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Unit 2

# Working with Databases

Estimated Time: 17-19 hours

In this unit you'll store, update, and retrieve data in a PostgreSQL database. PostgreSQL (or simply Postgres) is a relational database. This means that data is represented by tables of columns and rows, similar to a spreadsheet. In order to talk to a Postgres database we use a language called [SQL](#) (structured query language). In the first lesson you will build an application to store snippets of code and text which you can later recall. In the process you'll write SQL statements and run them from the command line, and then run them from within Python itself.

In the second lesson you'll practice interacting with a Postgres database using an ORM (object relational mapper) called SQLAlchemy. With SQLAlchemy, rather than writing raw SQL statements, you write Python classes to represent the tables, and create instances of the classes to represent the rows. These are then automatically transformed into SQL statements and executed. Along the way you'll be building the database layer for a simple auction site which will have surprising parallels to one of your unit 1 challenges.

## Goals

- Master basic SQL commands

- Use Python to interact with a PostgreSQL database
- Learn about ORMs and use SQLAlchemy to model problems and persist your data

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