Kris Czaja
11/28/2021
IT FDN 110: Introduction to Programming (Python)
Assignment 07

Assignment 07 - Introduction

The following document is a summary of the main learnings from Module 07 of the IT FDN course. Module 7 is focused on write, read and append functions in text files, introduces binary files and describes structured error handling.

GitHub location
https://github.com/Krzsztfczj/Assignment_07

Write in text files

File needs to be opened before writing and closed after writing. Mode 'w' is used to open a file in writing mode. '.write' is a command for writing in the text file.

Read in text files

File needs to be opened for reading and closed afterwards. Mode 'r' is used to open file in reading mode. '.read' is a command for writing in the text file.

readline() reads one line
readlines() reads all lines in the form of a list

Append in text files

Append is similar to writing, but it does not erase existing text, but adds additional data at the end of the file. It is opened using 'a' mode.

Binary Files

User-end format of data can be saved in its underlying 1/0 format. Binary files are used for that. To save data as a binary code, the pickle module is used.

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Structured Error handling

In order to prevent a program from crashing when an error occurs, a structured error handling can be built around expected pain points. It is done using the 'try - except' block.
Errors can be then described using exception classes which hold information about errors. Custom exception classes can be created to describe errors specific to created code.

CDInventory script

Task: "Add structured error handling around the areas where there is user interaction, type casting (string to int) or file access operations. You do NOT need to create custom error classes; the python build in ones are plenty capable for this!"

- I created structured error handling around string to integer conversions
- Since I used 'a' mode before 'r' for loading the file, I did not have file access operations errors initially, but I got rid of that step for the pickle version and added structured error handling.
- I had a very hard time with saving and loading pickled files. Especially loading. I spent a lot of time trying to figure out what I did wrong and ended up with varying results and making code quite complex. At some point I decided to start over and very carefully recreated everything from scratch - this time it worked correctly. I have no idea what was wrong.

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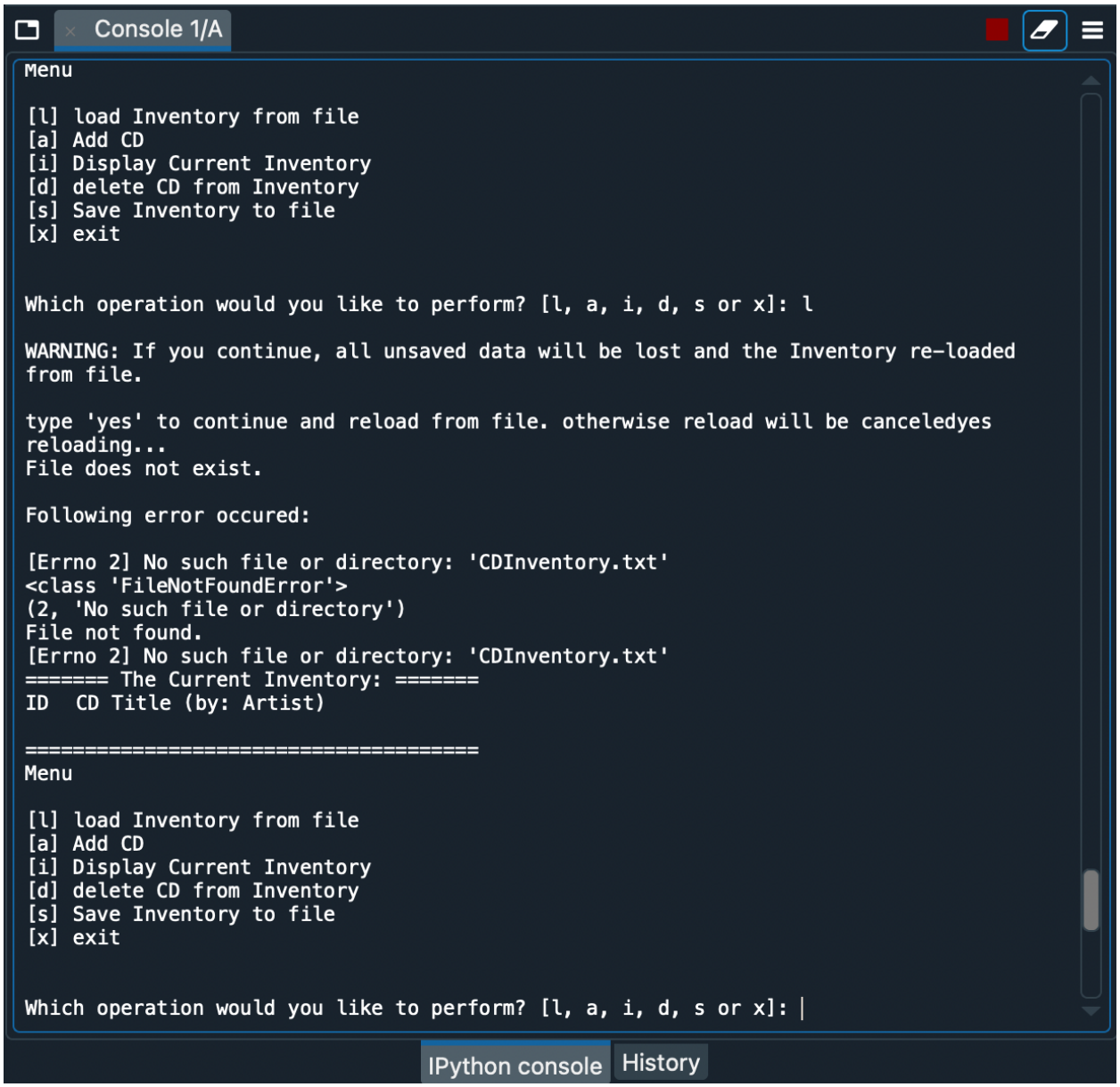

