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< 2/29/2020 >

< IT FDN 100 >

< Assignment 06 >

Document my knowledge

Introduction

For the 6th assignment, the task is to modify the CD Inventory program again to create more functions.

This week I attempted to learn about functions, parameters, arguments, return values and the difference between global and local variable.

Steps to Complete the Assignment

To complete the assignment, I watched the recommended YouTube videos and read the book. Then I followed all the steps in the assignment document.

The first thing I did was to find all the TODO's in the starter file to get an understanding of the tasks at hand. There are 7 todo's in total.

1. # TODO add functions for processing here (adding a function under Data processor class)
2. #TODO Add code here (adding code for the write_file function)
3. #TODO add I/O functions as needed
4. # TODO move IO code into function (moving the user input/output into a function)
5. #TODO move processing code into function (move the "add CD" processing code into a function)
6. # TODO move processing code into function (move the "delete CD" processing code into a function)
7. # TODO move processing code into function (move the "save CD" processing code into a function)

To complete the first todo, I moved code's to create functions needed for 5,6 and 7. I put these functions under the DataProcessor class. I set the parameter to "table" for 5, 6 and 7 and pasted the codes from the menu items.

For the second todo, I moved the code from stroChoice= S under the write_file function. And I called write_file function within the save_inventory function to write the files.

For the third todo and fourth, I added get_userinput as a function under the IO class. I returned strID, strTitle, strArtist value so I can use it later in the add_inventory function.

One thing I struggled a bit is to understand Encapsulation. I now understood that the use of global variable is rather confusing, a better way is to use the return value from a function inside another function.

This is how I was able to use the variable from a different function. Encapsulation keeps codes independently.

```
 strID, strTitle, strArtist=IO.get_userinput()
```

I also learned the @staticmethod , which is a built-in function returns a static method for a given function.

Static methods, much like class methods, are methods that are bound to a class rather than its object.

They do not require a class instance creation. So, they are not dependent on the state of the object.

The difference between a static method and a class method is:

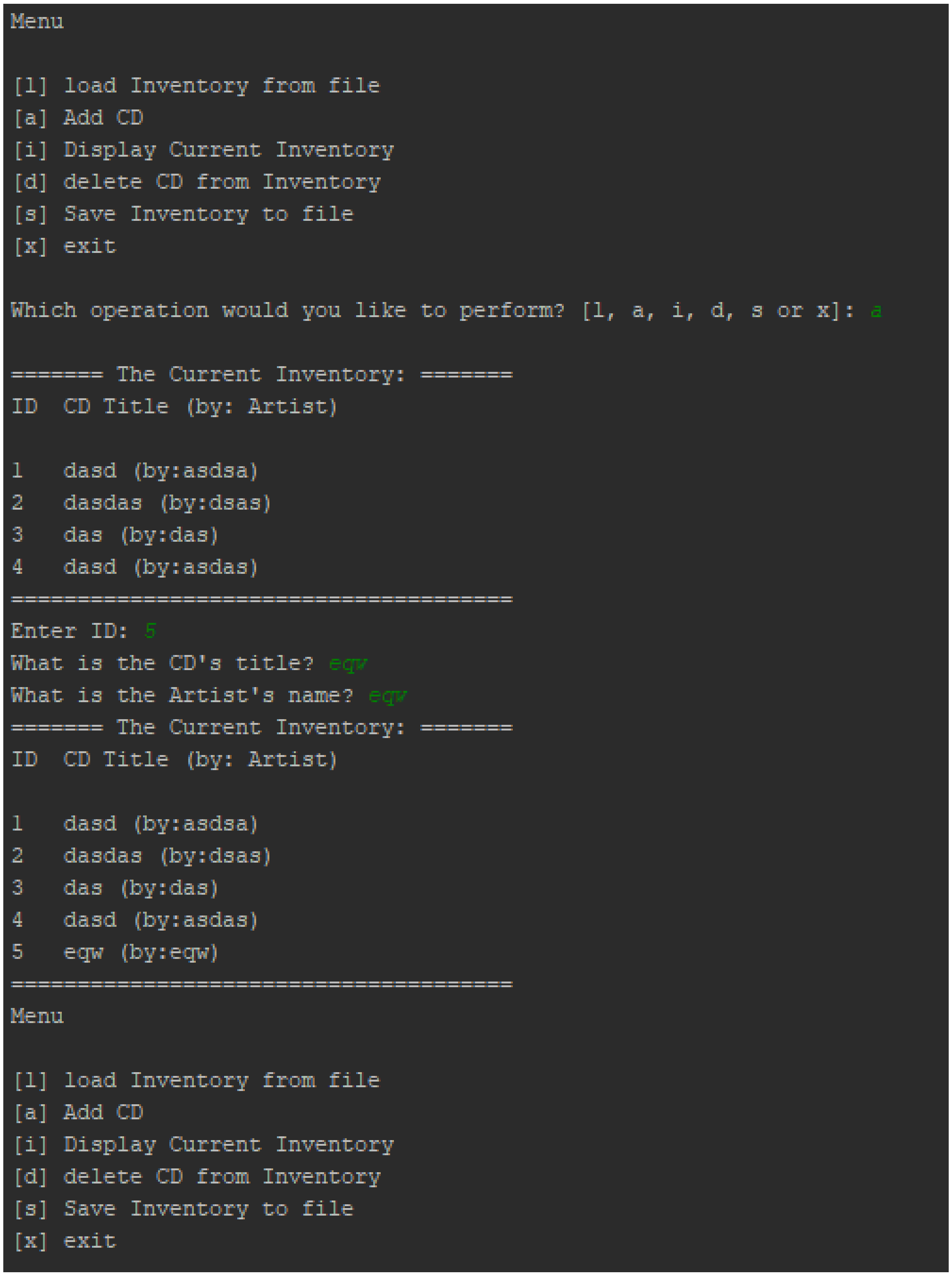
Static method knows nothing about the class and just deals with the parameters.

