

REFLECTION:

As I progress on learning Structured Query Language (SQL) at W3Schools, I find SQL to be somewhat simple and pretty organized with its English-like sentence structure.

It's really easy to understand its basic syntax; however, the wide and almost endless possibilities of its structure are what make SQL very complicated in terms of making a lot of executions in one go. But it's naturally designed to execute a few tasks in one go, unlike any programming language that executes tons of letters in one run. But here in SQL, it's pretty limited to the database and the table you have.

PLEASE PROCEED TO NEXT PAGE FOR THE SCREENSHOTS/DOCUMENTATION!

Syntax

The screenshot shows two instances of Microsoft Access running side-by-side. Both instances have the same database open: "Customer Records : Database- C:\School Files\Coding\Computer Programming II - 4th Quarter\Database\Customer Records.accdb (Access 2016) - Access".

The top window displays the "Query Design" view. The SQL query entered is:

```
SELECT *  
FROM Customer_Records;
```

The bottom window displays the resulting data grid for the "Query_Customers" query. The data is as follows:

CustomerID	Customer Name	Contact Name	Address	City	Postal Code	Country
1	Alfreds Futterk	Maria Anders	Oberse Str. 57	Berlin	12209	Germany
2	Ana Trujillo Em	Ana Trujillo	Avda. de la Cor	México D.F.	05021	Mexico
3	Antonio Morer	Antonio Morer	Mataderos 231	México D.F.	05023	Mexico
4	Around the Ho	Thomas Hardy	120 Hanover Sc	London	WA1 1DP	UK
5	Berglunds snat	Christina Bergl	Berguvsvägen 11	Luleå	S-958 22	Sweden
6	Blauer See Del	Hanna Moos	Forsterstr. 57	Mannheim	68306	Germany
7	Blondel père e	Frédérique Cit.	24, place Klébe	Strasbourg	67000	France
8	Bólido Comida	Martin Somme	C/ Araquil, 67	Madrid	28023	Spain
9	Bon app'	Bon app'	12, rue des Bo	Marseille	13008	France
10	Bottom-Dollar	Bottom-Dollar	23 Tsawassen E	Tsawassen	T2F 8M4	Canada
*	0					

SQL SELECT

The screenshot shows two views of Microsoft Access. The top view is the 'Query Design' ribbon tab, where a query named 'Query_Customers' is being created. The SQL code is:

```
SELECT CustomerName  
FROM Customer_Records;
```

The bottom view shows the 'Home' ribbon tab, displaying the results of the query. The results are:

CustomerName
Alfreds Futterk
Ana Trujillo Em
Antonio Morer
Around the Ho
Berglunds snat
Blauer See Del
Blondel père e
Bólido Comida
Bon app'
Bottom-Dollar

SQL SELECT DISTINCT

The screenshot shows two instances of Microsoft Access running side-by-side. Both windows have the title "Customer Records : Database- C:\School Files\Coding\Computer Programming II - 4th Quarter\Database\Customer Records.accdb (Access 2016) - Access".

The top window displays the "Query Design" ribbon tab. The "Tables" pane on the left lists "Customer_Records" and "Exercise_1". The main area shows the SQL query:

```
SELECT DISTINCT Country
FROM Customer_Records;
```

The bottom window also has the "Query Design" ribbon tab selected. The "Tables" pane lists "Customer_Records" and "Exercise_1". The main area displays the results of the query in a grid:

Country
Canada
France
Mexico
Spain
Sweden
UK
Germany

Both windows show the status bar at the bottom indicating "7:08 PM 4/4/2024".

SQL WHERE

The screenshot shows two instances of Microsoft Access running side-by-side. Both instances have the same database open: "Customer Records : Database- C:\School Files\Coding\Computer Programming II - 4th Quarter\Database\Customer Records.accdb (Access 2016) - Access".

The top instance is in "Query Design" mode. The ribbon is set to "Query Design". The main area displays the SQL query:

```
SELECT * FROM Customer_Records  
WHERE Country = 'Germany';
```

The bottom instance is in "Home" mode. The ribbon is set to "Home". The main area displays the results of the query, showing two records from the "Customer_Records" table:

CustomerID	CustomerName	ContactName	Address	City	PostalCode	Country
1	Alfreds Futterk	Maria Anders	Oberse Str. 57	Berlin	12209	Germany
2	6 Blauer See Del	Hanna Moos	Forsterstr. 57	Mannheim	68306	Germany

Both windows show the status bar at the bottom indicating the time as 7:12 PM and the date as 4/4/2024.

