

Robert Taylor Martin, Jr.

Database Concepts

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**Identify and Describe the Entities and Their Attributes**

Customers		Distributors
	Field Name	Data Type
	Customer ID	AutoNumber
	Address	Long Text
	Telephone Number	Short Text
	Last Name	Short Text
	First Name	Short Text
	Account Number	Short Text
	Zip Code	Short Text

Customers		Distributors
	Field Name	Data Type
	Distributor ID	AutoNumber
	Movie ID	Short Text
	DVD or Video ID	Short Text
	Type (DVD or Video)	Short Text
	Wholesale Price	Number

Customers		Distributors	DVD Collections
	Field Name	Data Type	
	ID	AutoNumber	
	Distributors Serial Number	Short Text	
	Movie ID	Number	

Customers		Distributors		DVD Collections		Movie Information	
Field Name	Data Type						
Movie ID	AutoNumber						
Movie Name	Short Text						
Movie Type (Suspense, /horror)	Short Text						
Main Actor	Short Text						
Actors / Actresses	Long Text						
Running Length	Short Text						
Rating	Short Text						

Customers		Distributors		DVD Collections		Movie Information		Rental Information	
Field Name	Data Type								
ID	AutoNumber								
DVD Video ID	Number								
Customer ID	Number								
Date Rented	Date/Time								
Date Returned	Date/Time								
Taxes	Number								
Late Fees	Number								

Customers		Distributors		DVD Collections		Movie Information		Rental Information		Video Collections	
Field Name	Data Type									Description (Optional)	
ID	AutoNumber										
Distributors Serial Number	Short Text										
Movie ID	Number										

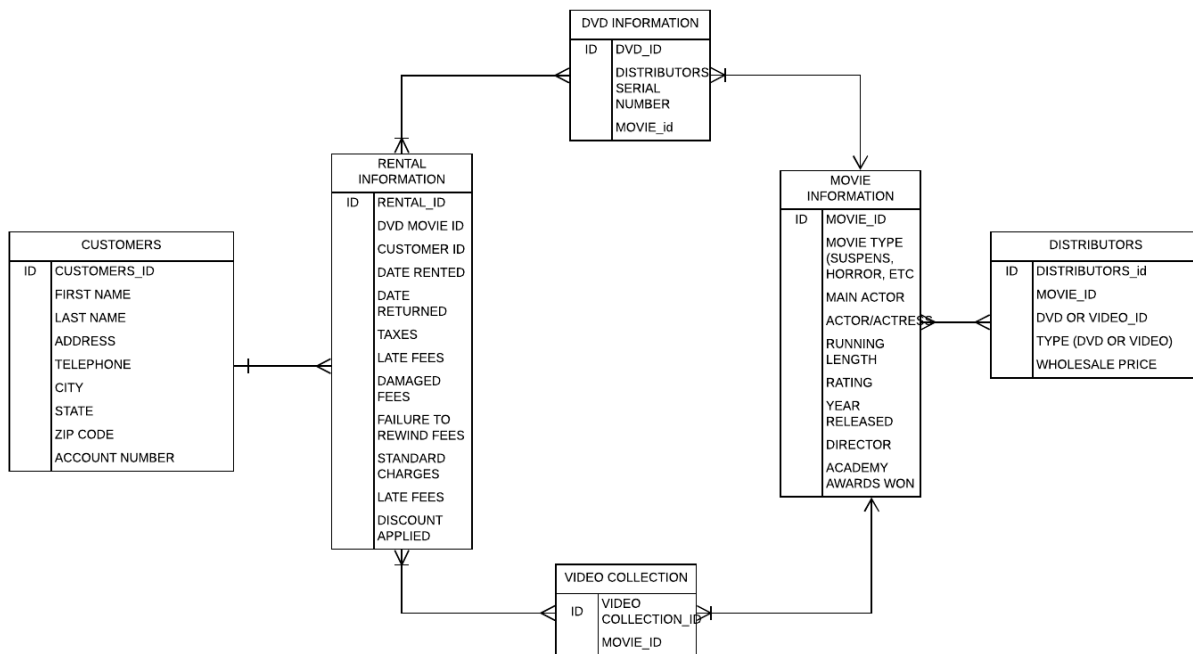
**Develop Relationship Sentence Pairs**

The customer visits Mom, and Pop Johnson Video Store, browses the movies, selects the media format (DVD or video) they want to rent, proceeds to check out, enters their personal information, and returns media by the specified time and day.

