Using PostgreSQL: Takeaways

Syntax

- Connecting to a PostgreSQL database called "postgres" with a user called "postgres":

```
import psycopg2

conn = psycopg2.connect("dbname=postgres user=postgres")
```

- Initializing a Cursor object:

```
conn.cursor()
```

- Closing the database connection:

```
conn.close()
```

- Creating a table:

```
CREATE TABLE tableName(
   column1 dataType1 PRIMARY KEY,
   column2 dataType2,
   column3 dataType3,
   ...
   );
```

- Executing a query:

```
cur.execute("SELECT * FROM notes;")
```

- Applying the changes to the database:

```
conn.commit()
```

- Removing a SQL transaction:

```
conn.rollback()
```

- Activating autocommit:

```
conn.autocommit = True
```

- Fetching one result:

```
cur.fetchone()
```

- Fetching all rows in the table:

```
cur.fetchall()
```

- Inserting rows into a table:

```
INSERT INTO tableName

VALUES (value1, value2, ...);
```

- Specifying an owner when creating a database:

```
CREATE DATABASE income OWNER dq;
```

- Removing a database:

```
DROP DATABASE income;
```

Concepts

- SQLite doesn't allow for restricting access to a database.
- PostgreSQL is the most commonly used database engine. It is powerful and open source (free to download and use).
- PostgreSQL allows you to create multiple databases.
- PostgreSQL consists of a server and clients.
    - A server is a program that manages databases and handles queries.
    - Clients communicate back and forth to the server. Multiple clients can communicate with the server at the same time.
- The most common Python client for PostgreSQL is called psycopg2`.
- PostgreSQL uses SQL transactions to prevent changes made in the database if any of the transactions fail.

Resources

- PostgreSQL
- Why Use PostgreSQL