SQL ORDER BY

The screenshot shows the Microsoft Access application interface. The top ribbon bar has tabs for File, Home, Create, External Data, Database Tools, Help, and Query Design. The Query Design tab is selected. The main area displays a query named "Query_Customers" which retrieves all records from the "Customer_Records" table. The SQL code for the query is:

```
SELECT * FROM Customer_Records  
ORDER BY PostalCode;
```

The left pane shows the navigation pane with tables like "Customer_Records" and "Exercise_1", and queries like "Query_Customers" and "Query_Exercise1".

The bottom pane shows the results of the query as a data grid. The columns are CustomerID, CustomerName, ContactName, Address, City, PostalCode, and Country. The data includes entries from various countries such as Mexico, Germany, France, Spain, Canada, UK, and Sweden.

SQL OR

The screenshot shows two views of the Microsoft Access application interface. The top view displays the 'Query Design' ribbon tab, which includes options like Union, Append, Update, Crosstab, Delete, Data Definition, Insert Rows, Insert Columns, Add Tables, Builder, Totals, Parameters, and Table Names. The bottom view displays the 'Results' ribbon tab, which includes View, Run, Select Table, Union, Append, Update, Crosstab, Delete, Data Definition, Insert Rows, Insert Columns, Add Tables, Builder, Totals, Parameters, and Table Names. Both views show a query window titled 'Query_Customers' with the following SQL code:

```
SELECT * FROM Customer_Records  
WHERE Country = 'Germany' OR CustomerName LIKE 'B%';
```

The results pane shows two rows of data from the 'Customer_Records' table:

CustomerID	CustomerName	ContactName	Address	City	PostalCode	Country
1	Alfreds Futterk	Maria Anders	Oberse Str. 57	Berlin	12209	Germany
6	Blauer See Del	Hanna Moos	Forsterstr. 57	Mannheim	68306	Germany

SQL NOT

Customer Records : Database- C:\School Files\Coding\Computer Programming II - 4th Quarter\Database\Customer Records.accdb (Access 2016) - Access

Troy Gian Cadano TG

Query Design

File Home Create External Data Database Tools Help Query Design Tell me what you want to do

View Run Select Make Table Append Update Crosstab Delete Pass-Through Data Definition Add Tables Builder Insert Rows Insert Columns Delete Rows Delete Columns Totals Parameters Table Names Query Setup Show/Hide

All Access Obj... Search... Tables Customer_Records Exercise_1 Queries Query_Customers Query_Exercise1

Query Type: Query_Customers Customer_Records

```
SELECT *
FROM Customer_Records
WHERE NOT CustomerID < 7;
```

SQL NOT Operator and 2 more pages - Personal - Microsoft Edge

Form View Type here to search

File Home Create External Data Database Tools Help Tell me what you want to do

View Paste Copy Format Painter Clipboard

Sort & Filter Advanced Filter Remove Sort Toggle Filter

CustomerID CustomerName ContactName Address City PostalCode Country

CustomerID	CustomerName	ContactName	Address	City	PostalCode	Country
1	Blondel père e Frédérique Cit	Blondel père e Frédérique Cit	24, place Kléber	Strasbourg	67000	France
8	Bólido Comida Martín Somme	Bólido Comida Martín Somme	C/ Araquil, 67	Madrid	28023	Spain
9	Bon app'	Bon app'	12, rue des Bœufs	Marseille	13008	France
10	Bottom-Dollar	Bottom-Dollar	23 Tsawassen E	Tsawassen	T2F 8M4	Canada
11	B's Beverages	Victoria Ashwic	Fauntleroy Circ	London	EC2 5NT	UK
12	Cactus Comida	Patricia Simps	Cerrito 333	Buenos Aires	1010	Argentina
13	Centre commerc	Francisco Chan	Sierras de Gran México D.F.		05022	Mexico
14	Chop-suey Chil	Yang Wang	Hauptstr. 29	Bern	Bern	Switzerland
15	Comércio Mine	Pedro Afonso	Av. dos Lusiada	São Paulo	05432-043	Brazil
*						
0						

Record: 1 of 9 No Filter Search

SQL 7:57 PM 4/4/2024

SQL Null Values

The screenshot shows two instances of Microsoft Access running side-by-side. Both instances have the same database open: "Customer Records : Database- C:\School Files\Coding\Computer Programming II - 4th Quarter\Database\Customer Records.accdb (Access 2016) - Access".

