Hao Liang
November 14, 2021
FDN101
Assignment 05

Introducing to Python Programming

Introduction

Module/Assignment_05 further explores the uses of sequence type List. As mapping types, Dictionaries are introduced to better organize and manage data. In this module we have also learned the concepts of Separation of Concerns (SoC), defining/using functions, Structured Error Handling, and cloud based service GitHub.

Topic_1 – List methods, operators

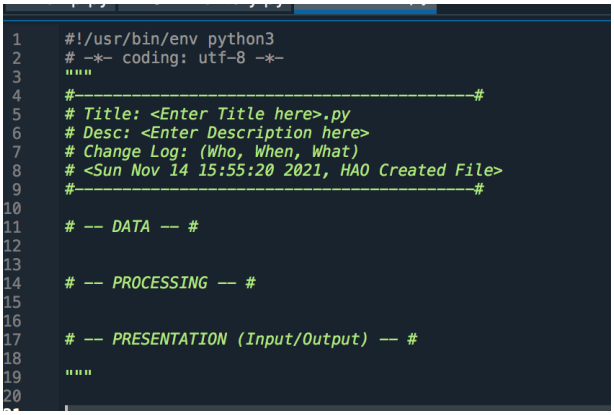
We can use split() method to convert data from String type into List type. readline() is another way to create List from String. strip('x') is usually involved before the creating List from String data. '*' operator can unpack List into String. It can also work with Tuples and Dictionaries.

Topic_2 – Dictionaries

Dictionaries appear to organize and mange data with the idea of spreadsheet. Key of Dictionaries are like columns, and values are expected to be the inputs to feed specific columns/categories. As a result, keys are paired with values. We can use many built-in methods in Python to manage Dictionaries date I/O.

Topic_3 – Separation of Concerns(SoC)

In programming, SoC is a often used to approach certain task in the beginning. To better practice SoC, we've set up the main sections - Data, Processing, and I/O in Spyder's template.



```
#!/usr/bin/env python3
# -*- coding: utf-8 -*-
"""
#-----------------------------------------#
# Title: <Enter Title here>.py
# Desc: <Enter Description here>
# Change Log: (Who, When, What)
# <Sun Nov 14 15:55:20 2021, HAO Created File>
#-----------------------------------------#

# -- DATA -- #


# -- PROCESSING -- #


# -- PRESENTATION (Input/Output) -- #

"""
```

Figure 1 Spyder template with SoC structure

Topic_4 – Structured Error Handling

To avoid file crashing, we can structure error-handling process in code. Try-Except construct is introduced in this module.

```
# 2. Add data to the table (2d-list) each time the user
strID = input('Enter an ID: ')
#error handling
try:
    intID = int(strID)
except:
    print('Please input a valid ID number!')
    intID ='N/A'
```

List 1 Error handling in Assignment05

Topic_5 – Assignment 5

```
In [1]: runfile('/Users/HAO/_FDNProgramming/Mod_05/Assignment05/
CDInventory.py', wdir='/Users/HAO/_FDNProgramming/Mod_05/Assignment05')
The Magic CD Inventory

[l] Load Inventory from file
[a] Add CD
[i] Display Current Inventory
[d] Delete CD from Inventory
[s] Save Inventory to file
[x] exit

l, a, i, d, s or x: a


Enter an ID: 111

Enter the CD's Title: AAA

Enter the Artist's Name: BBB
[l] Load Inventory from file
[a] Add CD
[i] Display Current Inventory
[d] Delete CD from Inventory
[s] Save Inventory to file
[x] exit

l, a, i, d, s or x: a


Enter an ID: 222

Enter the CD's Title: CCC

Enter the Artist's Name: DDD
[l] Load Inventory from file
[a] Add CD
[i] Display Current Inventory
[d] Delete CD from Inventory
[s] Save Inventory to file
[x] exit

l, a, i, d, s or x: a


Enter an ID: 333

Enter the CD's Title: EEE

Enter the Artist's Name: FFF
[l] Load Inventory from file
[a] Add CD
[i] Display Current Inventory
[d] Delete CD from Inventory
[s] Save Inventory to file
[x] exit

l, a, i, d, s or x: i

ID, CD Title, Artist
111,AAA,BBB
222,CCC,DDD
333,EEE,FFF
[l] Load Inventory from file
[a] Add CD
[i] Display Current Inventory
[d] Delete CD from Inventory
[s] Save Inventory to file
[x] exit

l, a, i, d, s or x: d


What's the entry's ID number?222
[l] Load Inventory from file
[a] Add CD
[i] Display Current Inventory
[d] Delete CD from Inventory
[s] Save Inventory to file
[x] exit

l, a, i, d, s or x: s
[l] Load Inventory from file
[a] Add CD
[i] Display Current Inventory
[d] Delete CD from Inventory
[s] Save Inventory to file
[x] exit

l, a, i, d, s or x: l

ID, CD Title, Artist
111,AAA,BBB
333,EEE,FFF

[l] Load Inventory from file
[a] Add CD
[i] Display Current Inventory
[d] Delete CD from Inventory
[s] Save Inventory to file
[x] exit

l, a, i, d, s or x: x
```