- Customer rents and returns the media
- Renting the media explains the terms related to the content

- DVD and video are a format of information to stream audio or images
- Video streaming of a movie is a motion picture under license
- Movie under license is a collaboration of actors, directors, biographies, reviews, cast, and productions credits made available from the distribution process
- Distributors determine the marketing strategy and media available for viewing and release date

**Draw an ERD Using any Graphics Tool of Your Choice. (Viso, PowerPoint, Lucidchart, etc.)**



**Develop Metadata from the ERD and Document it in an Excel Spreadsheet**

Using your selected RDBMS (SQL Server, Oracle, or MySQL), develop and execute an SQL script file of DDL SQL to create the database tables in the metadata document. Using your selected RDBMS, prepare and run an SQL script file of DML SQL INSERT statements to

populate the tables using SQL INSERT statements for at least five rows of data per table. Using your selected RDBMS develop and execute an SQL script file to:

- a) Show the contents of each of your tables, one at a time

Customer ID	Account Num	Last Name	First Name	Telephone Number	Address	Zip Code	City	State
11		Martin	Taylor	(619) 995-0081	18480 Via Pequena	94580-3415	San Lorenzo	CA

Distributor ID	Movie ID	DVD or Video ID	Type (DVD or Video)	Wholesale Price	Click to Add
1	23	24	DVD		13

ID	Distributors Serial Number	Movie ID	Click to Add
1	5610N00000	23	

Movie ID	Movie Name	Movie Type	Main Actor	Actors / Actr	Running Len	Rating	Year Released	Director	Academy Awards Won
1	A Beautiful Min Drama		Russell Crowe	Jennifer Conne	135	PG-13		2001 Ron Howard	4

ID	DVD Video ID	Customer ID	Date Rented	Date Return	Taxes	Late Fees	Damaged Fe
1	23	1	1/2/2019	1/15/2019	3	5	0
(New)	0	0			0	0	0