The top instance has the "Query Design" ribbon tab selected. The SQL View window displays the following SQL query:

```
SELECT CustomerName, ContactName, Country
FROM Customer_Records
WHERE Address IS NULL;
```

The bottom instance has the "SQL" ribbon tab selected. The SQL View window displays the same SQL query:

```
CustomerName, ContactName, Country
```

In both windows, the "Customer_Records" table is selected in the "Tables" section of the left pane. The "CustomerName" column is currently selected in the results grid.

SQL UPDATE

Customer Records : Database- C:\School Files\Coding\Computer Programming II - 4th Quarter\Database\Customer Records.accdb (Access 2016) - Access

Troy Gian Cadano TG

Query Design

File Home Create External Data Database Tools Help Query Design Tell me what you want to do

View Run Select Make Table Append Update Crosstab Delete Pass-Through Data Definition Add Tables Builder Insert Rows Insert Columns Delete Rows Delete Columns Totals Parameters Table Names Query Setup Show/Hide

All Access Obj... Search... Tables Customer_Records Exercise_1 Queries Query_Customers Query_Exercise1

Customer Records

```
UPDATE Customer_Records
SET ContactName = 'Alfred Schidm'
WHERE CustomerID = 5;
```

Ready Type here to search 8:23 PM 4/4/2024

Customer Records

File Home Create External Data Database Tools Help Tell me what you want to do

View Cut Copy Paste Format Painter Clipboard Filter Advanced Remove Sort Toggle Filter Sort & Filter

CustomerID CustomerName ContactName Address City PostalCode Country

CustomerID	CustomerName	ContactName	Address	City	PostalCode	Country
1	Alfreds Futterk	Maria Anders	Obere Str. 57	Berlin	12209	Germany
2	Ana Trujillo Em	Ana Trujillo	Avda. de la Cor	México D.F.	05021	Mexico
3	Antonio M	Alfred Schidm	Mataderos 231	Frankfurt	05023	Mexico
4	Around the Ho	Thomas Hardy	120 Hanover Sc	London	WA1 1DP	UK
5	Berglunds sn	Christina Bergl	Berguvvägen 1	Luleå	S-958 22	Sweden
6	Blauer See Del	Hanna Moos	Forsterstr. 57	Mannheim	68306	Germany
7	Blondel père e	Frédérique Cit	24, place Klébe	Strasbourg	67000	France
8	Bólido Comida	Martin Somme	C/ Araquill, 67	Madrid	28023	Spain
9	Bon app'	Bon app'	12, rue des Bo	Marseille	13008	France
10	Bottom-Dollar	Bottom-Dollar	23 Tsawassen E	Tsawassen	T2F 8M4	Canada
11	B's Beverages	Victoria Ashw	Fauntleroy C	London	EC2 SNT	UK
12	Cactus Comida	Patricia Simps	Cerrito 333	Buenos Aires	1010	Argentina
13	Centro comer	Francisco Chan	Sierras de Gran	México D.F.	05022	Mexico
14	Chop-suey Chi	Yang Wang	Hauptstr. 29	Bern		Switzerland
15	Comercio Mine	Pedro Afonso	Av. dos Lusíada	São Paulo	05432-043	Brazil
*						
0						

Record: 1 of 15 No Filter Search

Ready Type here to search 8:24 PM 4/4/2024

SQL DELETE

Customer Records : Database- C:\School Files\Coding\Computer Programming II - 4th Quarter\Database\Customer Records.accdb (Access 2016) - Access

Troy Gian Cadano TG

File Home Create External Data Database Tools Help Query Design

View Paste Copy Format Painter Clipboard

Filter Ascending Descending Advanced Remove Sort Toggle Filter Sort & Filter

New Save Totals Refresh All More

Find Replace Go To Select

Records

All Access Obj... Customer_Records

Tables Customer_Records Exercise_1

Queries

Query_Customers Query_Exercise1

Text Formatting

SQL

DELETE FROM Customer_Records WHERE CustomerName = 'Alfreds Futterkiste';

