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TEKNOLOGI
MARA

Fakulti
Sains Komputer
Dan Matematik

ICT450 - DATABASE DESIGN AND DEVELOPMENT

GROUP PROJECT REPORT (10%)

TITLE : EMPIRE BOOKSTORE INFORMATION SYSTEM

BACHELOR OF SCIENCE (HONS.) MATHEMATICS

GROUP : CS2493B (GROUP 1)

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ICT450 – DATABASE DESIGN & DEVELOPMENT

DATABASE PROJECT REPORT

GROUP NAME : GIRL EMPIRE

SYSTEM'S NAME : EMPIRE BOOKSTORE COMPANY INFORMATION SYSTEM



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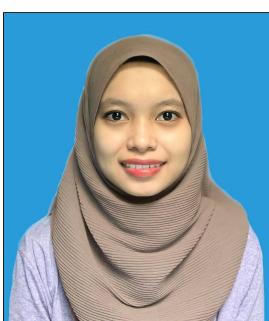


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1.0 COMPANY BACKGROUND

The Empire Book Shop was founded in 2015 by Farah Natasha and Nilofa Emer Khan. The company has 3 walk-in stores, each located in Shah Alam, Seremban and Kuala Lumpur. However, after the announcement of no restriction movement order due to the pandemic covid-19, the company's sales have been drastically increased and the company cannot key-in the data manually. In order to overcome this issue, Our client has decided to create their own database system to help the worker and customer to purchase the book based on online order because of the long time period mco . Our developer department's team initiated a plan to create a bookstore system as requested by the client.

In the system, the client could access and key-in the data by the given entities,

- Book Order
- Sales Details
- Sales Order
- Customer

Till now, Empire Bookstore has contributed to enhanced management and sales records for their company. The performance reflects the dedication and hard work of Nuralya Sakinah, Marsya Maisarah, Sarrah Sabihah and Sarah Hana in providing outstanding service to its clients' order.

2.0 PROBLEM STATEMENT

Thus far, The Empire Bookshop still takes orders from its customers manually and they have faced numerous issues by using this method. The Empire Bookshop's system has become too chaotic in handling data because of the number of customers increasing day by day and there's no customer data recorded safely. Therefore, they require a new system that is able to help them to accurately keep and store the data.

As there is no efficient way in keeping the data of the stock, the clerks are in such a hassle when trying to keep in track with the availability of the book in the The Empire Bookshop. As a result, the clerk takes a longer time to take the customers' orders. Thus there are a lot of complaints regarding the slow customer service. This also causes The Empire Bookshop's employees and administration to have difficulty searching for data recorded such as sales when needed.

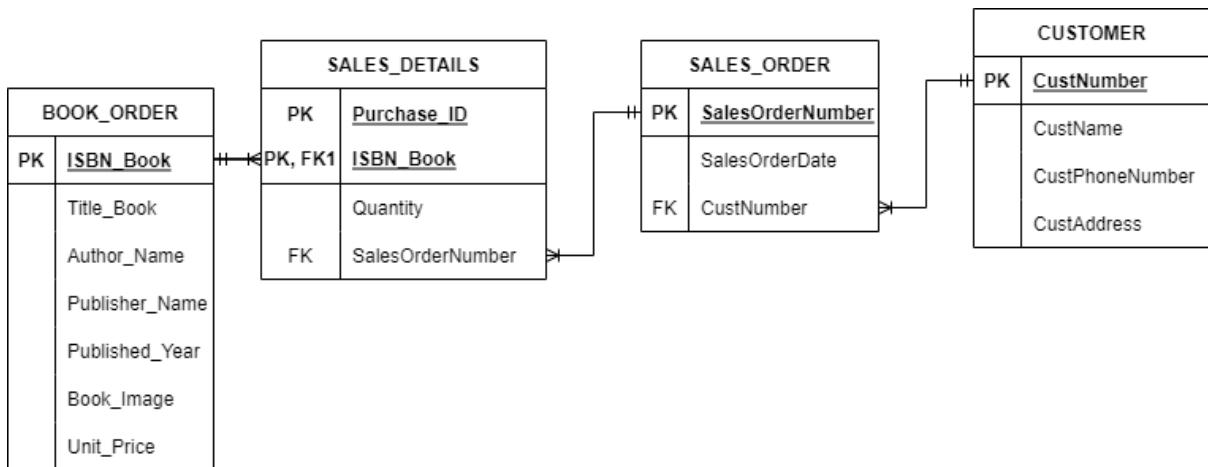
In addition, their employees do not know how to check the issues within the system because of the messy system. The unorganised ordering system leads to inefficiencies and sometimes causes miscalculation in sales. Their company is having a hard time doing calculations based on the number of books and type of books in the system. With such a chaotic system and a large number of stocks and orders by the customer, making it hard for their management to function properly.

These issues will eventually lead to poor customer service and leave the client unsatisfied. Slowly, these issues may cause their company to lose consumers as a result of the poor service provided and eventually will negatively influence their company's image. Hence, the sales might decline and it will affect the business operation. As a result, revenues may drop, posing a threat to the company's operations.

3.0 OBJECTIVE

The main objective of developing the ordering system for the Empire Bookstore is to help store their customers' data safely in the system for future use and help the customer in purchasing the Empire Bookstore's books. By using the new ordering system, the Empire Bookshop's employees will have easy access to check the availability of the book with the systematic system. The system also will help in keeping the records of how many books are purchased and sold and gives higher security for the Empire Bookshop in managing books data. Thus, it will make the bookstore system systematic and it will be easier for their workers to check the system in case there are any issues. On top of that, The Empire Bookshop can execute the calculation of the books paid by customers smoothly and correctly on an online platform.

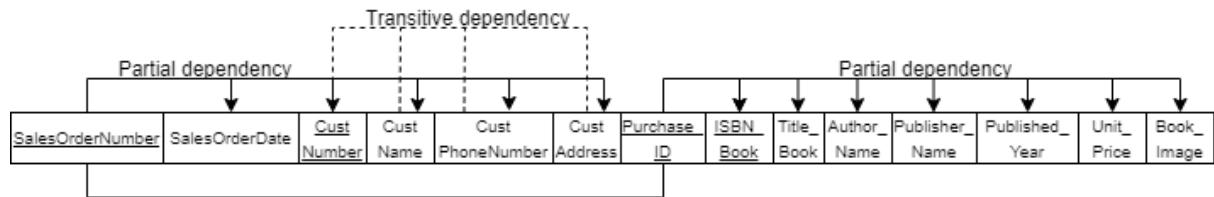
4.0 ENTITY RELATIONSHIP DIAGRAM (ERD)



1. Each customer can make many orders. Each order is made only by a single customer.
2. Each order contained many sales details. Each sales details occupied by only one order
3. Each book generates many sales details. Each sales details is occupied by only one book.

5.0 3NF RELATIONAL SCHEMA (NORMALISATION)

FIRST NORMAL FORM (1NF)



(SalesOrderNumber, SalesOrderDate, CustNumber, CustName, CustPhoneNumber, CustAddress, Purchase_ID, ISBN_Book, Title_Book, Author_Name, Publisher_Name, Published_Year, Unit_Price, Book_Image)

Partial Dependency:

SalesOrderNumber → SalesOrderDate, CustNumber, CustName, CustPhoneNumber, CustAddress

ISBN_Book → Title_Book, Author_Name, Publisher_Name, Published_Year, Unit_Price, Book_Image

Transitive Dependency:

CustNumber → CustName, CustPhoneNumber, CustAddress

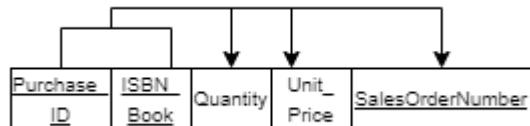
SECOND NORMAL FORM (2NF)

Table: **BOOK_ORDER**



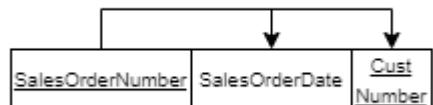
BOOK_ORDER (ISBN_Book, Author_Book, Title_Book, Publisher_Name, Published_Year, Unit_Price, Book_Image)

Table: **SALES_DETAILS**



SALES_DETAILS (Purchase_ID, ISBN_Book, Quantity, UnitPrice, SalesOrderNumber)

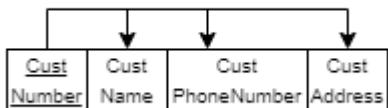
Table: **SALES_ORDER**



SALES_ORDER (SalesOrderNumber, SalesOrderDate, CustNumber)

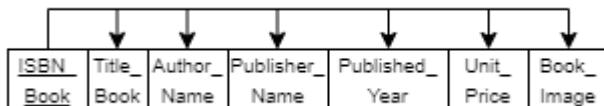
THIRD NORMAL FORM (3NF)

Table: CUSTOMER



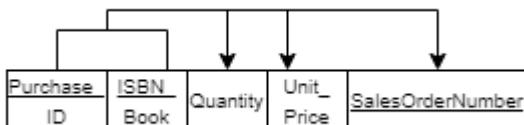
CUSTOMER (CustNumber, CustName, CustPhoneNumber, CustAddress)

Table: BOOK_ORDER



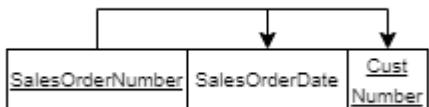
BOOK_ORDER (ISBN_Book, Author_Book, Title_Book, Publisher_Name, Published_Year, Unit_Price, Book_Image)

