STRUCTURED QUERY LANGUAGE

with

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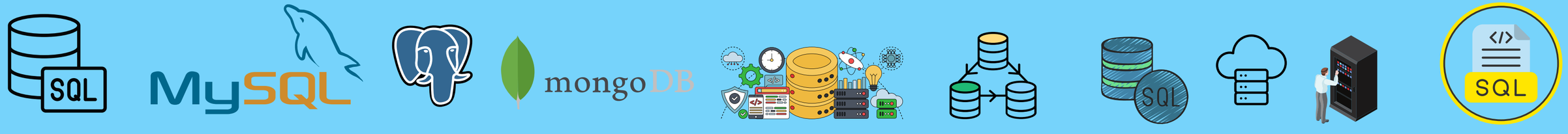
1. execute queries against a database
2. retrieve data from a database
3. insert records in a database
4. update records in a database
5. delete records from a database
6. create new databases
7. create new tables in a database
8. create stored procedures in a database
9. create views in a database
10. set permissions on tables, procedures, and views



RDBMS

Relational Database Management System.

RDBMS is the basis for SQL, and for all modern database systems such as MS SQL Server, IBM DB2, Oracle, MySQL, and Microsoft Access.

The data in RDBMS is stored in database objects called tables. A table is consists of columns and rows.

Every table is broken up into smaller entities called fields. The fields in the Customers table consist of CustomerID, CustomerName, ContactName, Address, City, PostalCode and Country. A field is a column in a table that is designed to maintain specific information about every record in the table.

A record, also called a row, is each individual entry that exists in a table. For example, there are 99 records in the above Customers table. A record is a horizontal entity in a table.

Most Important keys

1. SELECT - extracts data from a database
2. UPDATE - updates data in a database
3. DELETE - deletes data from a database
4. INSERT INTO - inserts new data into a database
5. CREATE DATABASE - creates a new database
6. ALTER DATABASE - modifies a database
7. CREATE TABLE - creates a new table
8. ALTER TABLE - modifies a table
9. DROP TABLE - deletes a table
10. CREATE INDEX - creates an index (search key)
11. DROP INDEX - deletes an index

Need to keep in mind

SQL keywords are NOT case sensitive:
select is the same as SELECT

SELECT

The SELECT statement is used to select data from a database.The data returned is stored in a result table, called the result-set.

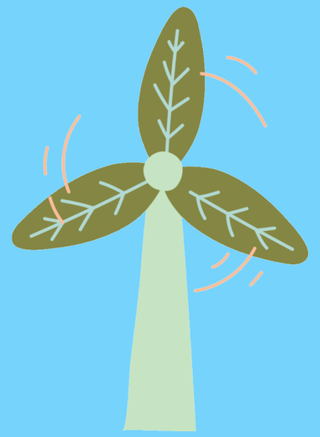
```
SELECT column1, column2, ...
FROM table_name;
```

Here, column1, column2, ... are the field names of the table you want to select data from.
If you want to select all the fields available in the table, use the following syntax:

SELECT Column Example

The following SQL statement selects the "CustomerName" and "City" columns from the "Customers" table:

```
SELECT CustomerName, City FROM Customers;
```



SELECT * EXAMPLE

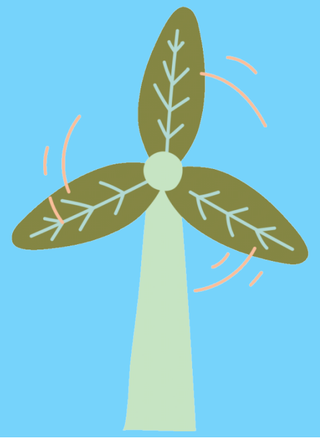
The following SQL statement selects all the columns from the "Customers" table:

```
SELECT * FROM Customers;
```

SQL SELECT DISTINCT Statement

The SELECT DISTINCT statement is used to return only distinct (different) values. Inside a table, a column often contains many duplicate values; and sometimes you only want to list the different (distinct) values.

```
SELECT DISTINCT column1, column2, ...
FROM table_name;
```



SELECT EXAMPLE WITHOUT DISTINCT

The following SQL statement selects all (including the duplicates) values from the "Country" column in the "Customers" table:

Example

```
SELECT Country FROM Customers;
```

SELECT DISTINCT Examples

The following SQL statement selects only the DISTINCT values from the "Country" column in the "Customers" table:

```
SELECT DISTINCT Country FROM Customers;
```

The following SQL statement lists the number of different (distinct) customer countries:

```
SELECT COUNT(DISTINCT Country) FROM Customers;
```
(will not work in Firefox!).Here is the workaround for MS Access:

```
SELECT Count(*) AS DistinctCountries
FROM (SELECT DISTINCT Country FROM Customers);
```

to be continued.....