Daniel White

November 30, 2021

Foundations of Programming: Python

Assignment 07

Pickling and Error Handling

Introduction

In this module we learned about pickling and error handling. It was our duty to design a program that demonstrates our ability to teach the concepts of pickling and error handling. The function of my program is to begin the creation of a grocery list. The user is asked to input a grocery store item and then input the price of said item. The data is then pickled and stored to a binary file. If the user inputs incorrect data types for the item or price, the user is prompted with an error message to correct their mistake.
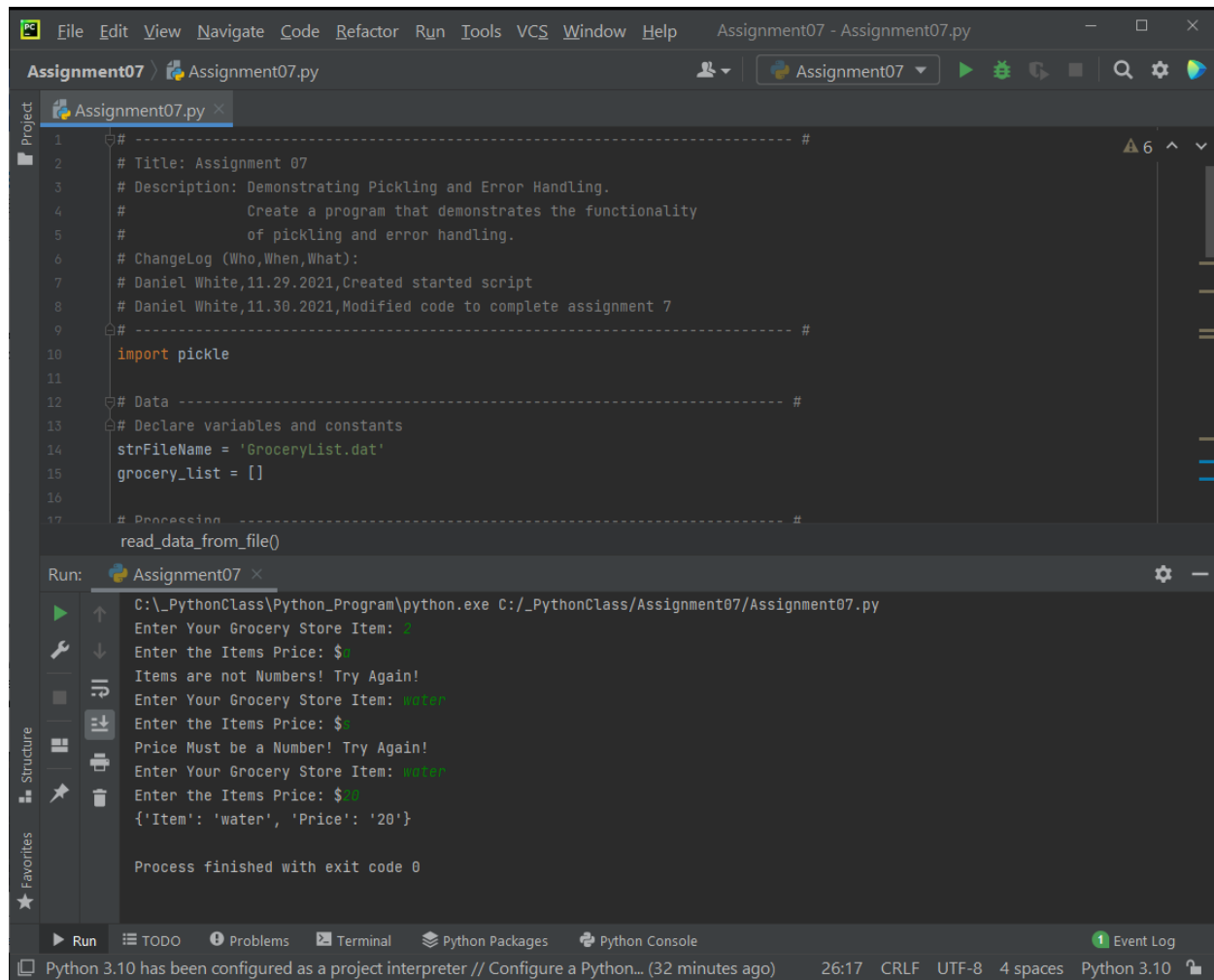
Pickling

The concept of pickling in Python coincides with the concept of pickling in food storage. It means to preserve. In the same way that pickles are preserved as a food, pickling in python preserves a piece of data, like a list or dictionary, and save it in its entirety to a file. In this particular case, we saved the data as a binary file, instead of a text file like we have covered in previous modules. Binary files are more efficient and less data intensive than text files, but are no readable by humans. Pickled objects cannot be stored in text files, only binary. There is a unique syntax afforded to pickling, namely pickle.dump and pickle.load. The main takeaway is that you create a list, and dump it into a file. To read said file, you must load the pickle. The script below demonstrates this ability

Error Handling

Error handling is a tool used to convey to the user that the input choice is incorrect. In this example, or the program I created, an incorrect choice would coincide with entering a number when an item title is appropriate, or entering words or letters when a price or numerical value is appropriate. To do this I

created a while loop for entering the grocery list data then implemented a try and exempt clause for error handling. I prompted the user to input a grocery store item then used an if then statement to raise and exemption if the input contained a number. To do this I designated the item as a string then used the isnumeric() function to raise the exception if a number was entered. Next I designated the price of said item as a float value. If a number was not entered then an error handling prompt was triggered. Below you will find the Grocery List program functioning in PyCharm and CMD.

Figure 1. The Grocery List program running successfully within PyCharm

Figure 4. The Grocery List program running successfully within CMD

Summary

We learned about pickling and error handling in this module. I created a program that asked the user to begin making a grocery list. The user input was pickled and save to a binary file. If the user inputed data that was inappropriate for the data type an error handling message was prompted. The program was then ran successfully in both PyCharm and CMD.