Table: SALES_DETAILS



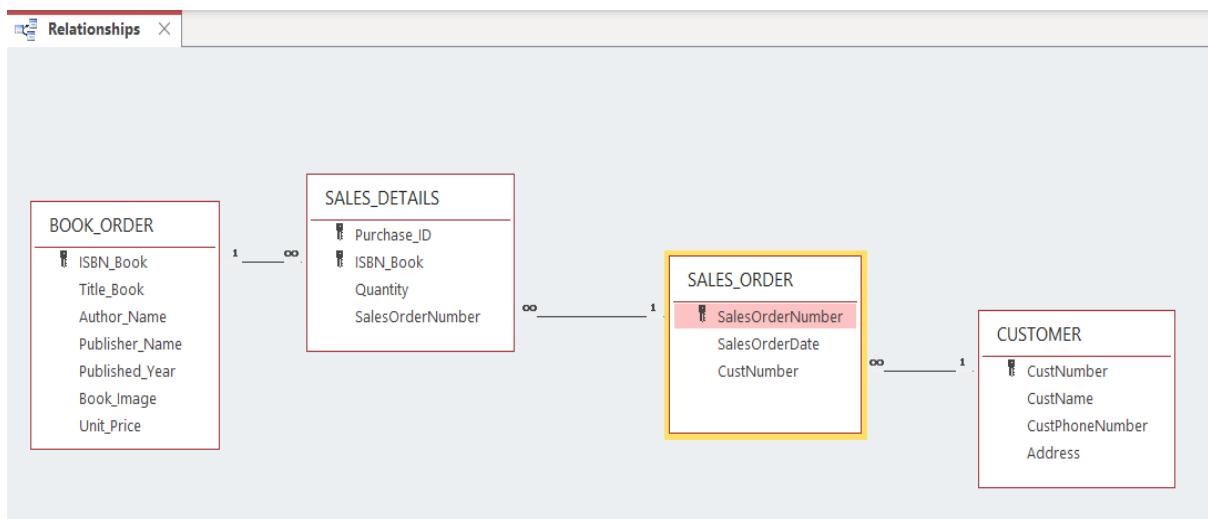
SALES_DETAILS (Purchase_ID, ISBN_Book, Quantity, SalesOrderNumber)

Table: SALES_ORDER

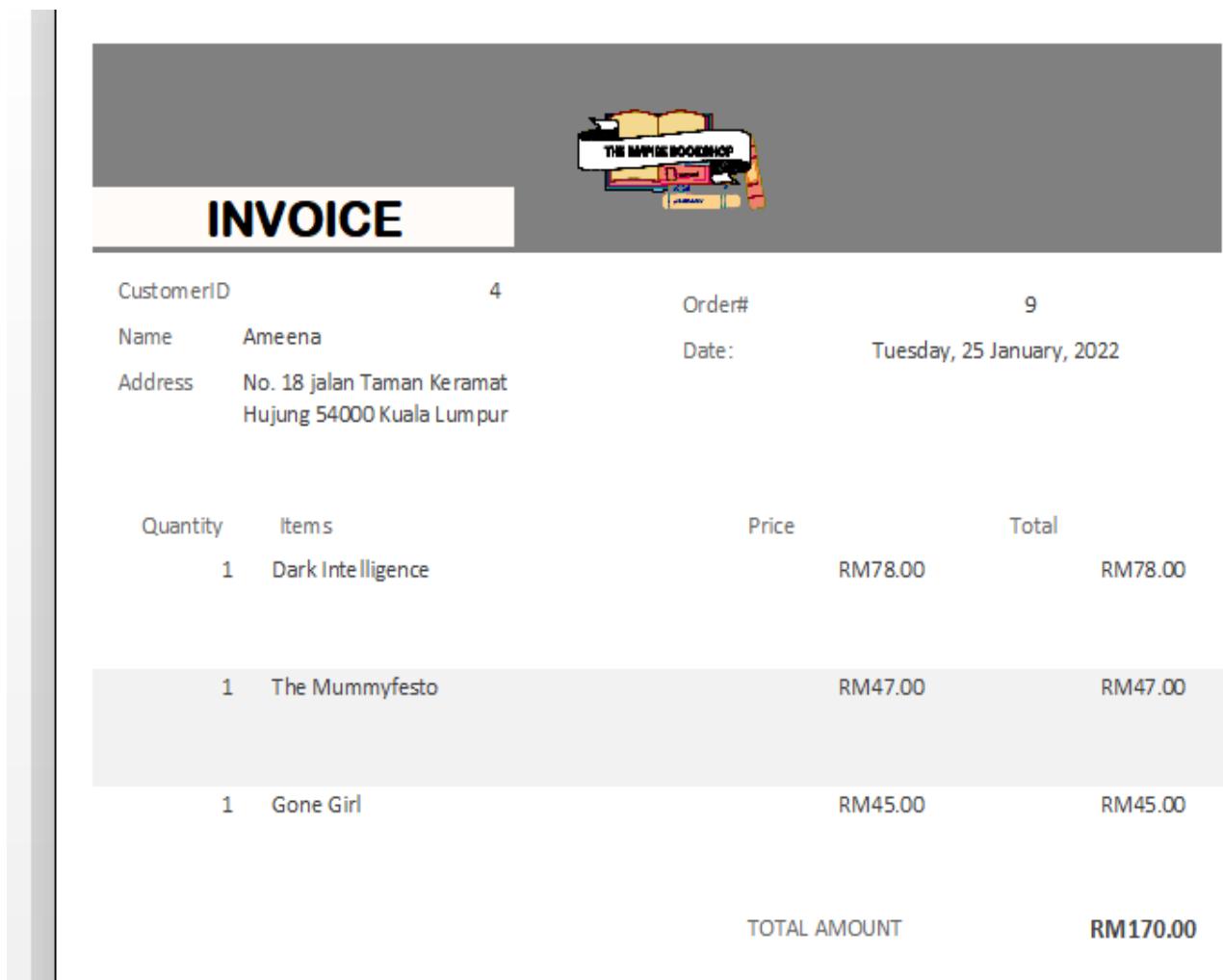


SALES_ORDER (SalesOrderNumber, SalesOrderDate, CustNumber)

RELATIONSHIP



RECEIPT / INVOICE



6.0 TABLES WITH DATA INTEGRITY

ENTITY	PRIMARY KEY	FOREIGN KEY
SALES_ORDER	SalesOrderNumber	CustNumber
SALES_DETAILS	Purchase_ID	ISBN_Book SalesOrderNumber
BOOK_ORDER	ISBN_Book	-
CUSTOMER	CustNumber	-

7.0 DATA DICTIONARY

A data dictionary for Empire Bookstore Database:

Table Name	Attribute Name	Type	Format	Range	Required	Primary Key/ Foreign Key	Foreign Key Reference Table
BOOK_ORDER	ISBN_Book	VARCHAR(13)		0-13 characters	Y	PK	
	Title_Book	VARCHAR(255)		0-255 characters			
	Author_Name	VARCHAR(255)		0-255 characters			
	Publisher_Name	VARCHAR(255)		0-255 characters			
	Published_Year	INTEGER					
	Unit_Price	CURRENCY					
	Book_Image	IMAGE	BMP Image				
SALES_ORDER	SalesOrderNumber	INTEGER				PK	
	SalesOrderDate	DATE	Long Date				
	CustNumber	INTEGER				FK	CUSTOMER
SALES_DETAILS	Purchase_ID	INTEGER	Auto Number			PK	
	ISBN_Book	VARCHAR(13)		0-13 characters	Y	FK	BOOK_ORDER
	Quantity	INTEGER					
	SalesOrderNumber	INTEGER				FK	SALES_ORDER
CUSTOMER	CustNumber	INTEGER	Auto Number			PK	
	CustName	VARCHAR(255)		0-255 characters			
	CustPhoneNumber	VARCHAR(255)		0-255 characters			
	Address	VARCHAR(255)		0-255 characters			

PK = Primary Key

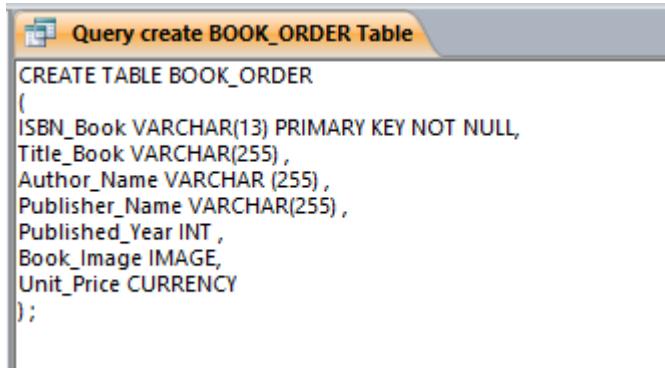
FK = Foreign Key

VARCHAR = Variable character length data, 1-2000 characters

INTEGER = Numeric Data

8.0 DATA DEFINITION LANGUAGE (DDL) OUTPUT

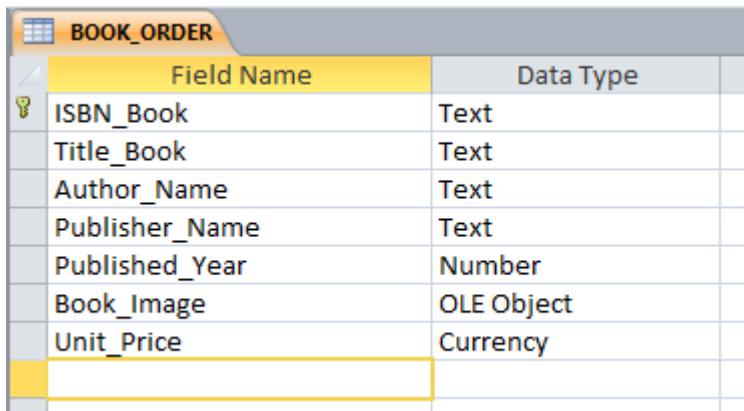
TABLE BOOK_ORDER



Query create BOOK_ORDER Table

```
CREATE TABLE BOOK_ORDER
(
ISBN_Book VARCHAR(13) PRIMARY KEY NOT NULL,
Title_Book VARCHAR(255),
Author_Name VARCHAR(255),
Publisher_Name VARCHAR(255),
Published_Year INT,
Book_Image IMAGE,
Unit_Price CURRENCY
);
```

