However, to be compliant with the ANSI standard, they all support at least the major commands (such as SELECT, UPDATE, DELETE, INSERT, WHERE) in a similar manner.

**1-Look at the "Customers" table**

* *Select \* from customer;*

*12 Cactus Comidas para llevar Patricio Simpson Cerrito 333 Buenos Aires 1010 Argentina*

*54 Ocىano Atlفntico Ltda. Yvonne Moncada Ing. Gustavo Moncada 8585 Piso 20-A Buenos Aires 1010 Argentina*

*64 Rancho grande Sergio Gutiىrrez Av. del Libertador 900 Buenos Aires 1010 Argentina*

*20 Ernst Handel Roland Mendel Kirchgasse 6 Graz 8010 Austria*

*59 Piccolo und mehr Georg Pipps Geislweg 14 Salzburg 5020 Austria*

Every table is broken up into smaller entities called fields.

A field is a column(vertical)

A record, also called a row (Horizontal)

Semicolon is used for separate each SQL statement.

Some of The Most Important SQL Commands

* SELECT - extracts data from a database
* UPDATE - updates data in a database
* DELETE - deletes data from a database
* INSERT INTO - inserts new data into a database
* CREATE DATABASE - creates a new database
* ALTER DATABASE - modifies a database
* CREATE TABLE - creates a new table
* ALTER TABLE - modifies a table
* DROP TABLE - deletes a table
* CREATE INDEX - creates an index (search key)
* DROP INDEX - deletes an index

**2-The field names of the table you want to select data from.**

* *select customerid, customername*

*from customer;*

*CustomerID CustomerName*

*2 Ana Trujillo Emparedados y helados*

*3 Antonio Moreno Taquerٍa*

*5 Berglunds snabbk�p*

*6 Blauer See Delikatessen*

*7 Blondel pوre et fils*

*8 B�lido Comidas preparadas*

*9 Bon app'*

**3-** **The WHERE clause is used to filter records.**

***It is used to extract only those records that fulfill a specified condition****.*

**The WHERE clause is not only used in SELECT statements, it is also used in UPDATE, DELETE, etc.!**

### **WHERE Syntax**

The following SQL statement selects all the customers from the country "Mexico", in the "Customers" table:

* SELECT \* FROM Customers  
  WHERE Country='Mexico';

***2 Ana Trujillo Emparedados y helados Ana Trujillo Avda. de la Constituci�n 2222 Mىxico D.F. 5021 Mexico***

***3 Antonio Moreno Taquerٍa Antonio Moreno Mataderos 2312 Mىxico D.F. 5023 Mexico***

***13 Centro comercial Moctezuma Francisco Chang Sierras de Granada 9993 Mىxico D.F. 5022 Mexico***

***58 Pericles Comidas clفsicas Guillermo Fernفndez Calle Dr. Jorge Cash 321 Mىxico D.F. 5033 Mexico***

***80 Tortuga Restaurante Miguel Angel Paolino Avda. Azteca 123 Mىxico D.F. 5033 Mexico***

## *4-* The SQL AND, OR and NOT Operators

The WHERE clause can be combined with AND, OR, and NOT operators.

The AND and OR operators are used to filter records based on more than one condition:

* The AND operator displays a record if all the conditions separated by AND are TRUE.
* The OR operator displays a record if any of the conditions separated by OR is TRUE.

The NOT operator displays a record if the condition(s) is NOT TRUE.

## AND Example

The following SQL statement selects all fields from "Customers" where country is "Germany" AND city is "Berlin":

* SELECT \* FROM Customer  
  WHERE Country ='Germany' AND City ='Berlin';

## OR Example

## *The following SQL statement selects all fields from "Customers" where city is "Berlin" OR "München":*

## *SELECT \* FROM Customer WHERE City='Berlin' OR City='München';*

## NOT Example

## *The following SQL statement selects all fields from "Customers" where country is NOT "Germany":*

## *SELECT \* FROM CUSTOMER*

## *WHERE NOT CITY=’GERMANY’;*

## Combining AND, OR and NOT

## *The following SQL statement selects all fields from "Customers" where country is "Germany" AND city must be "Berlin" OR "München" (use parenthesis to form complex expressions):*

## *Select \* from customer*

## *Where Country=’Germany’ AND (City=’mannhiem’ or City=’Aachen’);*

## *17 Drachenblut Delikatessend Sven Ottlieb Walserweg 21 Aachen 52066 Germany*

## 5-The SQL ORDER BY Keyword

The ORDER BY keyword is used to sort the result-set in ascending or descending order.

The ORDER BY keyword sorts the records in ascending order by default. To sort the records in descending order, use the DESC keyword.

### **ORDER BY Syntax**

The following SQL statement selects all customers from the "Customers" table, sorted by the "Country" column

* *Select \* from customer*

*Order by country;*

The following SQL statement selects all customers from the "Customers" table, sorted DESCENDING by the "Country" column:

* Select \* from customer

Order by Country Desc;

The following SQL statement selects all customers from the "Customers" table, sorted by the "Country" and the "CustomerName" column. This means that it orders by Country, but if some rows have the same Country, it orders them by CustomerName:

* Select \* from customer

Order by country, customername;

The following SQL statement selects all customers from the "Customers" table, sorted ascending by the "Country" and descending by the "CustomerName" column:

Select \* from customer

Order by Country ASC, customername DESC;

## The SQL INSERT INTO Statement

## *The INSERT INTO statement is used to insert new records in a table*.

### **INSERT INTO Syntax**

## It is possible to write the INSERT INTO statement in two ways:

## *1. Specify both the column names and the values to be inserted:*

INSERT INTO table\_name (column1, column2, column3, ...)  
VALUES (value1, value2, value3, ...);

2. If you are adding values for all the columns of the table, you do not need to specify the column names in the SQL query. However, make sure the order of the values is in the same order as the columns in the table. Here, the INSERT INTO syntax would be as follows:

INSERT INTO table\_name  
VALUES (value1, value2, value3, ...);

## INSERT INTO Example

It is also possible to only insert data in specific columns.

* INSERT INTO Customers (CustomerName, ContactName, Address, City, PostalCode, Country)  
  VALUES ('Cardinal', 'Tom B. Erichsen', 'Skagen

21', 'Stavanger', '4006', 'Norway');

## Insert Data Only in Specified Columns

It is also possible to only insert data in specific columns.

The following SQL statement will insert a new record, but only insert data in the "CustomerName", "City", and "Country" columns (CustomerID will be updated automatically):

* *INSERT INTO Customers (CustomerName, City, Country)  
  VALUES ('Cardinal', 'Stavanger', 'Norway');*