Ready Type here to search 8:29 PM 4/4/2024

File Home Create External Data Database Tools Help Table Fields Table

View Paste Copy Format Painter Clipboard

Filter Ascending Descending Advanced Remove Sort Toggle Filter Sort & Filter

New Save Totals Refresh All More

Find Replace Go To Select

Records

Calibri (Detail) 11

Text Formatting

All Access Obj... Customer_Records

Tables Customer_Records Exercise_1

Queries

Query_Customers Query_Exercise1

Datasheet View

CustomerID	CustomerName	ContactName	Address	City	PostalCode	Country	Click to Add
2	Ana Trujillo Em Ana Trujillo	Avda. de la Cor	México D.F.	05021	Mexico		
3	Antonio Mora	Antonio Mora	Mataderos 231	México D.F.	05023	Mexico	
4	Around the Ho	Thomas Hardy	120 Hanover Sc	London	WA1 1DP	UK	
5	Berglunds sn	Christina Bergl	Berguvsvägen 1	Luleå	S-958 22	Sweden	
6	Blauer See Del	Hanna Moos	Försterstr. 57	Mannheim	68306	Germany	
7	Blondel père e	Frédérique Citz	24, place Klébe	Strasbourg	67000	France	
8	Bólido Comida	Martin Somme	C/ Araquil, 67	Madrid	28023	Spain	
9	Bon app'	Bon app'	12, rue des Bo	Marseille	13008	France	
10	Bottom-Dollar	Bottom-Dollar	23 Tsawassen E	Tsawassen	T2F 8M4	Canada	
11	B's Beverages	Victoria Ashw	Fauntleroy Circ	London	EC2 5NT	UK	
12	Cactus Comida	Patricia Simps	Cerrito 333	Buenos Aires	1010	Argentina	
13	Centro comerc	Francisco Chan	Sierras de Gran	México D.F.	05022	Mexico	
14	Chop-suey Chi	Yang Wang	Hauptstr. 29	Bern	Bern	Switzerland	
15	Comércio Mine	Pedro Afonso	Av. dos Lusiada	São Paulo	05432-043	Brazil	

Record: 14 16 of 16 No Filter Search

8:29 PM 4/4/2024

SQL Select Top

Screenshot of Microsoft Access 2016 showing the Query Design ribbon tab selected. The query "Query_Customers" is displayed in the main pane, showing the SQL command:

```
SELECT TOP 50 PERCENT * FROM Customer_Records;
```

The left pane shows the "All Access Obj..." list with "Customer_Records" and "Exercise_1" under Tables, and "Query_Customers" under Queries.

Below the ribbon, the Home tab is selected, showing the Home ribbon bar with various tools like View, Cut, Copy, Paste, Filter, Sort & Filter, Refresh, Save, Totals, Spelling, Find, Go To, Select, and Text Formatting.

The main data grid displays the results of the query, showing 7 records from the Customer_Records table:

CustomerID	CustomerName	ContactName	Address	City	PostalCode	Country
2	Ana Trujillo	Em. Ana Trujillo	Avda. de la Cor.	México D.F.	05021	Mexico
3	Antonio Morer	Antonio Morer	Mataderos 231	México D.F.	05023	Mexico
4	Around the Horn	Thomas Hardy	120 Hanover St	London	WA1 1DP	UK
5	Berglunds snab	Christina Bergl	Berguvsvägen 11	Luleå	S-958 22	Sweden
6	Blauer See Del	Hanna Moos	Forsterstr. 57	Mannheim	68306	Germany
7	Blondel père et F	Frédérique Cite	24, place Kléber	Strasbourg	67000	France
8	Bólido Comida	Martin Sommer	C/ Araquil, 67	Madrid	28023	Spain

Record: 1 of 7

SQL Aggregate Functions;

SQL MINimum & MAXimum

The screenshot shows two instances of Microsoft Access running side-by-side. Both instances have the same database open: "Customer Records : Database- C:\School Files\Coding\Computer Programming II - 4th Quarter\Database\Customer Records.accdb (Access 2016) - Access".