Class method works with the class since its parameter is always the class itself.

They can be called both by the class and its object.[1]

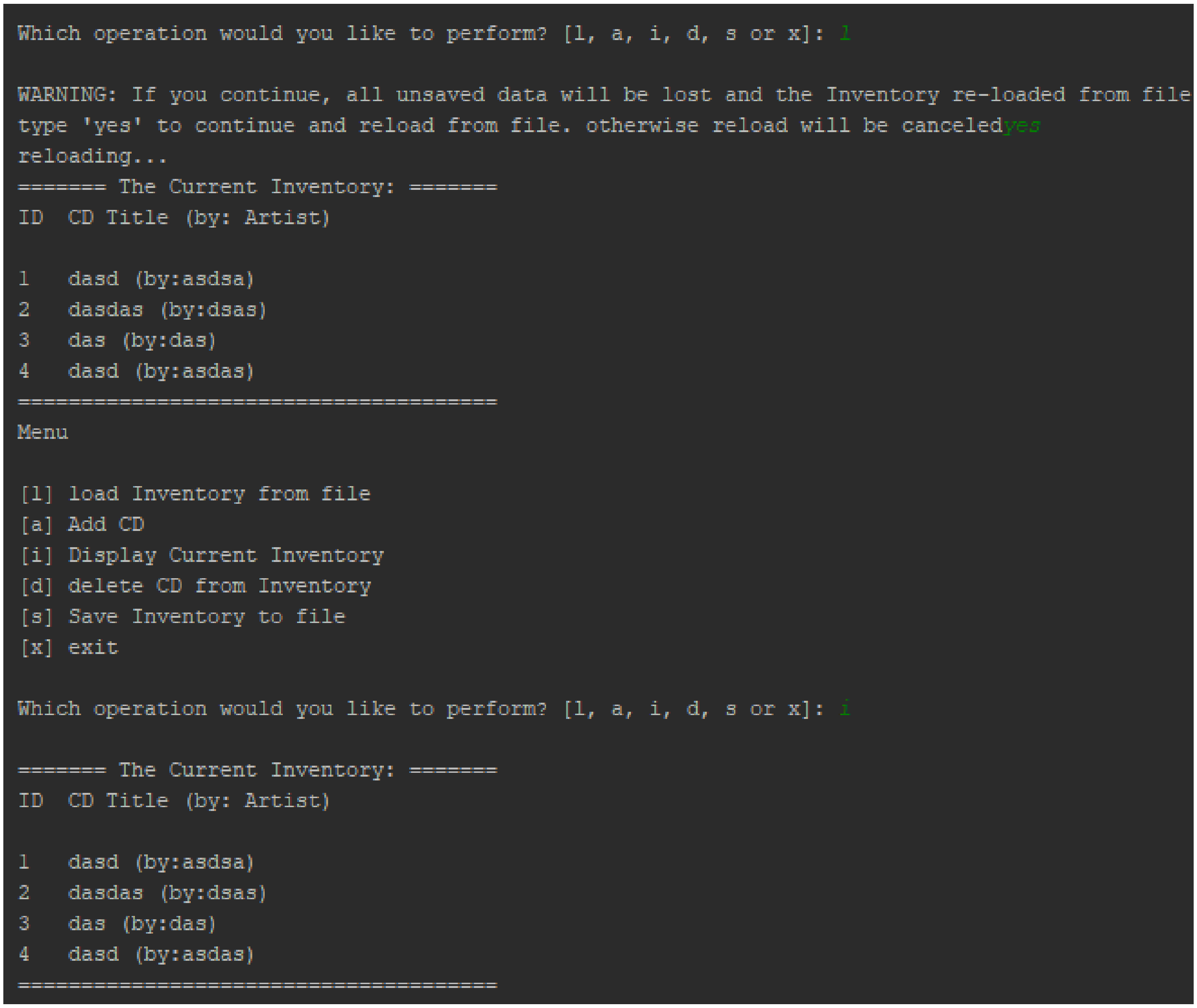
I also learned proper formatting convention for the function comments and class comments.

