Exercise 1.7: Finalizing Your Python Program

Learning Goals

- Interact with a database using an object-relational mapper
- Build your final command-line Recipe application

Reflection Questions

- What is an Object Relational Mapper and what are the advantages of using one?

An Object-Relational Mapper (ORM) is a tool that lets developers interact with a relational database using object-oriented programming languages, mapping database tables to classes and rows to objects.

It simplifies database operations by allowing developers to work with data as objects rather than writing manual SQL queries. ORMs reduce boilerplate code by automatically generating SQL for common tasks like creating, reading, updating, and deleting records. This approach enhances maintainability since changes to the database schema can be easily reflected in the code. Additionally, ORMs often support multiple databases, making it easier to switch between different database systems.

- By this point, you've finished creating your Recipe app. How did it go? What's something in the app that you did well with? If you were to start over, what's something about your app that you would change or improve?

Learning python in a short time is tough. With this achievement I got a better understanding of inheritance and polymorphism, interaction among methods and interaction between python and relational databases. Still don't feel this is enough to dive into the professional world.

What I think is that it is a good start in the learning journey.

- Imagine you're at a job interview. You're asked what experience you have creating an app using Python. Taking your work for this Achievement as an example, draft how you would respond to this question.

In my recent work, I developed a Python application focused on recipe management, which demonstrates my ability to create a structured, functional app using object-oriented programming principles. The application involved defining a Recipe class with various methods to handle tasks such as adding ingredients, calculating recipe difficulty, and searching for specific ingredients across multiple recipes.

I implemented features that allowed the app to manage and update recipe data dynamically, including handling user input, performing searches based on ingredients, and generating a list of all ingredients used across different recipes. I also ensured the app could display recipes in a well-formatted manner, making it user-friendly.

Throughout the project, I applied best practices in coding, such as writing clear and maintainable code, using getter and setter methods, and leveraging class variables for tracking global data like all ingredients used. I also focused on making the app modular and extensible, allowing for easy addition of new features in the future.

This experience gave me a solid foundation in building Python applications that require data management, user interaction, and logical processing. It also reinforced my ability to work through complex problems, such as calculating recipe difficulty based on multiple factors and ensuring the application's functionality meets real-world requirements.

- You've finished Achievement 1! Before moving on to Achievement 2, take a moment to reflect on your learning in the course so far:
- What went well during this Achievement?

I was worried about connection to the database but I didn't have any problem with it.

- What's something you're proud of?

Understanding OOP better.

- What was the most challenging aspect of this Achievement?

I had a problem once with **venv**. As I imported the **sqlalchemy**, I didn't have any problem with ipython but in .py file I kept getting error. So I needed to solve the issue by selecting cf-python-base in the **ide**. It took a while to find that out.

- Did this Achievement meet your expectations? Did it give you the confidence to start working with your new Python skills?

Learning new things is exiting but also gives me the thought of 'I got more to learn' feeling.

- What's something you want to keep in mind to help you do your best in Achievement 2?

I think the fundamental aspects will be so helpful. I heard that django is not an easy topic. I am apprehensive about it.