

Analytics Jumpstart

Working with sqlite

Nashville Software School

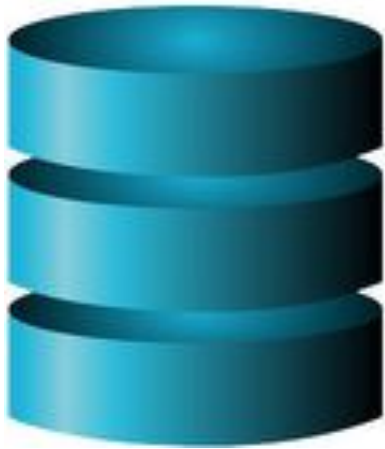


For today

- **Using a SQLite database in python**
 - **create a connection**
 - **create a cursor**
 - **execute SQL statement**
 - **fetchall()**



SQLite is an embedded, file-based relational database management system (RDBMS).



load the sqlite3 library

```
import sqlite3 as sql
```

load the database

```
db = "./data/weather.db"
```

create a connection, declare a cursor, and execute a select statement

```
con = sql.connect(db)
```

```
mycursor = con.cursor()
```

```
mycursor.execute("SELECT name FROM sqlite_master WHERE type='table' ORDER BY  
name;")
```

retrieve the data stored in the cursor

```
tables = mycursor.fetchall()
```



The interactions with the database are done using a **query**, where you select data based on different criteria.

SELECT name	—> Which value you want returned
FROM sqlite_master	—> Where to look for it
WHERE type='table'	—> A criteria to filter the result
ORDER BY name;	—> How you want the result formatted

Many other keywords to help with creating the perfect query:

<https://www.codecademy.com/articles/sql-commands>

You can write a function like this one to execute a query

```
def get_query(select, db=db):
```

```
    """Executes a query and returns results and column/field names."""
```

```
    with sql.connect(db) as conn:
```

```
        c = conn.cursor()
```

← declare a cursor

```
        c.execute(select)
```

← execute a query

```
        col_names = [str(name[0]).lower() for name in c.description]
```

```
    return c.fetchall(), col_names
```

← return the results of the query
along with the column names

← grab column names

The results can be used to
construct a df; **fetchall()** gets
the **data** and **col_names** gets
the **columns** for the df



But...pandas makes loading the results of a query to a DataFrame easier

```
df = pd.read_sql_query("SELECT * from my_table;", conn)
```

Loads data to a dataframe

Using the specified query

And the specified connection



Questions?