[1] https://www.programiz.com/python-programming/methods/built-in/staticmethod retrived on 2/29/2020



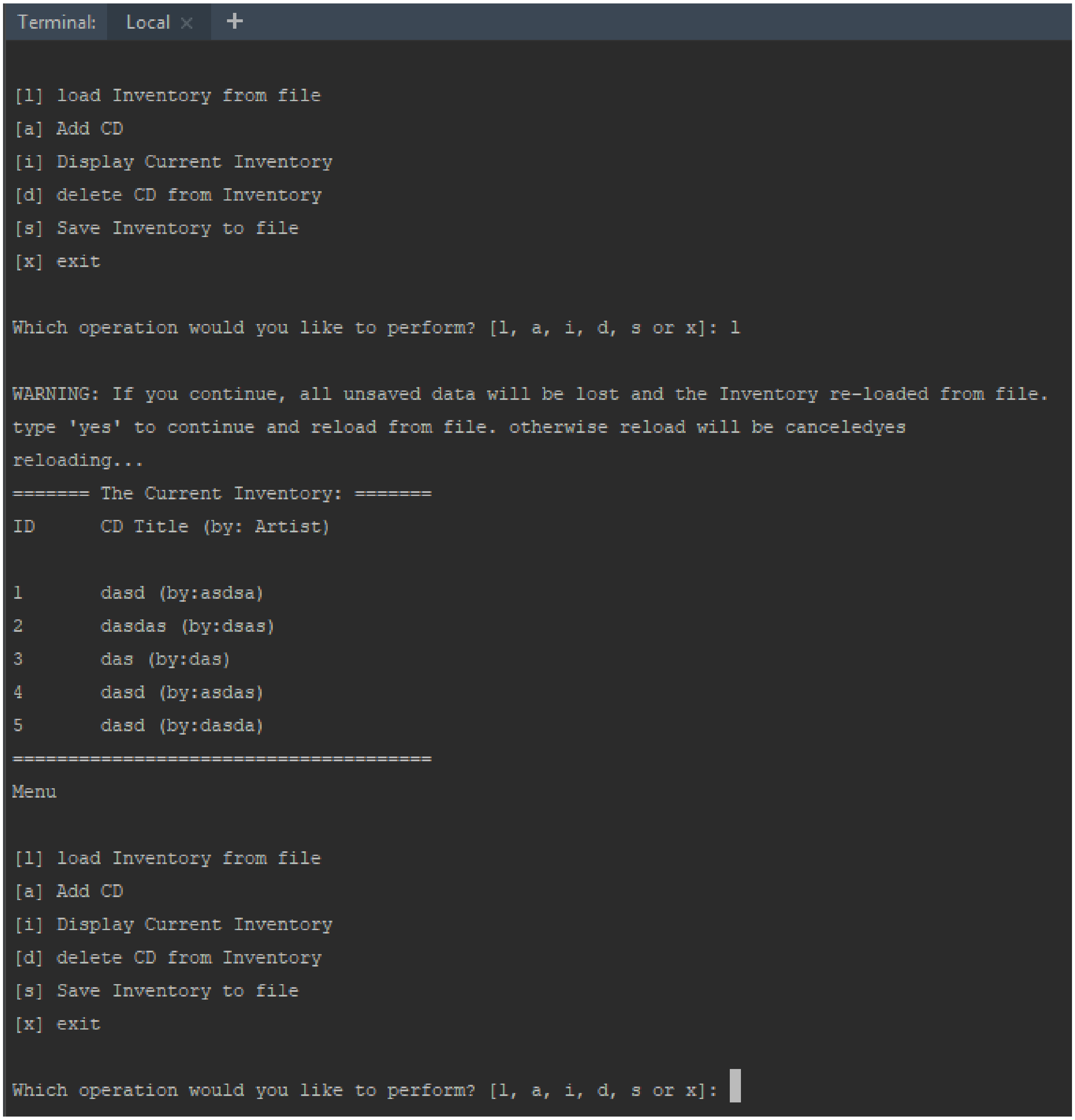
```
Menu

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

Which operation would you like to perform? [l, a, i, d, s or x]: a

======= The Current Inventory: =======
ID  CD Title (by: Artist)

1   dasd (by:asdsa)
2   dasdas (by:dsas)
3   das (by:das)
4   dasd (by:asdas)
======================================
Enter ID: 5
What is the CD's title? eqw
What is the Artist's name? eqw
======= The Current Inventory: =======
ID  CD Title (by: Artist)

1   dasd (by:asdsa)
2   dasdas (by:dsas)
3   das (by:das)
4   dasd (by:asdas)
5   eqw (by:eqw)
======================================
Menu

[l] load Inventory from file
[a] Add CD
[i] Display Current Inventory
[d] delete CD from Inventory
[s] Save Inventory to file
[x] exit
```

