
HAVING COALESCE(SUM(BookSales.QuantitySold), 0) <= 10
ORDER BY TotalSales DESC;
```

Stored view to create a Master Book Sales table using all tables in database except publishers & employees



# JAMIE

## Questions

What Genre's are our Top Performing to date?

Out of all our Genre's, which are underperforming where we sold less than or = to 10 QTY's sold to date

## Requirements

1. Create a view that uses at least 3-4 base tables; prepare and demonstrate a query that uses the view to produce a logically arranged result set for analysis.

2. Prepare an example query with group by and having to demonstrate how to extract data from your DB for analysis

## Top Performing Genre's

	GenreName	TotalSales	TotalQuantitySold
▶	Science Fiction & Fantasy	436.73	27
	Crime, Mystery and Thrillers	218.85	15
	Non-Fiction	199.90	10
	Fiction	175.89	11
	Romance Fiction	104.93	7
	Children	83.93	7

## Underperforming Genre's: QTY's sold less than or equal to 10

	GenreName	TotalSales	TotalQuantitySold
▶	Non-Fiction	199.90	10
	Romance Fiction	104.93	7
	Children	83.93	7
	Teen & Young Adult	0.00	0
	Graphic Novels and Manga	0.00	0
	Education and Revision book	0.00	0
	Biography & Autobiography	0.00	0
	Cookery Books	0.00	0
	Travel Guides & Maps	0.00	0

Stored view to create a Master Book Sales table using all tables in database except publishers & employees

	BookID	Title	Author	GenreName	Customer	OrderDate	QuantitySold	Price	TotalSales
▶	1	Shadows of Time	Evelyn Hart	Fiction	Steve Wonder	2023-10-20 08:00:27	3	15.99	47.97
	8	Invisible Ties	Sarah Jenkins	Crime, Mystery and Thrillers	Steve Wonder	2023-10-20 08:00:27	4	12.99	51.96
	4	Lights of Paris	Alexandre Dubois	Romance Fiction	Steve Wonder	2023-10-20 08:00:27	7	14.99	104.93
	10	Enchanted Realms	Olivia Brown	Children	Oliva Woolf	2023-11-01 19:15:41	7	11.99	83.93
	3	Whispers in Tokyo	Lily Tanaka	Crime, Mystery and Thrillers	Mary Smith	2023-10-25 10:00:35	6	16.99	101.94
	1	Shadows of Time	Evelyn Hart	Fiction	Mary Smith	2023-10-25 10:00:35	5	15.99	79.95
	1	Shadows of Time	Evelyn Hart	Fiction	John Brown	2023-12-22 15:22:32	3	15.99	47.97
	8	Invisible Ties	Sarah Jenkins	Crime, Mystery and Thrillers	Jessica Hilton	2023-12-13 09:22:09	5	12.99	64.95
	9	The Garden of Secrets	Emma Laurent	Science Fiction & Fantasy	Jessica Hilton	2023-12-13 09:22:09	4	14.99	59.96
	5	Galactic Dreams	Heidi Schmidt	Science Fiction & Fantasy	Jessica Hilton	2023-12-20 12:15:27	3	18.99	56.97
	2	Beyond the Horizon	Marcus Reed	Science Fiction & Fantasy	Jessica Hilton	2023-12-20 12:15:27	5	13.99	69.95
	7	Chronides of the Mod...	Richard Grayson	Non-Fiction	Fred James	2023-12-22 08:06:44	4	19.99	79.96
	2	Beyond the Horizon	Marcus Reed	Science Fiction & Fantasy	Camila Paker	2023-11-02 19:15:32	5	13.99	69.95
	7	Chronides of the Mod...	Richard Grayson	Non-Fiction	Camila Paker	2023-12-05 11:45:15	6	19.99	119.94
	6	Legends of Olympus	Nikos Stavros	Science Fiction & Fantasy	Marc Pierre	2023-11-02 14:20:15	10	17.99	179.90



# THANK YOU!

ANY QUESTIONS?



# TEAM

---

Suwayda Dirie

---

Jamie Love

---

Daniela Saraiva

---

Naadia Ajmal