Fig1 CDInventory in Spyder

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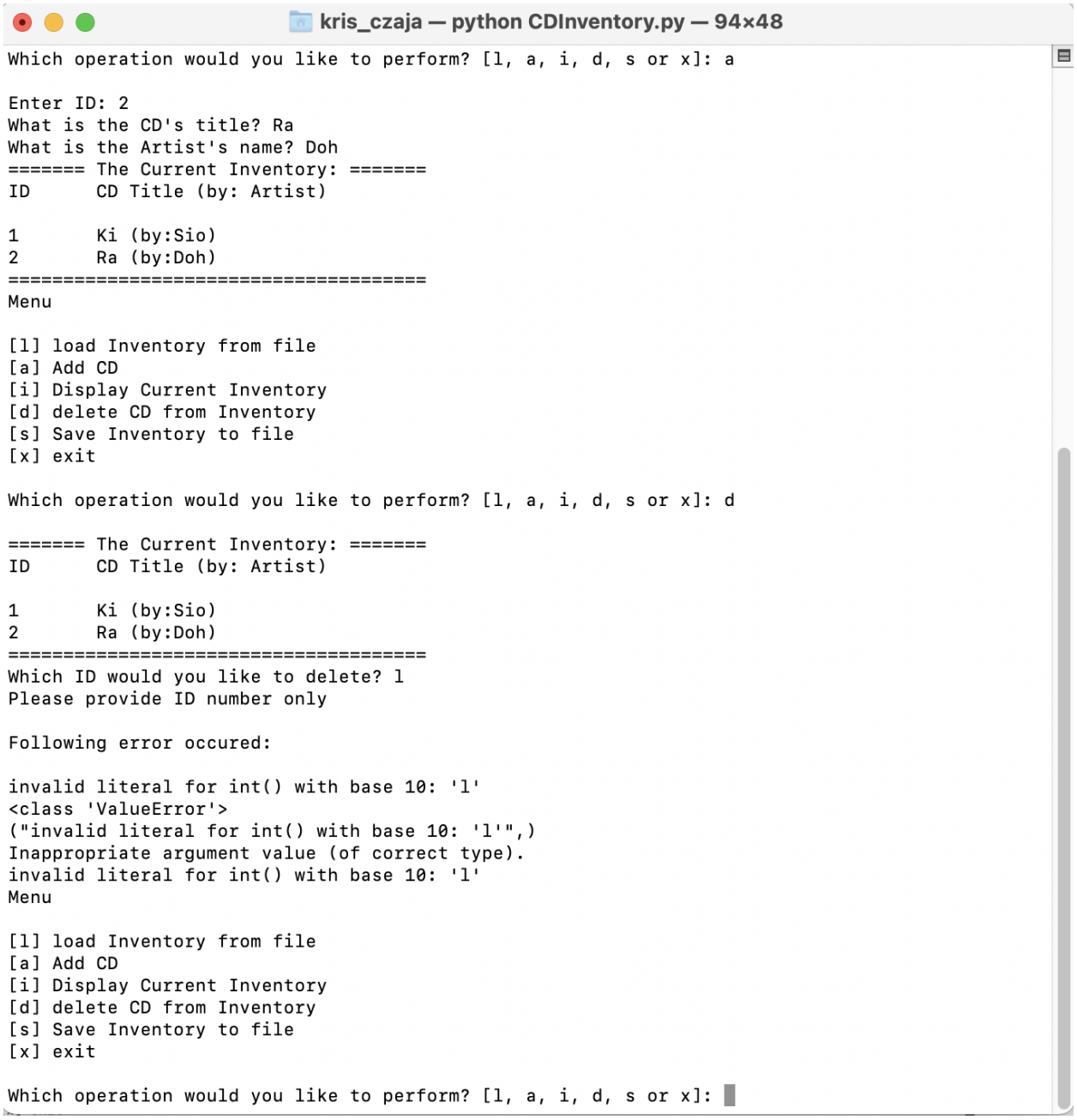

Fig2 CDInventory in Terminal

Summary

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In the seventh module, we summarized everything we've learned so far about working on text files. I learned about saving text as binary data and a new file type. I learned how to create structured error handling and what are exception classes.