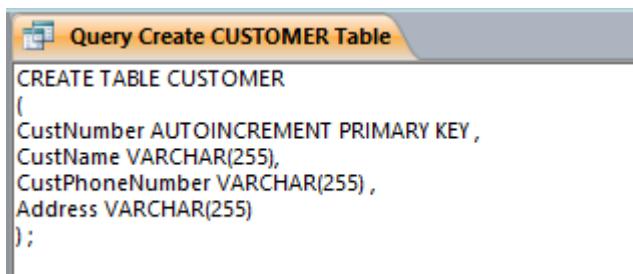
OUTPUT :



BOOK_ORDER

Field Name	Data Type
ISBN_Book	Text
Title_Book	Text
Author_Name	Text
Publisher_Name	Text
Published_Year	Number
Book_Image	OLE Object
Unit_Price	Currency

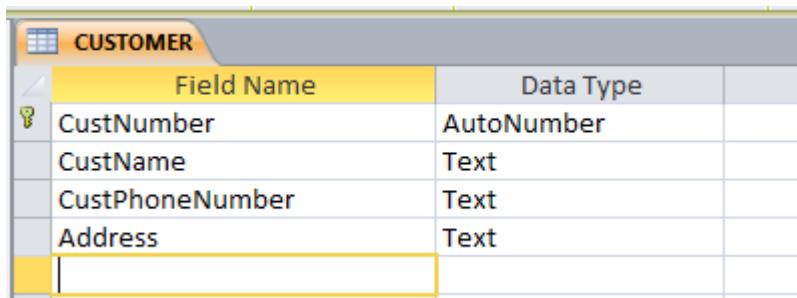
TABLE CUSTOMER



Query Create CUSTOMER Table

```
CREATE TABLE CUSTOMER
(
CustNumber AUTOINCREMENT PRIMARY KEY ,
CustName VARCHAR(255),
CustPhoneNumber VARCHAR(255),
Address VARCHAR(255)
);
```

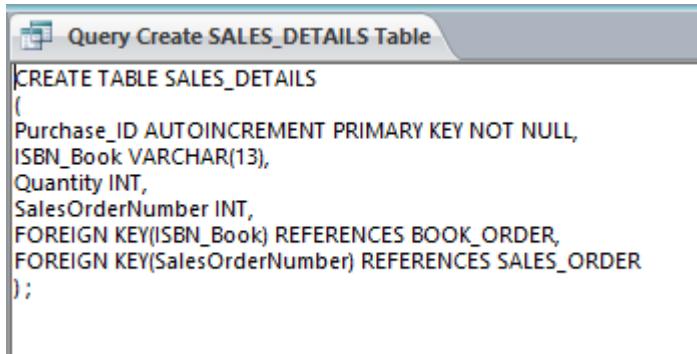
OUTPUT :



CUSTOMER

Field Name	Data Type
CustNumber	AutoNumber
CustName	Text
CustPhoneNumber	Text
Address	Text

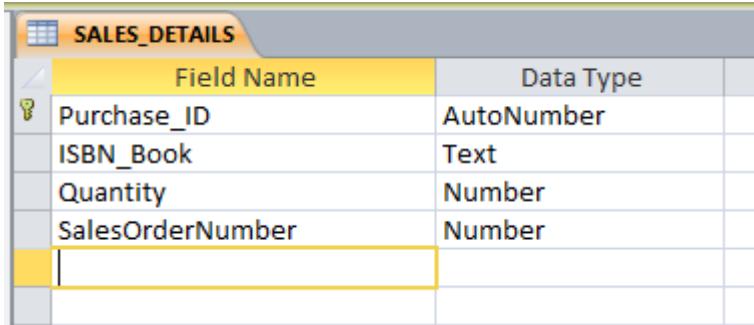
TABLE SALES_DETAILS



Query Create SALES_DETAILS Table

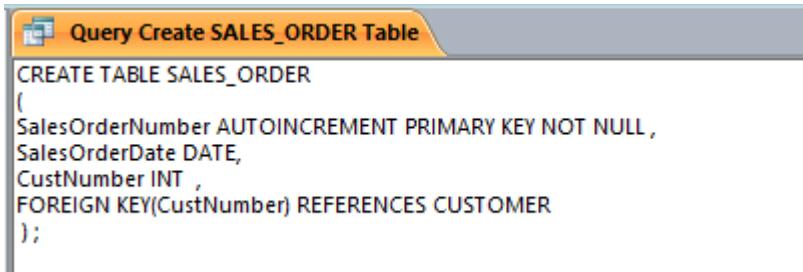
```
CREATE TABLE SALES_DETAILS
(
Purchase_ID AUTOINCREMENT PRIMARY KEY NOT NULL,
ISBN_Book VARCHAR(13),
Quantity INT,
SalesOrderNumber INT,
FOREIGN KEY(ISBN_Book) REFERENCES BOOK_ORDER,
FOREIGN KEY(SalesOrderNumber) REFERENCES SALES_ORDER
);
```

OUTPUT :



SALES_DETAILS		
	Field Name	Data Type
PK	Purchase_ID	AutoNumber
	ISBN_Book	Text
	Quantity	Number
	SalesOrderNumber	Number

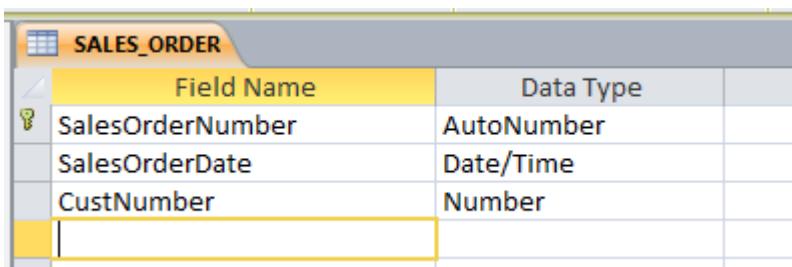
TABLE SALES_ORDER



Query Create SALES_ORDER Table

```
CREATE TABLE SALES_ORDER
(
SalesOrderNumber AUTOINCREMENT PRIMARY KEY NOT NULL ,
SalesOrderDate DATE,
CustNumber INT ,
FOREIGN KEY(CustNumber) REFERENCES CUSTOMER
);
```

OUTPUT :

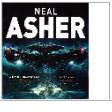
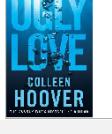


SALES_ORDER		
	Field Name	Data Type
PK	SalesOrderNumber	AutoNumber
	SalesOrderDate	Date/Time
	CustNumber	Number

9.0 SCREEN-SHOTS OF APPLICATION

Reports

Books Sold per customer

Name	Date	Book Title	Book Image	Quantity	Price
Ameena	Tuesday, 25 January, 2022	Gillespie And I		1	RM43.00
		Database Design and Development		1	RM45.00
		Dark Intelligence		1	RM78.00
		It Ends With Us		1	RM42.00
		Ugly Love		1	RM35.00
Aqilah					

Invoice



INVOICE

CustomerID	5	Order#	15
Name	Ameena	Date:	Tuesday, 25 January, 2022
Address	No.36 Jalan Ampang Hilir 68000 Ampang,Selangor		

Quantity	Items	Price	Total
1	Database Design and Development	RM45.00	RM45.00
1	Dark Intelligence	RM78.00	RM78.00
1	Gillespie And I	RM43.00	RM43.00
1	Ugly Love	RM35.00	RM35.00
1	It Ends With Us	RM42.00	RM42.00
TOTAL AMOUNT			RM243.00

