

Assignment 08 - Introduction

The following document is a summary of the main learnings from Module 08 of the IT FDN course. Module 8 introduces concepts of Object Oriented Programming.

GitHub location

https://github.com/Krzsztfczj/Assignment_08

OOP

Object Oriented Programming is a way of programming that's focused on objects rather than functions and logic.

Classes

Classes are the blueprints for objects. They describe what are the characteristics of all objects within the class.

Fields

Fields are variables within class and store data.

Constructors

`__init__()` is a reserved method that is a constructor. It is used to initialize attributes.

Attributes

Just like fields, attributes are variables specific to the objects in a class. Attributes can have properties that will make them private i.e. inaccessible without designated methods: getter and accessor. Starting the name with double underscore makes the attribute private.

Methods

Methods are object-specific functions. They can also be class specific, then they're called static and are defined by @staticmethod decorator.

Decorators

Decorators change the behavior of functions.

CDInventory script

Task: "For this assignment, a starter script is included. There is no code included, but it includes pseudocode. Your task is to read and understand the pseudocode, then add code to make the application work. Make sure to include error handling!"

- I probably spent more time thinking about what to do than actually doing it.
- I moved a lot of code from Assignment07 and Assignment 06 (for save and load functionalities) and adjusted it to work with CD class objects and list of objects.
- Pseudo code did not ask for option to delete entries, so I didn't include it.
- Creating the CD class was easy, making it work with the rest of the program was much more difficult.
- In general, I am not comfortable with the material from mode 08 yet. I think it's quite complex and I need much more time to fully understand all introduced concepts.

```
Console 2/A
===== The Current Inventory: =====
ID  CD Title (by: Artist)

2 Ra   (by:Doh)
1 Ki   (by:Sio)
3 Ma   (by:Czaj)
6 Tulli (by:Lulli)
7 Grzegorz (by:Brzeczyszczykiewicz)
=====
Menu

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

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

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

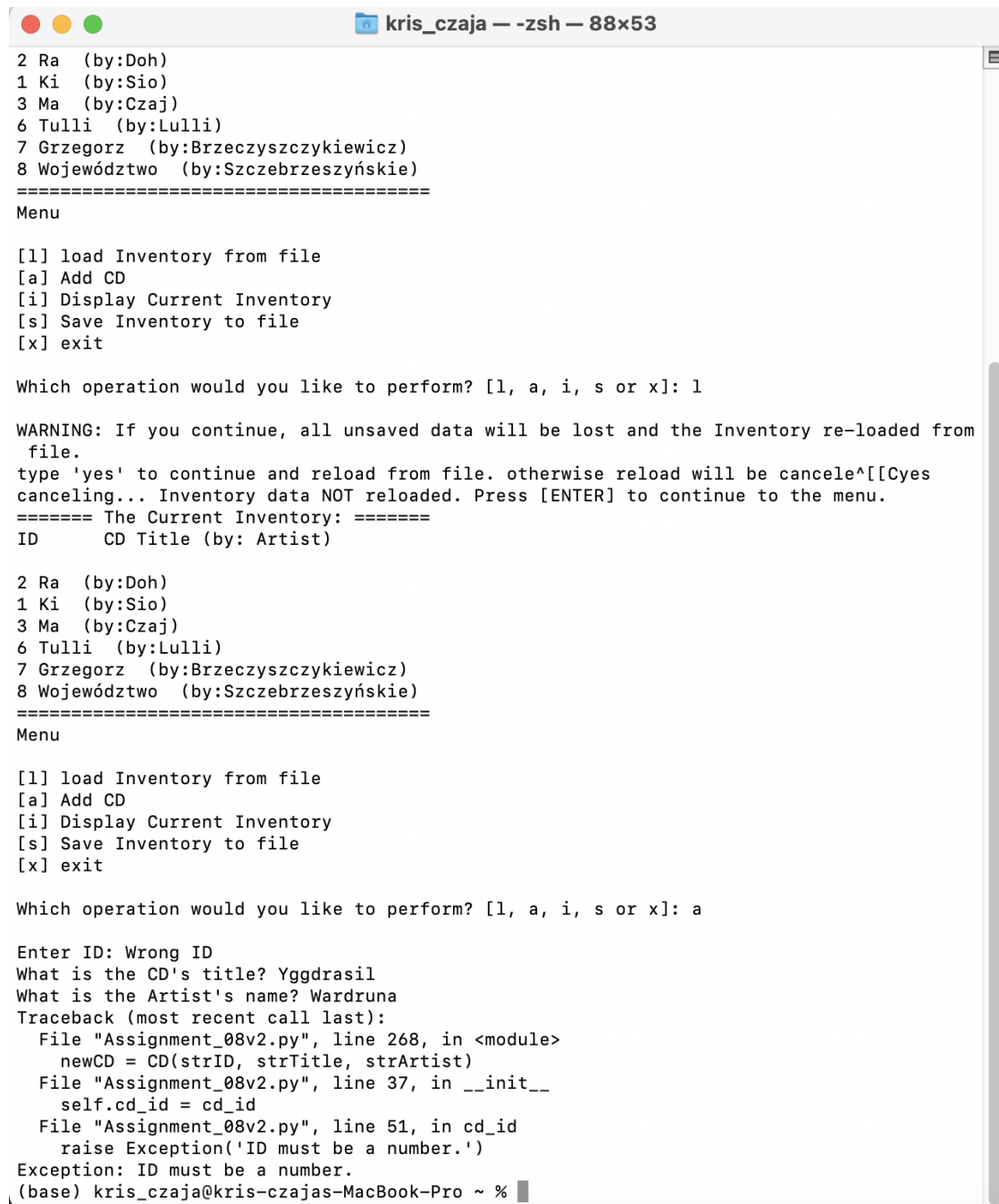
2 Ra   (by:Doh)
1 Ki   (by:Sio)
3 Ma   (by:Czaj)
6 Tulli (by:Lulli)
7 Grzegorz (by:Brzeczyszczykiewicz)
=====

Save this inventory to file? [y/n] y
Menu

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

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

Fig1 CDInventory in Spyder



```
kris_czaja — zsh — 88x53
2 Ra (by:Doh)
1 Ki (by:Sio)
3 Ma (by:Czaj)
6 Tulli (by:Lulli)
7 Grzegorz (by:Brzeczyszczykiewicz)
8 Województwo (by:Szczebrzeszyńskie)
=====
Menu

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

Which operation would you like to perform? [l, a, i, 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 canceled. Press [ENTER] to continue to the menu.
===== The Current Inventory: =====
ID      CD Title (by: Artist)

2 Ra (by:Doh)
1 Ki (by:Sio)
3 Ma (by:Czaj)
6 Tulli (by:Lulli)
7 Grzegorz (by:Brzeczyszczykiewicz)
8 Województwo (by:Szczebrzeszyńskie)
=====
Menu

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

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

Enter ID: Wrong ID
What is the CD's title? Yggdrasil
What is the Artist's name? Wardruna
Traceback (most recent call last):
  File "Assignment_08v2.py", line 268, in <module>
    newCD = CD(strID, strTitle, strArtist)
  File "Assignment_08v2.py", line 37, in __init__
    self.cd_id = cd_id
  File "Assignment_08v2.py", line 51, in cd_id
    raise Exception('ID must be a number.')
Exception: ID must be a number.
(base) kris_czaja@kris-czajas-MacBook-Pro ~ %
```

Fig2 CDInventory in Terminal

Summary

In the eight module, I learned about Object Oriented Programming: how to create objects belonging to classes, what are attributes, properties and methods. Practical assignment was to create CD Inventory using OOP concepts.