Figure 2 screenshot – running assignment 5 script in Spyder

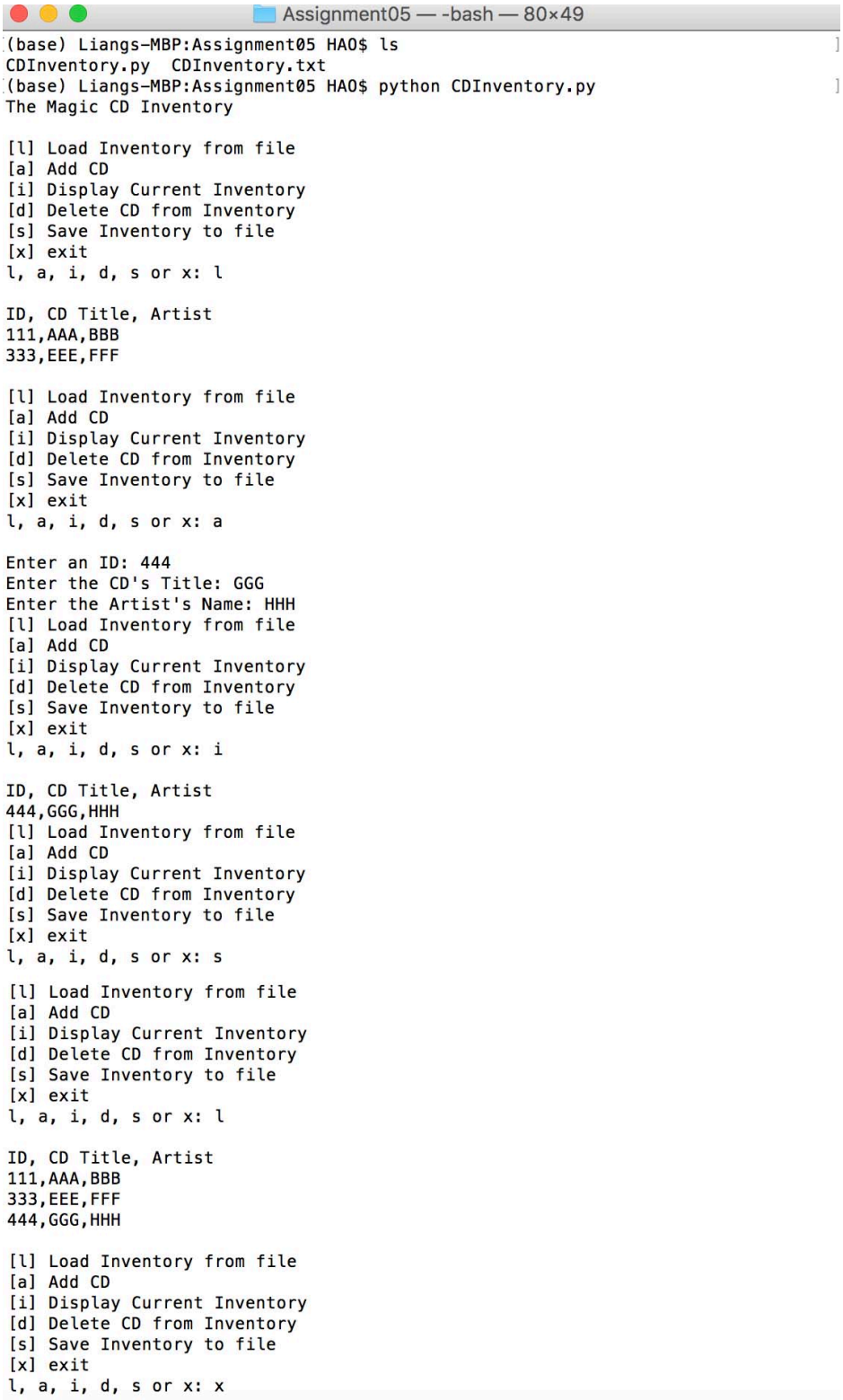


Figure 3 Screenshot – running assignment5 script in Terminal

Topic_6 – GitHub

GitHub link for Assignment05,
https://github.com/seahao/Assignment_05

Summary

With varies Dictionaries methods, the mapping types are very powerful to organize data. We've practiced data management and I/O procedures in this module. The process involves in further understanding of data types between String, List, and Dictionaries. Moving forward we shall be more familiar with SoC and the services of GitHub.