# Homework 10

You must complete this assignment *without searching online*. You can use our class recordings, the textbook up to the current chapter, the Jupyter notebooks, conversations with your colleagues and me, and the approved resources; that’s all. This assignment should be completed with only the techniques we’ve covered in class so far. If you get code from anywhere besides your own brain, you need to cite the source in a comment.

Also, as always, **be sure to follow the style guide**, including turning in a plan with your code. Seriously, **don’t forget to plan *before* you code!**

A couple of weeks ago we wrote a really nice todo list app. The problem is, a user has to start their todo list over every time they run the app, and they lose their list when they close it.

Let’s fix that.

Using your previous implementation of the todo list app (or if you aren’t happy with yours, you can use my solution), make the app read from and write to a file as needed to maintain the lists between sessions.

Help me out: **call your todo file “todo\_app\_todo.txt” and your done file “todo\_app\_done.txt.”** If you only use one file (which I do not recommend), you can call it “todo\_app\_data.txt.” (Do not add your name or anything to the text file names; they’re great just like that.)

The first time the app runs, it will have to create the files. You can check to see if it’s the first time the app is running by looking for each file:

import os

# exists will be True if the file is there, False if not

exists = os.path.isfile('todo\_app\_todo.txt')

At a minimum, your program should use the code above to look for its savefiles when it opens. The first time the program runs (when the files do not yet exist), it should run just like it ran previously. For every further run, it should read from them and load any previous lists for the user to modify as needed.

Your program should also write to the savefiles when the user chooses the option to close the file. This is absolutely sufficient for your first time managing external data for a program you’re writing.

If you are feeling fancy (and if you already have that minimum solution done), a more complete solution would involve writing to the appropriate file(s) every time a change is made, in case of program crash. For extra error tolerance, the program might also read from the files every time it needs to access the lists, rather than trusting the lists in memory.

Optional, but recommended (*highly* recommended if you’re thinking of using NumPy or Pandas for your project): read chapter 7 for next week.