Exercise 1.4: File Handling in Python

Learning Goals

- Use files to store and retrieve data in Python.

Reflection Questions

• Why is file storage important when you're using Python? What would happen if you didn't store local files?
File storage is important because it allows data to be saved and reused later, even after the program stops running. Without file storage, all data would be lost once the script ends.

• In this exercise, you learned about the pickling process with the `pickle.dump()` method. What are pickles? In which situations would you choose to use pickles and why?
Pickles are a way to serialize and save Python objects (like dictionaries or lists) to a binary file. They are useful when you need to store and retrieve structured Python data without converting it to a different format like CSV or JSON.

• In Python, what function do you use to find out which directory you're currently in? What if you wanted to change your current working directory?

- To check the current directory: `os.getcwd()`
- To change the directory: `os.chdir("path/to/directory")`

• Imagine you're working on a Python script and are worried there may be an error in a block of code. How would you approach the situation to prevent the entire script from terminating due to an error?
I would use a `try-except` block to catch and handle potential errors. This allows the script to continue running, even if a particular part fails.

Personal Reflection

So far, Achievement 1 has been a great learning experience. I've gained confidence in using Python to collect user input, handle files, and save data using the `pickle` module.

One thing I'm proud of is learning how to organize my code using functions and apply what I've learned to build simple, interactive programs.

Something I still find challenging is error handling and debugging, especially when dealing with file input/output. I'd like to get more practice with identifying and fixing errors, and understanding how exceptions affect program flow.

Overall, I'm happy with my progress and excited to continue building my skills in the upcoming achievements.