Order Details

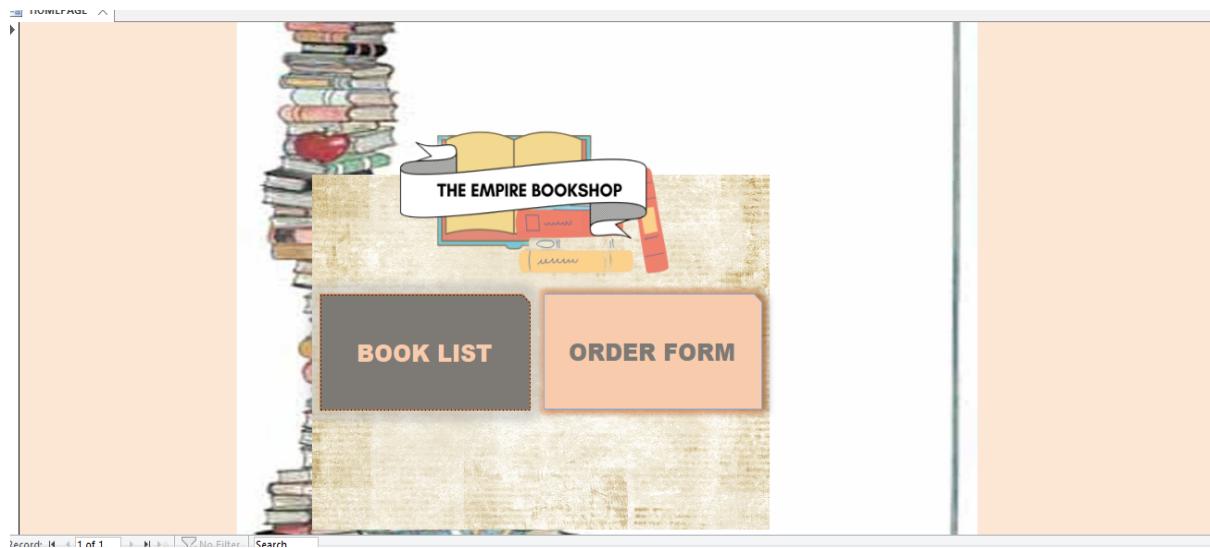
OrderDetails					
SalesOrderNumber	SalesOrderDate	CustNumber	CustName	CustPhoneNumber	Address
1	Monday, 24 January, 2022	1	Sarah	0123142474	No,18 Jalan 9D, Ampang Jaya 68000 Selangor
2	Monday, 24 January, 2022	2	Khaleesa	012-3225643	No.21 Jalan Tun Razak 80000 Johor Bahru, Johor
3	Tuesday, 25 January, 2022	3	Natasha	0145334567	No.23 Jalan Keramat 68000 Selangor
4	Tuesday, 25 January, 2022	4	Marsya	01178234571	Lot 3909 Jalan Lombong Perak 2, Kampung Lombong Sekesyen 29 40460 Shah Alam Selangor
5	Tuesday, 25 January, 2022	5	Ameena	0198826354	No.36 Jalan Ampang Hilir 68000 Ampang,Selangor
6	Tuesday, 25 January, 2022	6	Aqilah	0198823456	7,Jalan Dagang 6/5, Taman Dagang, Ampang, 68000 Selangor.
7	Tuesday, 25 January, 2022	7	Mia	0172234266	No. 52 kg buyau kiri 71550 seri menanti Negeri Sembilan
8	Tuesday, 25 January, 2022	8	Zakwan	0187723425	52, Jalan Seri Damai 1, Prmhnseri Damai Baru, 25150, Kuantan,Pahang
9	Wednesday, 26 January, 2022	9	Rania	01189788231	noxxxxxxxx

Wednesday, 26 January, 2022

Page 1 of 1

Forms

Homepage



BOOK LIST

Book Title	Author's Name	Publisher's Name	Published Year	Price(RM)
	Calculus 8th edition	James Stewart	Cengage Learning	2015
	English Grammar	Raymond Murphy	Cambridge University Pres	1985
	Pro Java Programming	Brett Spell	Apress	2005

ORDER FORM

The screenshot shows an 'ORDER FORM' window. At the top right is a 'BOOK LIST' button. The form includes fields for NAME (Sarah), PHONE NUMBER (0123142474), ADDRESS (No,18 Jalan 9D, Ampang Jaya 68000 Selangor), ORDER NUMBER (1), and DATE (Monday, 24 January, 2022). Below these are two tables under 'Order Details'. The first table has two rows:

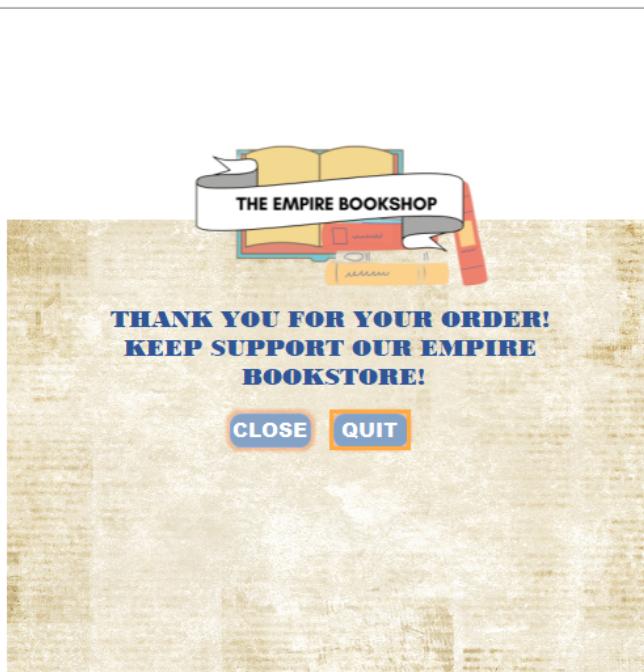
ISBN Book	Book Title	Author's Name	Price	Quantity	Total
9781398515628	The Spanish Love Deception	Elena Armas	RM65.00	1	RM65.00

The second table also has two rows:

ISBN Book	Book Title	Author's Name	Price	Quantity	Total
9788854414754	Masterpieces Of The Earth-Reduced	Nature Picture	RM68.00	1	RM68.00

At the bottom are buttons for 'Invoice', 'Print Receipt', and 'Proceed'. To the right is a 'Total Amount' field showing 'RM133.00'. There are also navigation buttons for records.

Quit Page



Order Subform

Selection | Font | Number | Background | Control Formatting

ORDER SUBFORM

Purchase_ID	24
SalesOrderNumber	7

ISBN Book 1220090090090

Book Title Calculus 8th edition
Author's Name James Stewart

Price RM89.90
Quantity 1
Total RM89.90



1534.9

Customer Form

CUSTOMER



CustNumber	1
CustName	Sarah
CustPhoneNumber	0123142474
Address	No,18 Jalan 9D, Ampang Jaya 68000 Selangor



Book List Form

THE EMPIRE BOOKSHOP

BOOK_ORDER

ISBN_Book	1220090090090
Title_Book	Calculus 8th edition
Author_Name	James Stewart
Publisher_Name	Cengage Learning
Published_Year	2015
Book_Image	
Unit_Price	RM89.90

Add Record

Sales details Form

THE EMPIRE BOOKSHOP

SALES_DETAILS

Purchase_ID	2
ISBN_Book	9788854414754
Quantity	1
SalesOrderNumber	1

Sales Order Form

SALES_ORDER

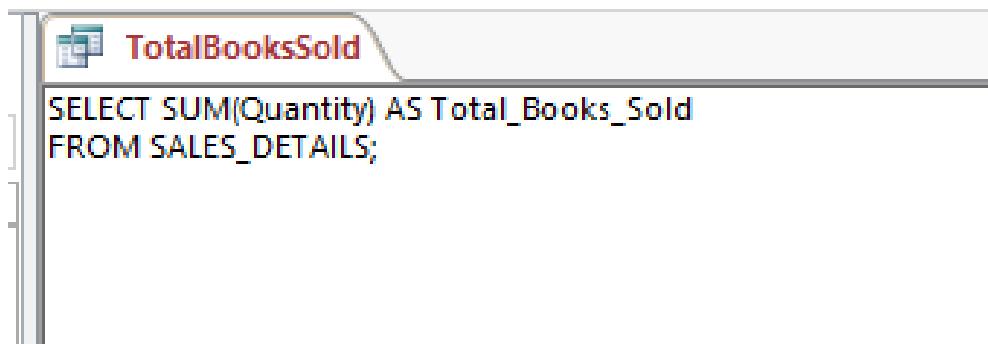
THE EMPIRE BOOKSHOP

SalesOrderNumber	<input type="text"/>
SalesOrderDate	Monday, 24 January, 2022
CustNumber	<input type="text"/> 1

◀ ▶

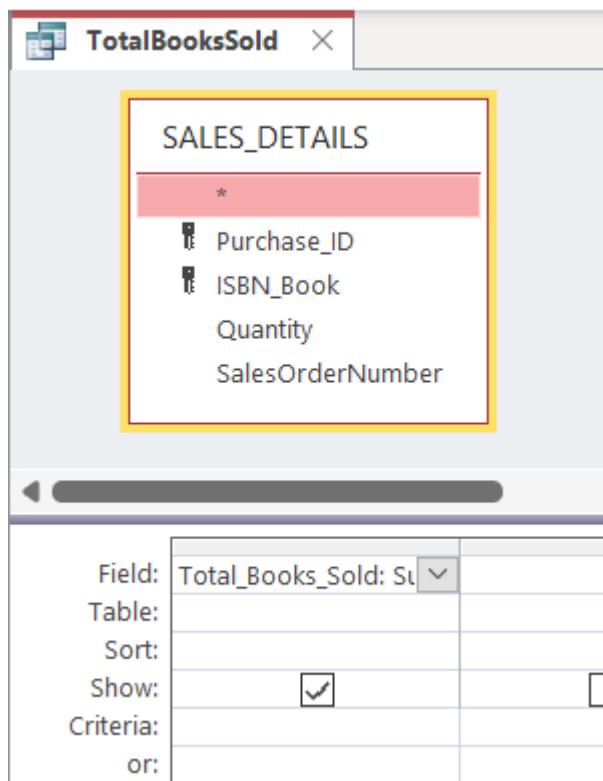
10.0 SQL QUERIES

1. Retrieve the total quantity of books sold by Empire Bookstore.

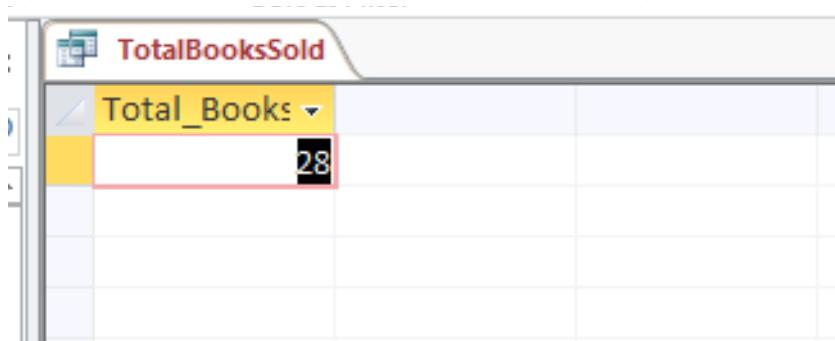


```
SELECT SUM(Quantity) AS Total_Books_Sold
FROM SALES_DETAILS;
```

