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May 11, 2021

IT FDN 110 A Sp 21: Foundations Of Programming: Python

Assignment 05 Loading and Saving Lists and Dictionaries

GITHUB LINK (external site)

# Introduction

This paper discusses the steps I completed to create the To-Do List program I wrote for Module 05. In this Module, we learned how to store rows of data in Dictionaries, create two-dimensional Lists resembling a table, and read table contents from or write table contents to a text file using a Python script.

# Working with Dictionaries

Sequences of user input data can be saved to Dictionaries in Python. Dictionaries, like lists, are mutable (changeable). Dictionaries are denoted by {curly braces}. Items in a Dictionary are stored in Key, Value pairs, and are accessed via their Key. See Figure 1 below for an example of a Dictionary being assigned to a variable.

**dicEmails = {“Name”:“Steven”, “Email”:“**[**sparks77@uw.edu**](mailto:sparks77@uw.edu)**”}**

### (Figure 1: Example code for creating a Dictionary and assigning it to a variable)

This project came with a starter file, and we had to fill in the code. The result displayed a menu that prompted the user to create a list of action items which the program stored in Dictionaries combined to make a table. The table was loaded from a text file initially, and the user had the option to save the items to the text file at the end. See Figure 2 below for a screengrab of the program running from my MacBook’s Terminal.

Text

Description automatically generated

### (Figure 2: Screenshot of Assignment05\_Starter.py running in Terminal.)

As directed, I used PyCharm for the project. See Figure 3 below for a screenshot of some of the program’s code running in the preview window of PyCharm.

Text

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### (Figure 3: Assignment05\_Starter.py running in PyCharm.)

# Removing Items from a List

I had the most trouble with this step of the assignment. I ended up having to steal code from one of Randal’s solutions from last week’s office hours to make it work.

# Writing Lists to a Text File

Once the user is finished entering action items and their respective priority levels into the program, they can choose ‘4’ to save the data to a file. Upon deciding to save, the program disassembles the table and loads the Dictionaries, row by row, into memory. Here I used some similar code to the Module 05 Labs to open and read, write to, and close the file. I also included some code to format the input to and output from the text file. See Figure 4 below for a screenshot of the data in the text file Python created.

Shape, rectangle

Description automatically generated with medium confidence

### (Figure 4: The text file Python used in Assignment05\_Starter.py.)

# Summary

Dictionaries are loaded with features and, therefore, an ideal choice for storing Collections (or Sequences) of data in Python. Dictionaries of user input data can be read from or written to text files to use in perpetuity, much like Lists.