Top Window (Query Design View):

- Toolbar:** File, Home, Create, External Data, Database Tools, Help, **Query Design**.
- Query Type:** Select.
- Code View:** SELECT MIN(PostalCode) FROM Customer_Records;
- Results View:** Shows one record with the value 05021.

Bottom Window (Datasheet View):

- Toolbar:** File, Home, Create, External Data, Database Tools, Help, **Home**.
- Text Formatting:** Calibri (Detail), 11pt.
- Table:** One row labeled "Expr1000" containing the value "05021".
- Record Counter:** Record: 1 of 1.

SQL COUNT

The screenshot shows two Microsoft Access windows side-by-side. Both windows have the title "Customer Records : Database- C:\School Files\Coding\Computer Programming II - 4th Quarter\Database\Customer Records.accdb (Access 2016) - Access".

The top window is in "Query Design" mode. The ribbon tabs are File, Home, Create, External Data, Database Tools, Help, and Query Design. The "Query Type" dropdown is set to "Select". The SQL view contains the following code:

```
SELECT COUNT(Country)
FROM Customer_Records;
```

The bottom window is in "Table View" mode. The ribbon tabs are File, Home, Create, External Data, Database Tools, Help, and Home. The "Text Formatting" group is visible on the ribbon. The table has one row with the following data:

Expr1000	14
14	

The status bar at the bottom of both windows shows the date and time: 4/4/2024 8:42 PM.

SQL SUM

The screenshot shows two instances of Microsoft Access running side-by-side. Both instances have the same database open: "Customer Records : Database- C:\School Files\Coding\Computer Programming II - 4th Quarter\Database\Customer Records.accdb (Access 2016) - Access".

The top instance has the "Query Design" ribbon tab selected. The main area displays the SQL query:

```
SELECT SUM(CustomerID)
FROM Customer_Records;
```

The bottom instance has the "SQL" ribbon tab selected. The main area displays the results of the query, showing one record:

Expr1000
119

Both windows show the status bar at the bottom indicating the time as 8:48 PM and the date as 4/4/2024.

SQL AVE

The screenshot shows two instances of Microsoft Access running side-by-side. Both instances have the title bar "Customer Records : Database- C:\School Files\Coding\Computer Programming II - 4th Quarter\Database\Customer Records.accdb (Access 2016) - Access".

The top instance is in "Query Design" mode. The ribbon tabs are "File", "Home", "Create", "External Data", "Database Tools", "Help", and "Query Design". The "Query Type" dropdown is set to "Select". The SQL query in the main pane is:

```
SELECT AVG(CustomerID)  
FROM Customer_Records;
```

The bottom instance is in "Datasheet" mode. The ribbon tabs are "File", "Home", "Create", "External Data", "Database Tools", "Help", and "Home". The "Text Formatting" group is visible on the ribbon. The results of the query are displayed in a single row:

Expr1000
3.5

Both windows show the status bar at the bottom with the time "8:48 PM" and date "4/4/2024".

SQL LIKE

The screenshot shows two instances of Microsoft Access running side-by-side. Both windows have the title "Customer Records : Database- C:\School Files\Coding\Computer Programming II - 4th Quarter\Database\Customer Records.accdb (Access 2016) - Access".

The top window displays the SQL query:

```
SELECT * FROM Customer_Records  
WHERE CustomerName LIKE '%A%' OR Country LIKE 'G%';
```

The bottom window displays the resulting data from the query:

CustomerID	CustomerName	ContactName	Address	City	PostalCode	Country
*	A	B	C	D	E	F

Both windows show the same system tray at the bottom, indicating the date as 4/4/2024 and the time as 8:54 PM.

SQL Wildcards

The screenshot shows two views of the Microsoft Access application interface. The top view displays the 'Query Design' ribbon tab, which is active. The main area shows a SQL query:

```
SELECT * FROM Customer_Records  
WHERE City LIKE '_ondon';
```

The bottom view displays the 'Results' ribbon tab, which is active. It shows the results of the executed query as a grid:

CustomerID	CustomerName	ContactName	Address	City	PostalCode	Country
*						

Both views include a left sidebar titled 'All Access Obj...' listing 'Tables' (Customer_Records, Exercise_1) and 'Queries' (Query_Customers, Query_Exercise1). The system tray at the bottom indicates the date as 4/4/2024 and the time as 8:56 PM.