Query Design:

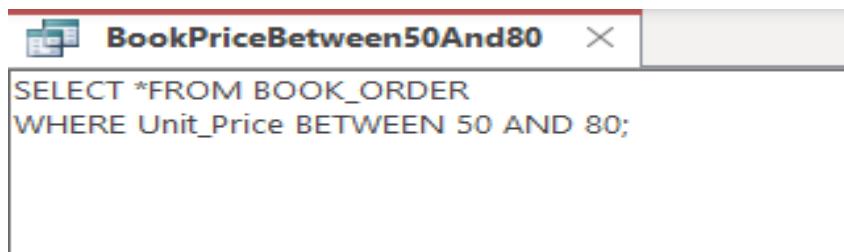


Output:



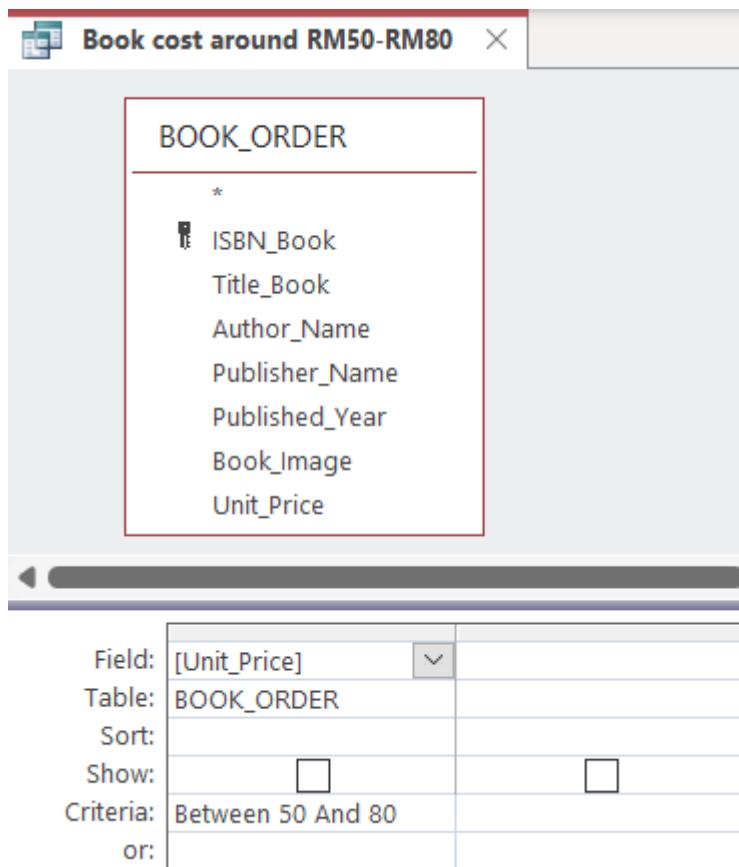
Total_Books
28

2. Retrieve all books with a price between RM50 and RM80.



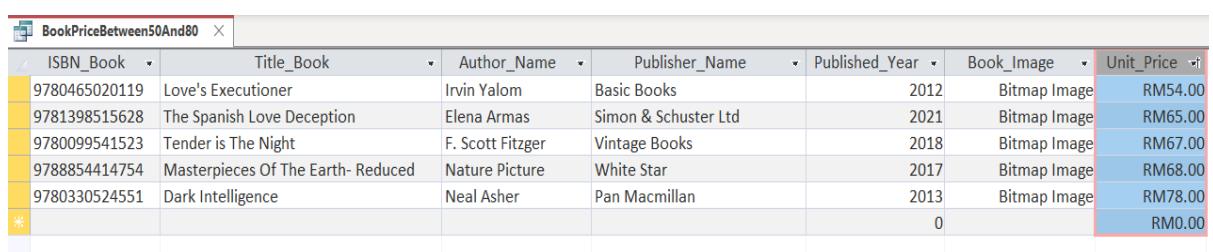
```
SELECT * FROM BOOK_ORDER
WHERE Unit_Price BETWEEN 50 AND 80;
```

Query Design:



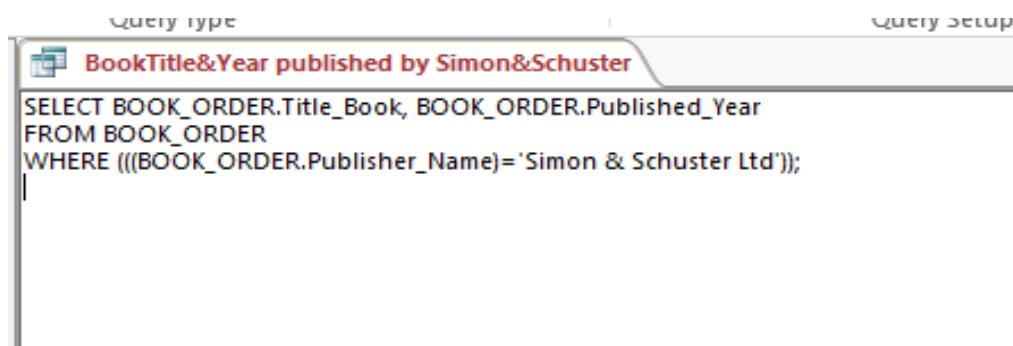
Field: [Unit_Price]
Table: BOOK_ORDER
Sort:
Show:
Criteria: Between 50 And 80
or:

Output:



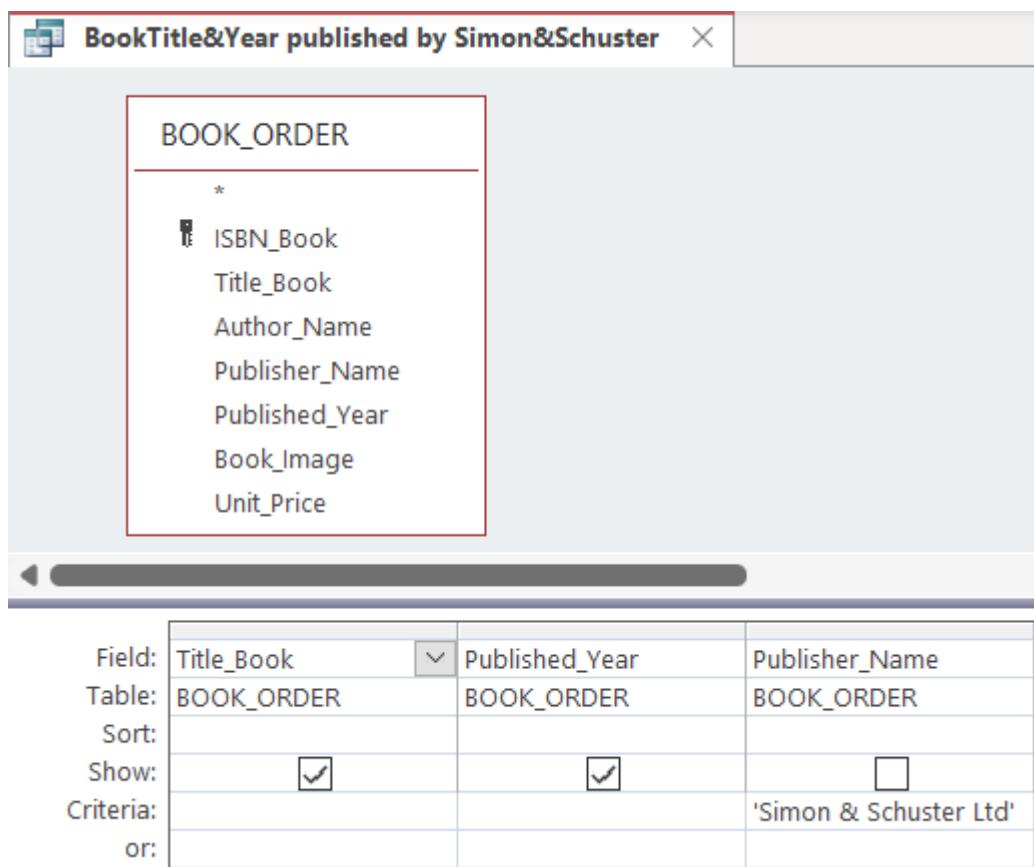
ISBN_Book	Title_Book	Author_Name	Publisher_Name	Published_Year	Book_Image	Unit_Price
9780465020119	Love's Executioner	Irvin Yalom	Basic Books	2012	Bitmap Image	RM54.00
9781398515628	The Spanish Love Deception	Elena Armas	Simon & Schuster Ltd	2021	Bitmap Image	RM65.00
9780099541523	Tender is The Night	F. Scott Fitzgerald	Vintage Books	2018	Bitmap Image	RM67.00
9788854414754	Masterpieces Of The Earth- Reduced	Nature Picture	White Star	2017	Bitmap Image	RM68.00
9780330524551	Dark Intelligence	Neal Asher	Pan Macmillan	2013	Bitmap Image	RM78.00
*						0
						RM0.00

3. Retrieve the title of book and year published by Simon & Schuster Ltd.



```
SELECT BOOK_ORDER.Title_Book, BOOK_ORDER.Published_Year  
FROM BOOK_ORDER  
WHERE (((BOOK_ORDER.Publisher_Name)='Simon & Schuster Ltd'));
```

Query Design:



The screenshot shows the 'Query Design' interface for the query 'BookTitle&Year published by Simon&Schuster'. The interface has two main sections: a 'Selected Fields' pane and a 'Criteria' pane.