Figure 1Pycharm Screenshot showing adding works



```
Which operation would you like to perform? [l, a, i, d, s or x]: l

WARNING: If you continue, all unsaved data will be lost and the Inventory re-loaded from file
type 'yes' to continue and reload from file. otherwise reload will be canceledyes
reloading...
======= The Current Inventory: =======
ID  CD Title (by: Artist)

1   dasd (by:asdsa)
2   dasdas (by:dsas)
3   das (by:das)
4   dasd (by:asdas)
======================================
Menu

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

Which operation would you like to perform? [l, a, i, d, s or x]: i

======= The Current Inventory: =======
ID  CD Title (by: Artist)

1   dasd (by:asdsa)
2   dasdas (by:dsas)
3   das (by:das)
4   dasd (by:asdas)
======================================
```

Figure 2S Pycharm screenshot showing loading function works



```
[l] load Inventory from file
[a] Add CD
[i] Display Current Inventory
[d] delete CD from Inventory
[s] Save Inventory to file
[x] exit

Which operation would you like to perform? [l, a, i, d, s or x]: l

WARNING: If you continue, all unsaved data will be lost and the Inventory re-loaded from file.
type 'yes' to continue and reload from file. otherwise reload will be canceledyes
reloading...
======= The Current Inventory: =======
ID      CD Title (by: Artist)

1       dasd (by:asdsa)
2       dasdas (by:dsas)
3       das (by:das)
4       dasd (by:asdas)
5       dasd (by:dasda)
======================================
Menu

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

Which operation would you like to perform? [l, a, i, d, s or x]: 
```

Figure 3Works in terminal

Summary

This was one of the most interesting module for me because I am finally started to get exposure to things I haven't learned before. In the past, I have created functions in python to automate excel related work project but I have not used class. I can see that by separating functions and classes, the code is a lot more readable than before.

References

https://www.programiz.com/python-programming/methods/built-in/staticmethod

https://youtu.be/rRRVHNN0K7E - Creating Professional Documents
https://www.learnpython.org/en/Functions
https://youtu.be/QhgN1k_iJzI

Appendix

Github link: https://github.com/tianxie812/Assignment_056

Retrieved on 2/29/20