SQL IN

The screenshot shows two instances of Microsoft Access running side-by-side.

Top Window (Query Design View):

- Toolbar:** File, Home, Create, External Data, Database Tools, Help, **Query Design**.
- Query Type:** Union, Pass-Through, Data Definition.
- Buttons:** Insert Rows, Insert Columns, Delete Rows, Delete Columns, Add Tables, Builder, Query Setup, Show/Hide.
- Text Area:** SELECT * FROM Customer_Records WHERE Country IN ('Germany', 'Italy', 'Mexico');

Bottom Window (Datasheet View):

- Toolbar:** File, Home, Create, External Data, Database Tools, Help, Tell me what you want to do.
- Views:** View, Paste, Copy, Format Painter, Clipboard.
- Sort & Filter:** Ascending, Descending, Advanced, Remove Sort, Toggle Filter.
- Records:** New, Save, Totals, Spelling, Find, Go To, Select.
- Text Formatting:** Calibri (Detail), 11pt, Bold, Italic, Underline, etc.

Datasheet View:

CustomerID	CustomerName	ContactName	Address	City	PostalCode	Country
1	Blauer See Del	Hanna Moos	Forsterstr. 57	Mannheim	68306	Germany
*	0					

Record: 1 of 1

SQL BETWEEN

Customer Records : Database- C:\School Files\Coding\Computer Programming II - 4th Quarter\Database\Customer Records.accdb (Access 2016) - Access

Troy Gian Cadano TG

Query Design

File Home Create External Data Database Tools Help Query Design Tell me what you want to do

View Run Select Make Table Append Update Crosstab Delete Pass-Through Data Definition Insert Rows Insert Columns Union Add Tables Delete Rows Delete Columns Totals Parameters Table Names Builder Return: Show/Hide

Query Type: Query Customers Customer Records

```
SELECT * FROM Customer_Records
WHERE CustomerID BETWEEN 3 AND 12;
```

All Access Obj... Search... Tables Customer_Records Exercise_1 Queries Query_Customers Query_Exercise1

Form View

9:15 PM 4/4/2024

Customer Records : Database- C:\School Files\Coding\Computer Programming II - 4th Quarter\Database\Customer Records.accdb (Access 2016) - Access

Troy Gian Cadano TG

Home

File Home Create External Data Database Tools Help Tell me what you want to do

View Cut Copy Paste Format Painter Clipboard Sort & Filter Advanced Filter Refresh Save Spelling All Delete More Records Find Go To Select Text Formatting

Calibri (Detail) 11

CustomerID CustomerName ContactName Address City PostalCode Country

CustomerID	CustomerName	ContactName	Address	City	PostalCode	Country
3	Antonio Moro	Antonio Moro	Mataderos 231	México D.F.	05023	Mexico
4	Around the Horn	Thomas Hardy	120 Hanover St	London	WA1 1DP	UK
5	Berglunds snabbköp	Christina Bergl	Berguvsvägen 12	Luleå	S-958 22	Sweden
6	Blauer See Delí	Hanna Moos	Forsterstr. 57	Mannheim	68306	Germany
7	Blondel père et fils	Frédérique Cuvier	24, place Kléber	Strasbourg	67000	France
8	Bólido Comida	Martín Sommer	C/ Araquil, 67	Madrid	28023	Spain
9	Bon app'	Bon app'	12, rue des Bouffes	Marseille	13008	France
10	Bottom-Dollar Móveis e Bem-Vindos	Victoria Ashworth	23 Tsawassen	London	T2F 8M4	Canada
11	B's Beverages	Victoria Ashworth	Fauntleroy	Circus	EC2 5NT	UK
12	Cactus Comida	Patricia Simms	Cerrito 333	Buenos Aires	1010	Argentina
*						
0						

Record: 1 of 10 No Filter Search

9:15 PM 4/4/2024

SQL Aliases

The screenshot shows two Microsoft Access windows side-by-side.