ID	Distributors Serial Number	Movie ID	Click to Add
1	5610N00000	23	

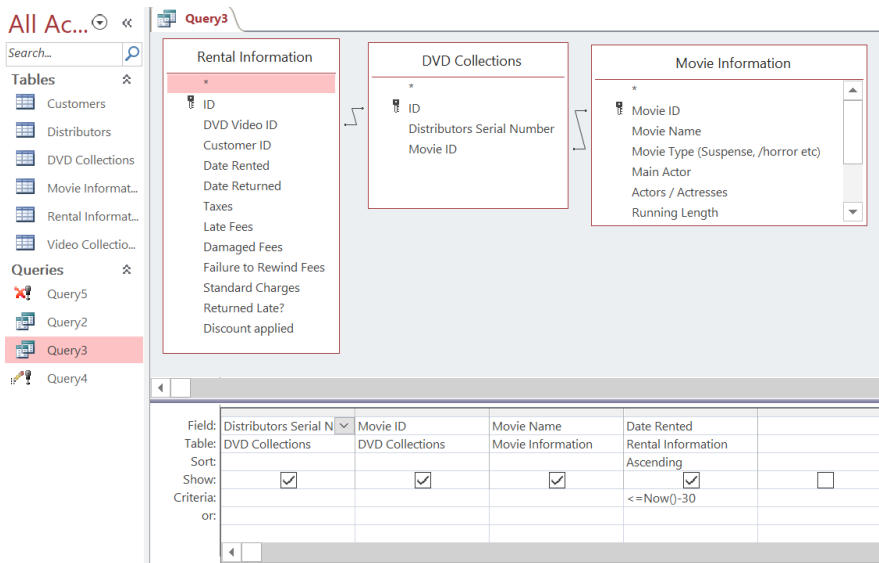
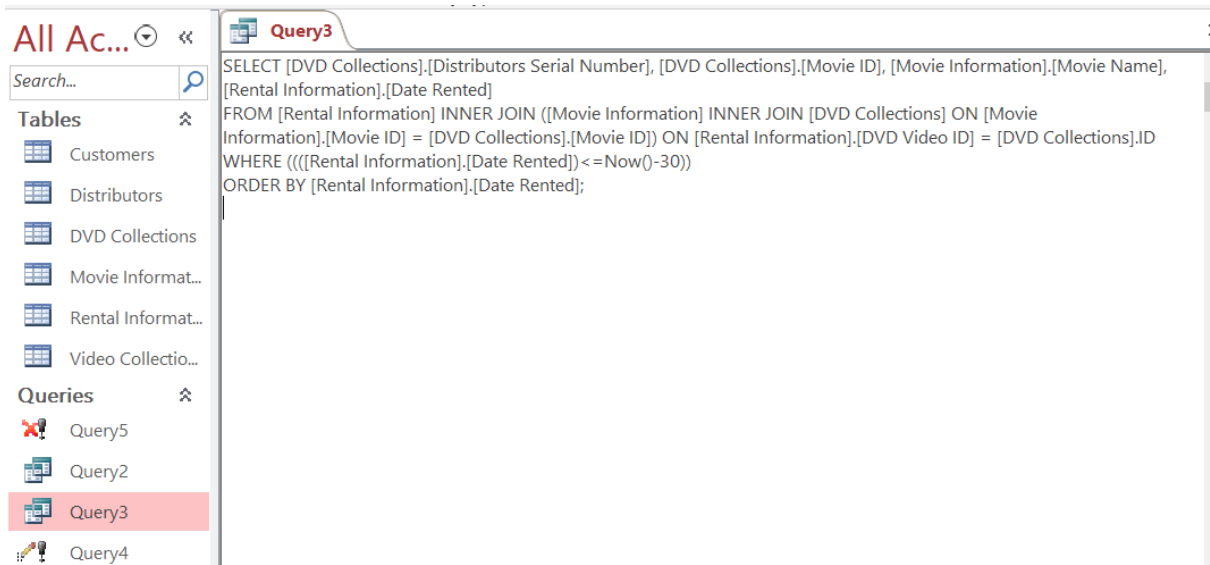
- b) Retrieve all of the customers' names, account numbers, and addresses (street and zip code only), sorted by account number

Last Name	First Name	Account Nun	Address	Zip Code
JONES	ALEN	1	100 EAST BLVD	12345-1234

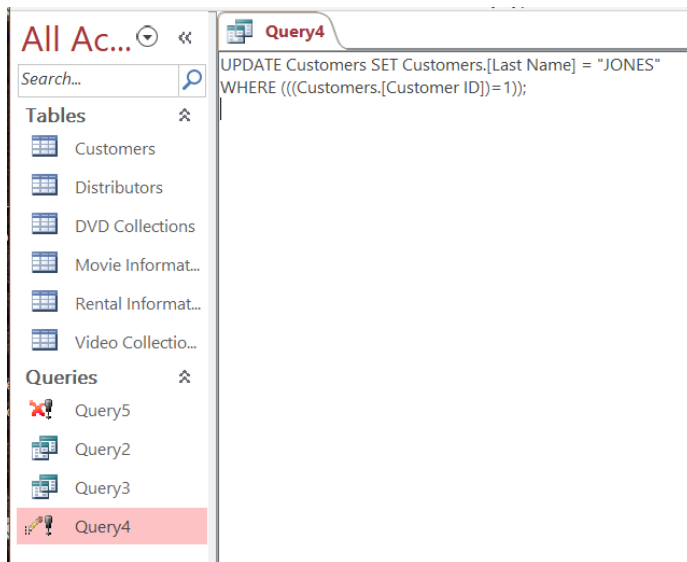
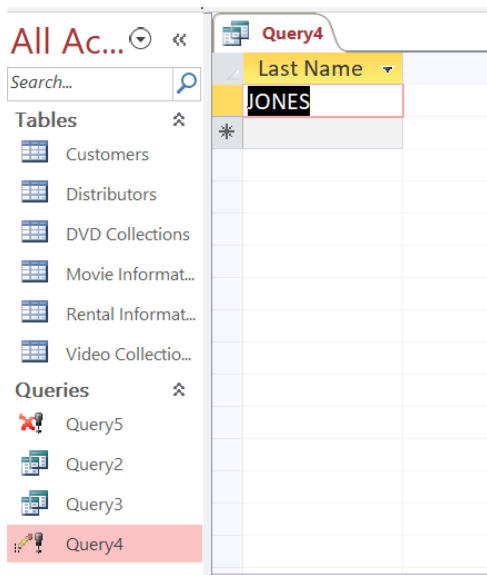
Field:	Last Name	First Name	Account Number	Address	Zip Code
Table:	Customers	Customers	Customers	Customers	Customers
Sort:			Ascending		
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Criteria:	or:				