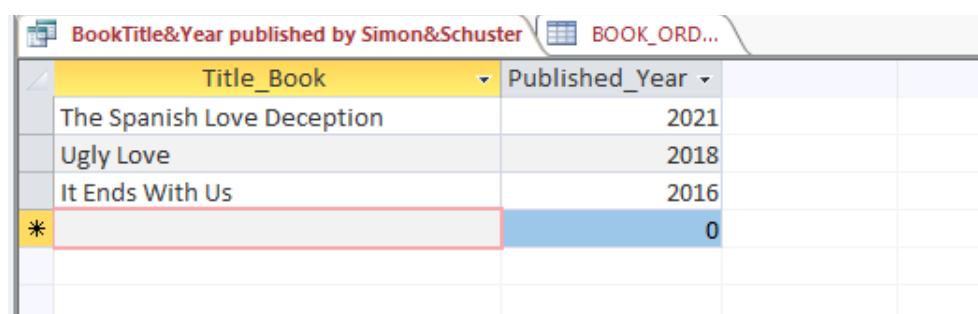
Selected Fields (Left):

BOOK_ORDER
*
ISBN_Book
Title_Book
Author_Name
Publisher_Name
Published_Year
Book_Image
Unit_Price

Criteria (Right):

Field:	Title_Book	Published_Year	Publisher_Name
Table:	BOOK_ORDER	BOOK_ORDER	BOOK_ORDER
Sort:			
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Criteria:			'Simon & Schuster Ltd'
or:			

Output:



	Title_Book	Published_Year
	The Spanish Love Deception	2021
	Ugly Love	2018
	It Ends With Us	2016
*		0

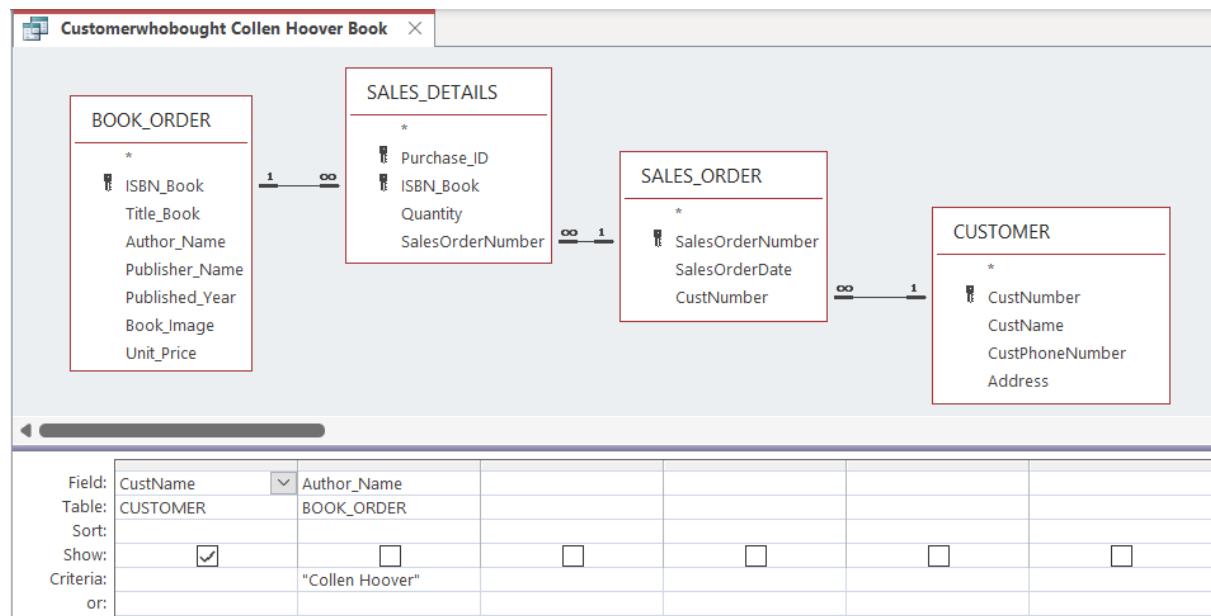
4. Retrieve the name of the customer who bought the book written by Colleen Hoover.

results | Query Type | Query Setup | Show/Hide

BOOK_ORD... Customerwhobought Collen Hoover Book

```
SELECT CUSTOMER.CustName
FROM (CUSTOMER INNER JOIN SALES_ORDER ON CUSTOMER.CustNumber = SALES_ORDER.CustNumber) INNER JOIN (BOOK_ORDER INNER JOIN SALES_DETAILS ON BOOK_ORDER.ISBN_Book = SALES_DETAILS.ISBN_Book) ON SALES_ORDER.SalesOrderNumber = SALES_DETAILS.SalesOrderNumber
WHERE ((BOOK_ORDER.Author_Name)='Collen Hoover');
```

Query Design:



Output:

BOOK_ORD... Customerwhobought Collen Hoover Book

CustName
Ameena
Natasha
Ameena
*

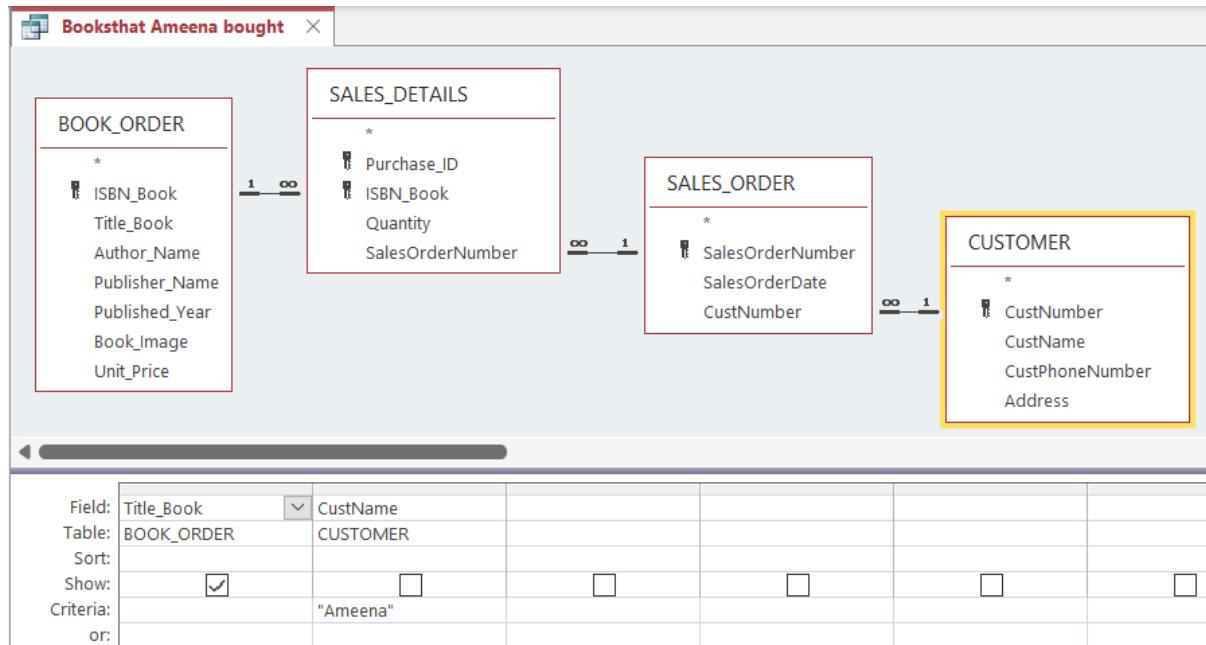
5. Retrieve the book title that Ameena bought.