Left Window (Query Design):

- **Title Bar:** Customer Records : Database- C:\School Files\Coding\Computer Programming II - 4th Quarter\Database\Customer Records.accdb (Access 2016) - Access
- **Toolbar:** File, Home, Create, External Data, Database Tools, Help, **Query Design**, Tell me what you want to do
- **Main Area:** Shows the SQL query: `SELECT CustomerID as ID FROM Customer_Records;`
- **Status Bar:** Form View, SQL, 9:23 PM, 4/4/2024

Right Window (Datasheet View):

- **Title Bar:** Customer Records : Database- C:\School Files\Coding\Computer Programming II - 4th Quarter\Database\Customer Records.accdb (Access 2016) - Access
- **Toolbar:** File, Home, Create, External Data, Database Tools, Help, Tell me what you want to do
- **Main Area:** Datasheet view showing a table with one column labeled "ID". The data is:

ID
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
*
0

- **Status Bar:** Record: 14 of 14, No Filter, Search, SQL, 9:23 PM, 4/4/2024

SQL GROUP BY

The screenshot shows two instances of Microsoft Access running side-by-side. Both instances have the same database open: "Customer Records : Database- C:\School Files\Coding\Computer Programming II - 4th Quarter\Database\Customer Records.accdb (Access 2016) - Access".

The top window displays the "Query Design" ribbon tab. In the center pane, a query named "Query_Customers" is shown with the following SQL code:

```
SELECT COUNT(CustomerID), Country
FROM Customer_Records
GROUP BY Country;
```

The bottom window displays the "Home" ribbon tab. The results of the query are shown in a grid:

	Country
1	Argentina
1	Canada
2	France
3	Mexico
1	Spain
1	Sweden
1	Switzerland
1	UK
1	Brazil
1	Germany
1	UK

The status bar at the bottom of both windows indicates the time as 9:33 PM and the date as 4/4/2024.

SQL HAVING

Customer Records : Database- C:\School Files\Coding\Computer Programming II - 4th Quarter\Database\Customer Records.accdb (Access 2016) - Access

Troy Gian Cadano TG

File Home Create External Data Database Tools Help Query Design Tell me what you want to do

View Run Select Make Table Append Update Crosstab Delete Pass-Through Data Definition Add Tables Insert Rows Insert Columns Delete Rows Delete Columns Builder Totals Parameters Table Names

Query Type Show/Hide

All Access Obj... Search... Tables Customer_Records Exercise_1 Queries Query_Customers Query_Exercise1

Query Customers x Customer_Records x

```
SELECT COUNT(CustomerID), Country
FROM Customer_Records
GROUP BY Country
HAVING COUNT(CustomerID) > 2;
```

Form View SQL 7:47 PM 4/5/2024

Customer Records : Database- C:\School Files\Coding\Computer Programming II - 4th Quarter\Database\Customer Records.accdb (Access 2016) - Access

Troy Gian Cadano TG

File Home Create External Data Database Tools Help Tell me what you want to do

View Cut Copy Paste Format Painter Clipboard Sort & Filter Filter Advanced Remove Sort Toggle Filter New Refresh Save Totals Spelling All More Records Find Go To Select Text Formatting

All Access Obj... Search... Tables Customer_Records Exercise_1 Queries Query_Customers Query_Exercise1

Query Customers x Customer_Records x

Expr1000	Country
1	Mexico

Datasheet View Record: 1 of 1 No Filter Search SQL 7:47 PM 4/5/2024

SQL

The screenshot shows two windows of Microsoft Access side-by-side. The top window is titled "Query Design" and displays the SQL query:

```
SELECT CustomerName  
FROM Customers  
WHERE CustomerID = ALL (SELECT ProductID FROM Product WHERE Price = 15);
```

The bottom window is titled "Home" and shows the results of the query in a grid format. The grid has columns for CustomerName, Product, and Query_Customers. The first row is highlighted in red, showing "Ana Trujillo Emp".

CustomerName	Product	Query_Customers
Ana Trujillo Emp.		
Antonio Mora		
Around the Ho		
Berglunds snak		
Blauer See Del		
Blondel père e		
Bólido Comida		
Bon app		
Bottom-Dollar		
B's Beverages		
Cactus Comida		
Centro comerc		
Chop-suey Chi		
Comércio Mine		
Alfreds Futterk		

SQL INSERT INTO

