Terms

SQL: (Structured Query Language) a programming language designed to manage data stored in relational databases

Relational Database: A database that organizes information into one or more tables

Table: A collection of data organized into rows and columns

Statement: Text that the database recognizes as a valid command and always end in a semicolon

Clause: Perform specific tasks in SQL and conventionally written in capital letters

Parameter: A list of columns, data types, or values that are passed to a clause as an argument

SQLite: A database engine that allows users to interact with a relational database

Aggregates: Calculations performed on multiple rows of a table

Data Types

INTEGER: A positive or negative whole number

TEXT: A text string

DATE: The date formatted as YYYY/MM/DD

REAL: A decimal value

VALUES: A clause that indicates the data being inserted

NULL: Unknown value

Common Commands

CREATE TABLE: Creates a new table

INSERT INTO: Inserts a new row into a table

SELECT: A clause that indicates that the statement is a query and is used to fetch data from a database

* Always goes before FROM (Syntax: SELECT something FROM table)

ALTER TABLE: A clause that lets you make specified changes to a table and can be used to add a column to a table

UPDATE: Edits a row in a table

DELETE FROM: Lets you delete rows from a table

Constraints (add information about how a column can be used)

PRIMARY KEY: Can be used to uniquely identify the row

UNIQUE: Columns that have a different value for each row

NOT NULL: Columns that must have a value

DEFAULT: Columns that take an additional value

Keywords/Operators

AS: Allows you to rename a column or table using an alias

DISTINCT: Used to return unique values in the output and filters out all duplicate values in the specified columns

WHERE: Filters the result set to only include rows where the following condition is true

LIKE: Used to compare similar values/search for a pattern

IS NULL/IS NOT NULL: Used to test for NULL values

BETWEEN: Used in WHERE clause to filter results within a certain range

AND: Used to combine multiple conditions; only displays row if *all* conditions are true

OR: Used to combine multiple conditions; only displays row if *any* condition is true

ORDER BY: Used to sort the results alphabetically or numerically

* DESC: Used in ORDER BY to sort the results in descending order (high-low or Z-A)
* ASC: Used in ORDER BY to sort the results in ascending order (low-high or A-Z)

LIMIT: A clause that lets you specify the maximum number of rows the result set will have

CASE: Allows you to create different outputs (SQL way of handling if-then logic)

* WHEN: Tests a condition
* THEN: Gives string if condition is true
* ELSE: Give string if all conditions are false
* END: Ends the case statement

GROUP BY: A clause used with aggregate functions and used with SELECT to arrange identical data into groups

* After any WHERE statements but before ORDER BY or LIMIT

HAVING: Used to limit the results of a query based on an aggregate property

Aggregate Functions

COUNT(): Counts the number of rows

SUM(): Returns the sum of values in a column

MAX()/MIN(): The largest/smallest value

AVG(): The average of the values in a column

ROUND(): Rounds the values in the column

Wildcard Symbols

\* : Allows you to select every column in a table without having to name each one individually

% : Matches 0 or more missing letters in a pattern and can be used with the LIKE keyword