Results | Query type | Query setup | Show/Hide

Books that Ameena bought

```
SELECT BOOK_ORDER.Title_Book
FROM BOOK_ORDER INNER JOIN (CUSTOMER INNER JOIN (SALES_ORDER INNER JOIN SALES_DETAILS ON SALES_ORDER.SalesOrderNumber = SALES_DETAILS.SalesOrderNumber) ON CUSTOMER.CustNumber = SALES_ORDER.CustNumber) ON BOOK_ORDER.ISBN_Book = SALES_DETAILS.ISBN_Book
WHERE ((CUSTOMER.CustName)='Ameena');
```

Query Design:

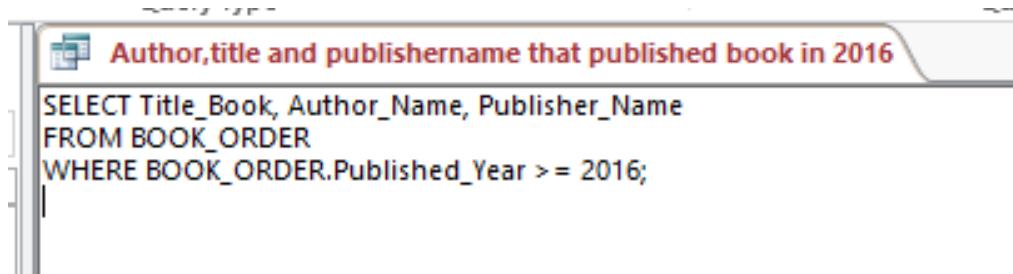


Output:

Book that Ameena bought

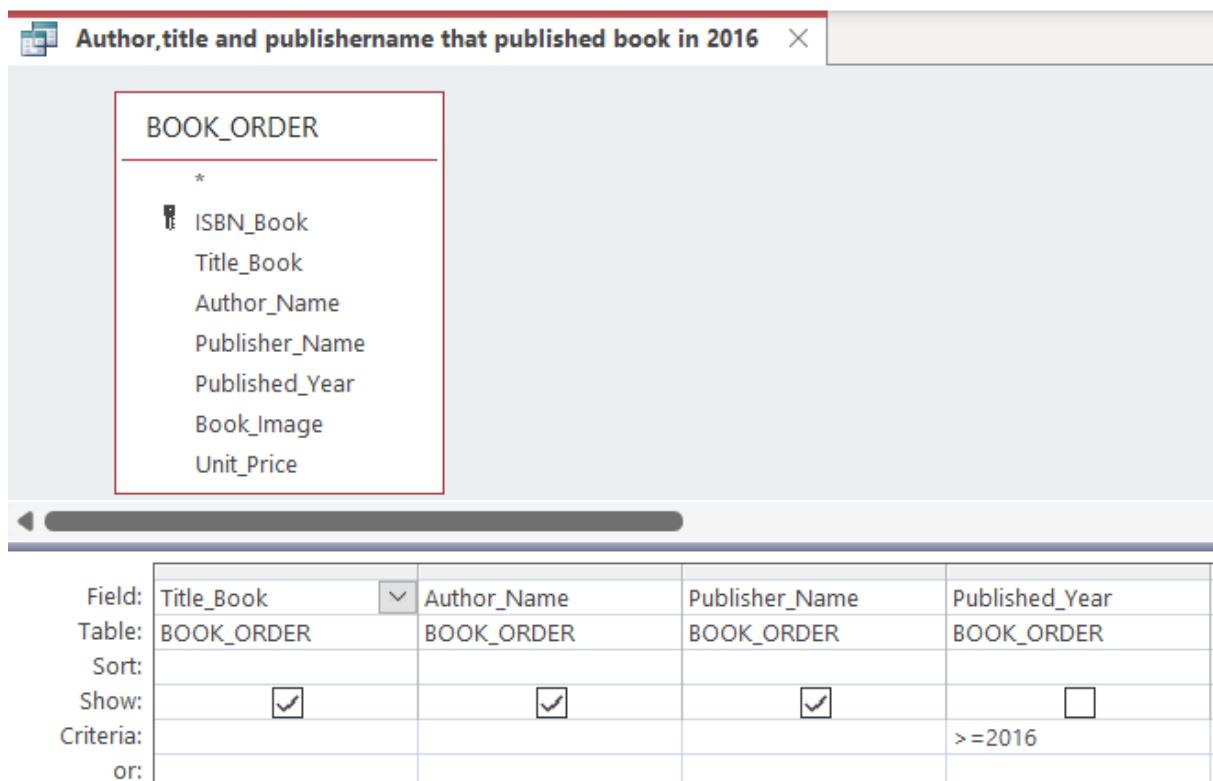
Title_Book	
	Ugly Love
	Gillespie And I
	Database Design and Development
	Dark Intelligence
	It Ends With Us
*	

6. Retrieve the title of the book, author name and publisher name which has at least published the book in 2016.



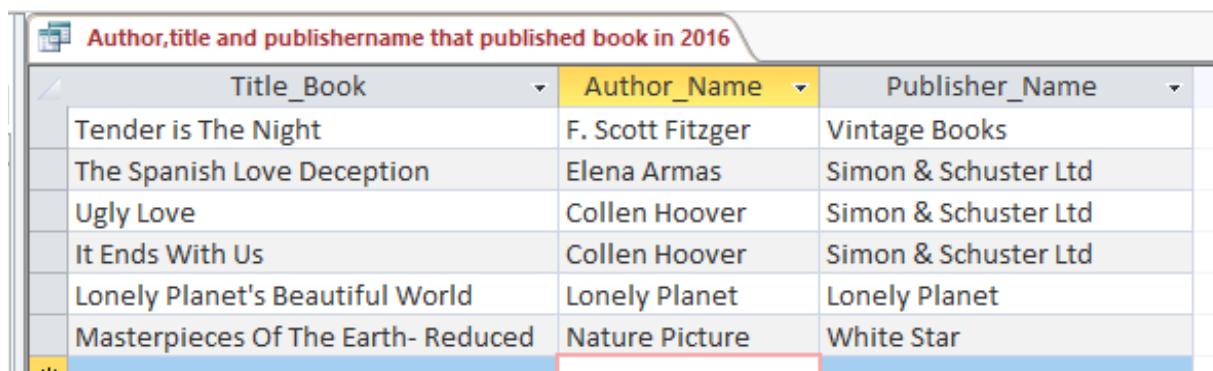
```
SELECT Title_Book, Author_Name, Publisher_Name
FROM BOOK_ORDER
WHERE BOOK_ORDER.Published_Year >= 2016;
```

Query Design:



Field:	Title_Book	Author_Name	Publisher_Name	Published_Year
Table:	BOOK_ORDER	BOOK_ORDER	BOOK_ORDER	BOOK_ORDER
Sort:				
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Criteria:				>=2016
or:				

Output:



Title_Book	Author_Name	Publisher_Name
Tender is The Night	F. Scott Fitzger	Vintage Books
The Spanish Love Deception	Elena Armas	Simon & Schuster Ltd
Ugly Love	Collen Hoover	Simon & Schuster Ltd
It Ends With Us	Collen Hoover	Simon & Schuster Ltd
Lonely Planet's Beautiful World	Lonely Planet	Lonely Planet
Masterpieces Of The Earth- Reduced	Nature Picture	White Star

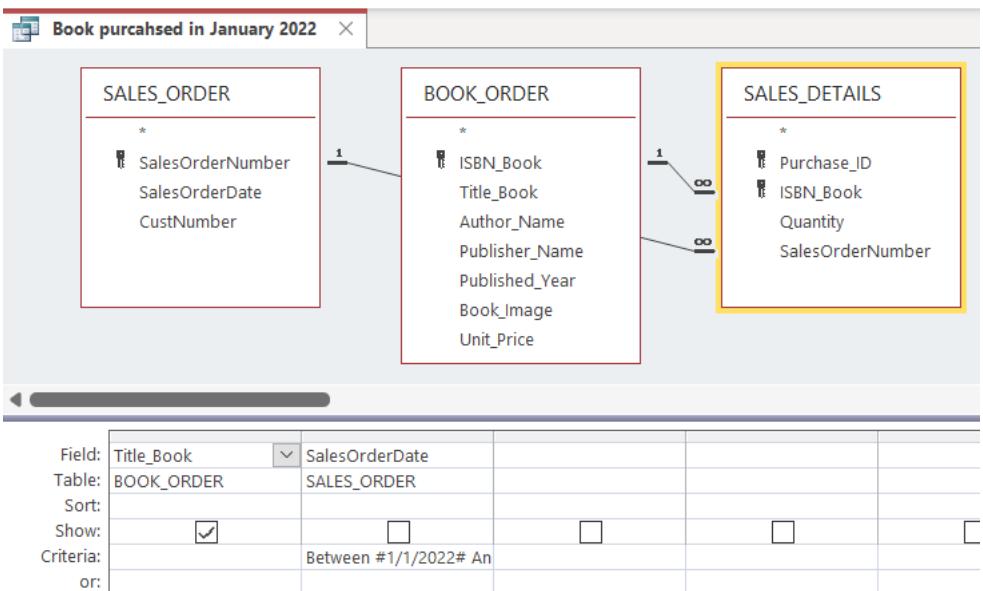
7. Retrieved the book names that customers purchased in January 2022.

```

SELECT BOOK_ORDER.Title_Book
FROM SALES_ORDER
INNER JOIN (
BOOK_ORDER INNER JOIN SALES_DETAILS ON BOOK_ORDER.ISBN_Book = SALES_DETAILS.ISBN_Book)
ON SALES_ORDER.SalesOrderNumber = SALES_DETAILS.SalesOrderNumber
WHERE (((SALES_ORDER.SalesOrderDate) Between #1/1/2022# And #1/31/2022#));

```

Query Design:



Output:

Title_Book
The Mummyfesto
It Ends With Us
Dark Intelligence
English Grammar
Love's Executioner
Lonely Planet's Beautiful World
Dark Intelligence
Masterpieces Of The Earth- Reduced
Ugly Love
Gillespie And I
Database Design and Development
Dark Intelligence
It Ends With Us
Gone Girl
Dark Intelligence
The Spanish Love Deception
Pro Java Programming
The Mummyfesto
Tender is The Night
Calculus 8th edition
Masterpieces Of The Earth- Reduced
English Grammar
Database Design and Development
Human Computer Interaction
Tender is The Night
The Spanish Love Deception
Human Computer Interaction
Gone Girl
*

8. Selects all books from the “Book_Order” table, sorted by the “Published_Year” column.

Query type

Bookorder assorted by publishedyear

```
SELECT *
FROM BOOK_ORDER
ORDER BY BOOK_ORDER.Published_Year;
```

Query Design:

Bookorder assorted by publishedyear

BOOK_ORDER
*
ISBN_Book
Title_Book
Author_Name
Publisher_Name
Published_Year
Book_Image
Unit_Price