c. Retrieve all of the DVDs rented in the last 30 days and sort them in chronological rental date order

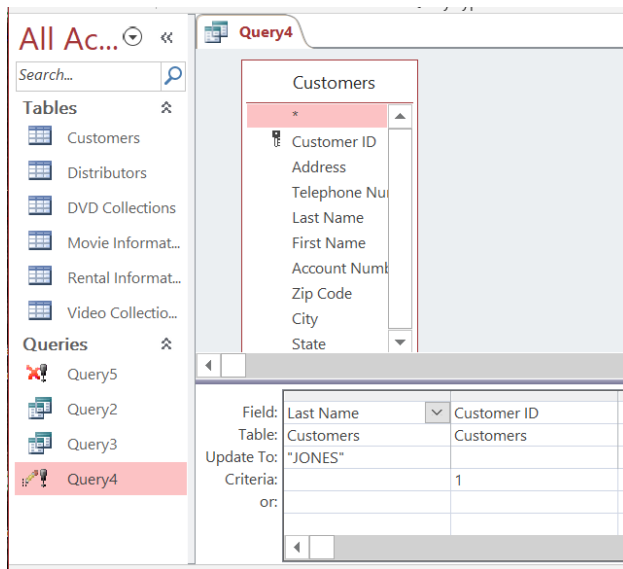
Distributors Serial Number	Movie ID	Movie Name	Date Rented



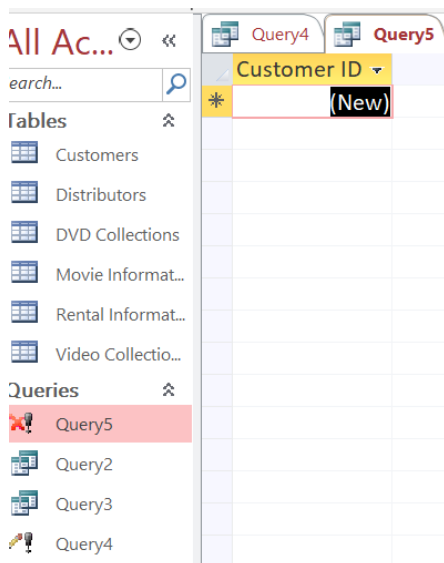
- d. Update a customer's name to change their maiden names to married terms. You can choose which row to update. Make sure you only use the primary key column in your

