The Importance of Data and SQL Basics

Introduction to SQL

Print cheatsheet

Create Table

The `CREATE TABLE` statement creates a new table in a database. It allows one to specify the name of the table and the name of each column in the table.

```
CREATE TABLE table_name (
  column1 datatype,
  column2 datatype,
  column3 datatype
);
```

Insert Into

The `INSERT INTO` statement is used to add a new record (row) to a table.

It has two forms as shown:

- Insert values based on the order of the columns.
- Define the columns to insert values into.

```
-- Insert into columns in order:
INSERT INTO table_name
VALUES (value1, value2);

-- Insert into columns by name:
INSERT INTO table_name (column1, column2)
VALUES (value1, value2);
```

`UPDATE` Statement

The `UPDATE` statement is used to edit records (rows) in a table. It usually includes a `SET` clause that indicates the column to edit and a `WHERE` clause for specifying which record(s) should be updated.

```
UPDATE table_name
SET column1 = value1, column2 = value2
WHERE some_column = some_value;
```

`ALTER TABLE` Statement

The `ALTER TABLE` statement is used to modify the columns of an existing table. When combined with the `ADD COLUMN` clause, it is used to add a new column to a table.

```
-- Syntax:
ALTER TABLE table_name
ADD column_name datatype;

-- Example:
ALTER TABLE employees
ADD first_name TEXT;
```

`DELETE` Statement

The `DELETE` statement is used to delete records (rows) in a table. This statement does not delete the whole table.

Inside, the `WHERE` clause specifies which record or records that should be deleted. If the `WHERE` clause is omitted, all records will be deleted.

```
DELETE FROM table_name
WHERE some_column = some_value;
```

Column Constraints

Column constraints are the rules applied to the values of individual columns:

- `PRIMARY KEY` constraint can be used to uniquely identify the row.
- `UNIQUE` columns have a different value for every row.
- `NOT NULL` columns must have a value.
- `DEFAULT` assigns a default value for the column when no value is specified.

There can be only one `PRIMARY KEY` column per table and multiple `UNIQUE` columns.

```
CREATE TABLE student (
  id INTEGER PRIMARY KEY,
  name TEXT UNIQUE,
  grade INTEGER NOT NULL,
  age INTEGER DEFAULT 10
);
```