Field:	Published_Year	<input type="button" value="▼"/>
Table:	BOOK_ORDER	
Sort:	Ascending	
Show:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:		
or:		

Output:

Before

Bookorder assorted by publishedyear								
ISBN_Book	Title_Book	Author_Name	Publisher_Name	Published_Year	Book_Image	Unit_Price	Cli...	
1220090090090	Calculus 8th edition	James Stewart	Cengage Learning	2015	Bitmap Image	RM89.90		
1238812990388	English Grammar	Raymond Murphy	Cambridge University Pres	1985	Bitmap Image	RM40.00		
3008812990388	Pro Java Programming	Brett Spell	Apress	2005	Bitmap Image	RM35.00		
3058812990388	Database Design and Development	Paulraj Ponniah	Wiley	2003	Bitmap Image	RM45.00		
4128812990388	Human Computer Interaction	Samuel Wallace	Parentice Hall, Europe	1998	Bitmap Image	RM46.00		
9780099541523	Tender is The Night	F. Scott Fitzger	Vintage Books	2018	Bitmap Image	RM67.00		
9780330524551	Dark Intelligence	Neal Asher	Pan Macmillan	2013	Bitmap Image	RM78.00		
9780465020119	Love's Executioner	Irvin Yalom	Basic Books	2012	Bitmap Image	RM54.00		
9780571238279	Gillespie And I	Jane Harris	Faber&Faber	2011	Bitmap Image	RM43.00		
9780753827666	Gone Girl	Gillian Flynn	Orion Publishing Co	2013	Bitmap Image	RM45.00		
9781398515628	The Spanish Love Deception	Elena Armas	Simon & Schuster Ltd	2021	Bitmap Image	RM65.00		
9781471136726	Ugly Love	Collen Hoover	Simon & Schuster Ltd	2018	Bitmap Image	RM35.00		
9781471156267	It Ends With Us	Collen Hoover	Simon & Schuster Ltd	2016	Bitmap Image	RM42.00		
9781743607879	Lonely Planet's Beautiful World	Lonely Planet	Lonely Planet	2018	Bitmap Image	RM46.00		
9781780875224	The Mummyfesto	Linda Green	Quercus Publisher	2010	Bitmap Image	RM47.00		
9788854414754	Masterpieces Of The Earth- Reduced	Nature Picture	White Star	2017	Bitmap Image	RM68.00		
				0		RM0.00		

After:

Bookorder assorted by publishedyear								
ISBN_Book	Title_Book	Author_Name	Publisher_Name	Published_Year	Book_Image	Unit_Price	Cli...	
1238812990388	English Grammar	Raymond Murphy	Cambridge University Pres	1985	Bitmap Image	RM40.00		
4128812990388	Human Computer Interaction	Samuel Wallace	Parentice Hall, Europe	1998	Bitmap Image	RM46.00		
3058812990388	Database Design and Development	Paulraj Ponniah	Wiley	2003	Bitmap Image	RM45.00		
3008812990388	Pro Java Programming	Brett Spell	Apress	2005	Bitmap Image	RM35.00		
9781780875224	The Mummyfesto	Linda Green	Quercus Publisher	2010	Bitmap Image	RM47.00		
9780571238279	Gillespie And I	Jane Harris	Faber&Faber	2011	Bitmap Image	RM43.00		
9780465020119	Love's Executioner	Irvin Yalom	Basic Books	2012	Bitmap Image	RM54.00		
9780753827666	Gone Girl	Gillian Flynn	Orion Publishing Co	2013	Bitmap Image	RM45.00		
9780330524551	Dark Intelligence	Neal Asher	Pan Macmillan	2013	Bitmap Image	RM78.00		
1220090090090	Calculus 8th edition	James Stewart	Cengage Learning	2015	Bitmap Image	RM89.90		
9781471156267	It Ends With Us	Collen Hoover	Simon & Schuster Ltd	2016	Bitmap Image	RM42.00		
9788854414754	Masterpieces Of The Earth- Reduced	Nature Picture	White Star	2017	Bitmap Image	RM68.00		
9780099541523	Tender is The Night	F. Scott Fitzger	Vintage Books	2018	Bitmap Image	RM67.00		
9781471136726	Ugly Love	Collen Hoover	Simon & Schuster Ltd	2018	Bitmap Image	RM35.00		
9781743607879	Lonely Planet's Beautiful World	Lonely Planet	Lonely Planet	2018	Bitmap Image	RM46.00		
9781398515628	The Spanish Love Deception	Elena Armas	Simon & Schuster Ltd	2021	Bitmap Image	RM65.00		
*				0		RM0.00		

9. Retrieve the price of the cheapest and expensive book.

Cheapest and Expensive Books Customer who bought more than 21 books

```
SELECT Min([Unit_Price]) AS Lowest_Price, Max([Unit_Price]) AS Highest_Price
FROM BOOK_ORDER;
```

Query Design:

Cheapest and Expensive Books

BOOK_ORDER	*
	ISBN_Book
	Title_Book
	Author_Name
	Publisher_Name
	Published_Year
	Book_Image
	Unit_Price

Field: Lowest_Price: Min(Unit_Price) Highest_Price: Max([Unit_Price])
Table:
Sort:
Show:
Criteria:
or:

Output:

Clipboard Sort & Filter

Cheapest and Expensive Books Customer who bought more than 21 books

Lowest_Price	Highest_Price
RM35.00	RM89.90

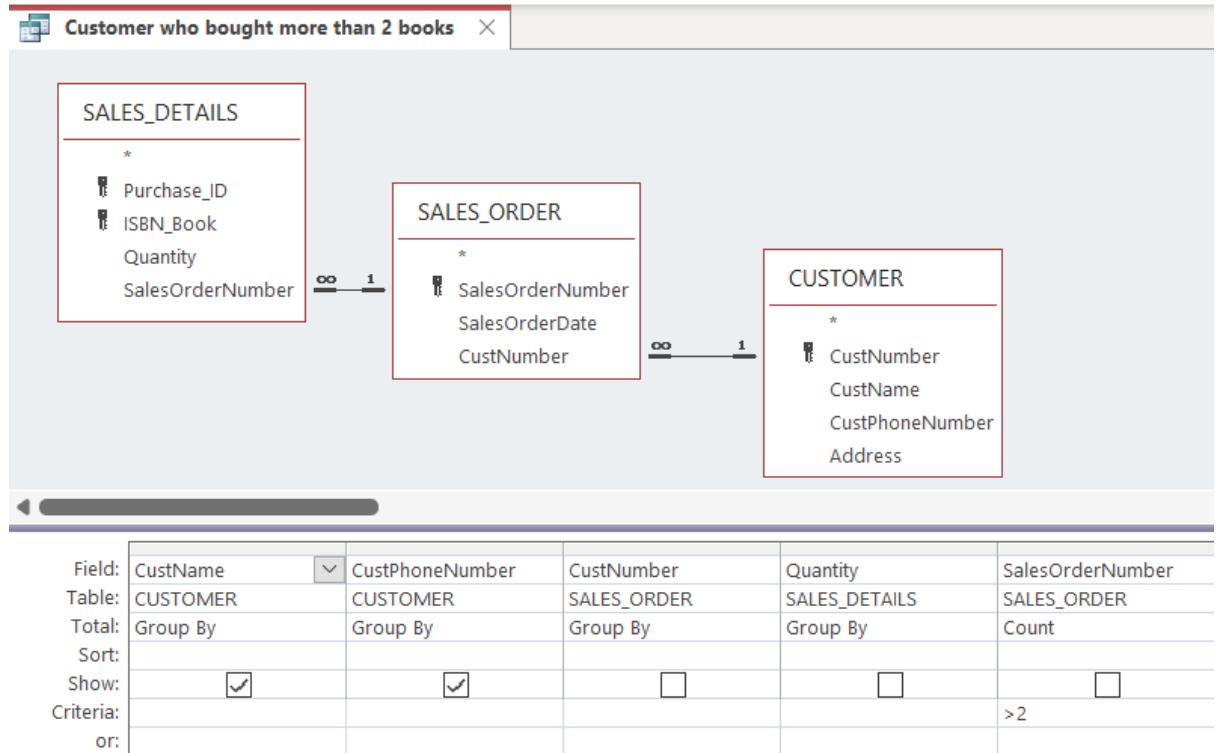
10. Retrieved the name and phone number of a customer who bought more than 2 books.

Results | Query Type | Query Setup | Show/Hide

Cheapest and Expensive Books **Customer who bought more than 2 books**

```
SELECT CUSTOMER.CustName, CUSTOMER.CustPhoneNumber
FROM (CUSTOMER INNER JOIN SALES_ORDER ON CUSTOMER.CustNumber = SALES_ORDER.CustNumber) INNER JOIN SALES_DETAILS ON SALES_ORDER.SalesOrderNumber = SALES_DETAILS.SalesOrderNumber
GROUP BY CUSTOMER.CustName, CUSTOMER.CustPhoneNumber, SALES_ORDER.CustNumber, SALES_DETAILS.Quantity
HAVING ((Count(SALES_ORDER.SalesOrderNumber))>2);
```

Query Design:



Output:

Cheapest and Expensive Books **Customer who bought more than 2 books**

CustName	CustPhoneNumber
Ameena	0198826354
Aqilah	0198823456
Marsya	01178234571
Mia	0172234266
Zakwan	0187723425

11.0 REFERENCES

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- 5) *SQL inner join keyword.* (n.d.). W3Schools Online Web Tutorials.
https://www.w3schools.com/sql/sql_join_inner.asp