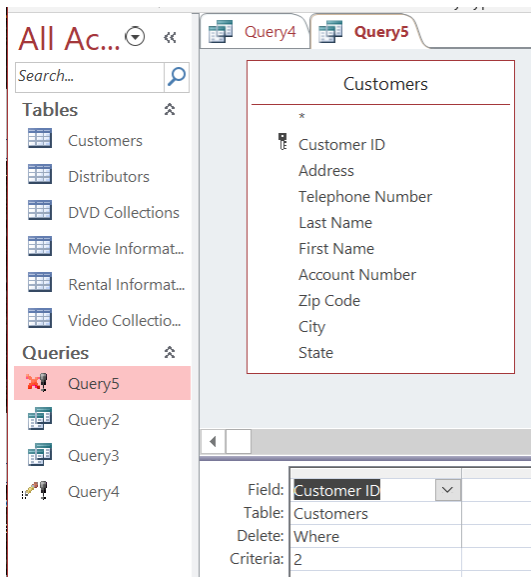
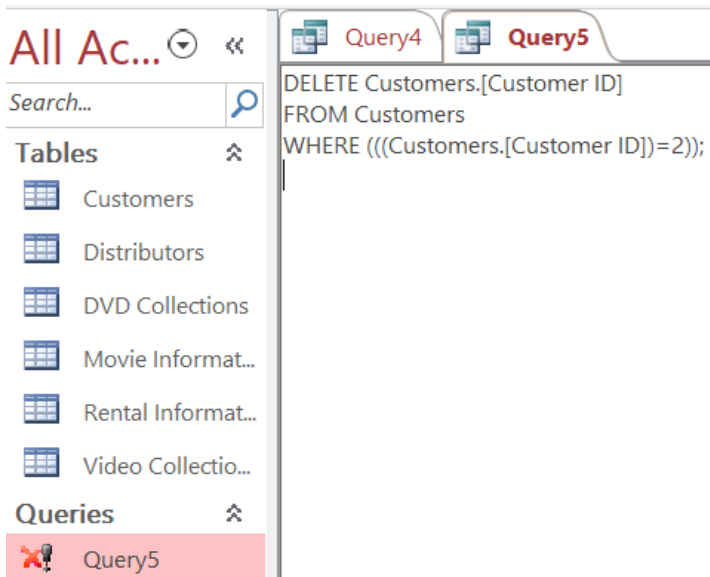






- e. Delete a particular customer from the database. You can choose which row to delete. Ensure you only use the primary key column in your WHERE clause to affect a specific row.





### **Conclusion**

Meir & Kaufmann (2019) defined database capabilities with programming language application, insertion, update, and deletion rules, and new algebraic operators by exemplifying the semantic models for formatted databases. Representing data in the form of two-dimensional tables (Hay, 20189), each table represents the integration of technologies and solutions conducted in concepts, methodologies, tools, and applications. Known as the logical view in which a relational database presents data to the user and the programmer (Narang, 2018), the internal view contrasts with how software-based fault isolation stores the data on a computer disk system (Given-Wilson et al., 2020). To effectively use relational database software such as Oracle, Microsoft Azure SQL, Access, PostgreSQL, or even personal database systems such as Microsoft SQL Server, MongoDB, Apache OpenOffice, PostgreSQL, or MySQL Access (Davis, 2022), a clear understanding of the principals of database management and with pre-existing relationships between the quality of its elements is the object of domain discourse according to Glava et al., (2019); Mugnaini (2020). In addition to the form of comparative concepts, another logical step is to learn more about a standardized programming language that is used to manage relational databases and perform various operations on the data in them, known as Structured Query language (SQL). For example, optimization is one of the stages of executing a declarative query. The query planner transforms each logical operator into a physical implementation of algebra expression (Nevarez, 2022).

In terms of a range from the first to the final event and the number of cascade stages that analyzed the data control language (DCL), SQL, according to Switzer et al. (2020), is to offer the capability to create and manipulate various database objects using the various CREATE, ALTER, and DROP commands while providing security to database objects. Using Visual

Studio (Bai, 2020), the data actions against the database can be performed if you develop your applications using commands such as INSERT (Sharp, 2022). The data manipulation language can be adjusted using various commands, such as SELECT, DELETE, TRUNCATE, cursor commands, DECLARE, OPEN, FETCH, and CLOSE. To protect the data of monitoring platforms and ensure transaction data security (Smallwood, 2019), transactions to manage the data are controlled through the SET command, plus the COMMIT and ROLLBACK commands. Based on the user's access or restriction on privileges (Ferrari, 2022), one can execute specific SQL commands such as GRANT and REVOKE.

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