Kris Czaja
11/21/2021
IT FDN 110: Introduction to Programming (Python)
Assignment 06

Assignment 06 - Introduction

The following document is a summary of the main learnings from Module 06 of the IT FDN course. Module 6 is focused on functions and shows some additional SoC practice - docstrings.

GitHub location
https://github.com/Krzsztfczj/Assignment_06

Functions

Functions allow to consolidate multiple statements within one definition. They can be called from main body, perform tasks and continue executing main body code.

Functions - Parameters

Parameters, or arguments, allow to set the variables in the main body when calling the function that will define variables used in that function. For example, a function can be created to perform actions with an undetermined table and an object and when it's called in main body, we can specify which table and object we want to use without altering the function itself.

Parameters can be positional or named.

Functions - Return

Return is in a way similar to 'print' - it produces the outcomes of the function.

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Local and Global Variables

Variable created within a function will be specific to the function only, in such case it's a local variable. This means that variable with the same name defined outside the function is actually a different variable. Keyword 'global' makes local variable valid across the whole program.

Function Document Headers

To make code understandable for others, a sort of header - doc strings - is commonly added to the function. It explains what the function is supposed to do, what arguments it references and what it returns.

CDInventory script

Task: "(...)I have provided you with an example solution of last week's Assignment as starter script. I want you to modify this script:
Right now, this script uses only a few functions. There are several TODOs in the code. It is your assignment to resolve these and finish organizing the code. (...)"

- I had difficulties navigating the code. I completely understand how docstrings can help a lot with large code and multiple functions, but I think that in this instance they make the code actually less readable.
- Adding the CDs was probably the hardest task - it had to be broken down into user input and data processing, which is rather counterintuitive and hard to navigate. But I understand how it might work for complex projects. Module advises against using global functions, but it was the only way I could think of to keep CD adding user input and data processing separate.
- I wanted the program to be able to run when the file does not exist. Program opens text file at the very beginning using 'r', so it had to be changed to 'a+' as per Friday classes. When I did that: simply replaced 'r' with 'a+', the program would not load any data from the file - I have no idea why. I decided to first open the file with 'a', close it, open again with 'r' and finish the function. I am sure there is a better way to do it, but I don't know how.

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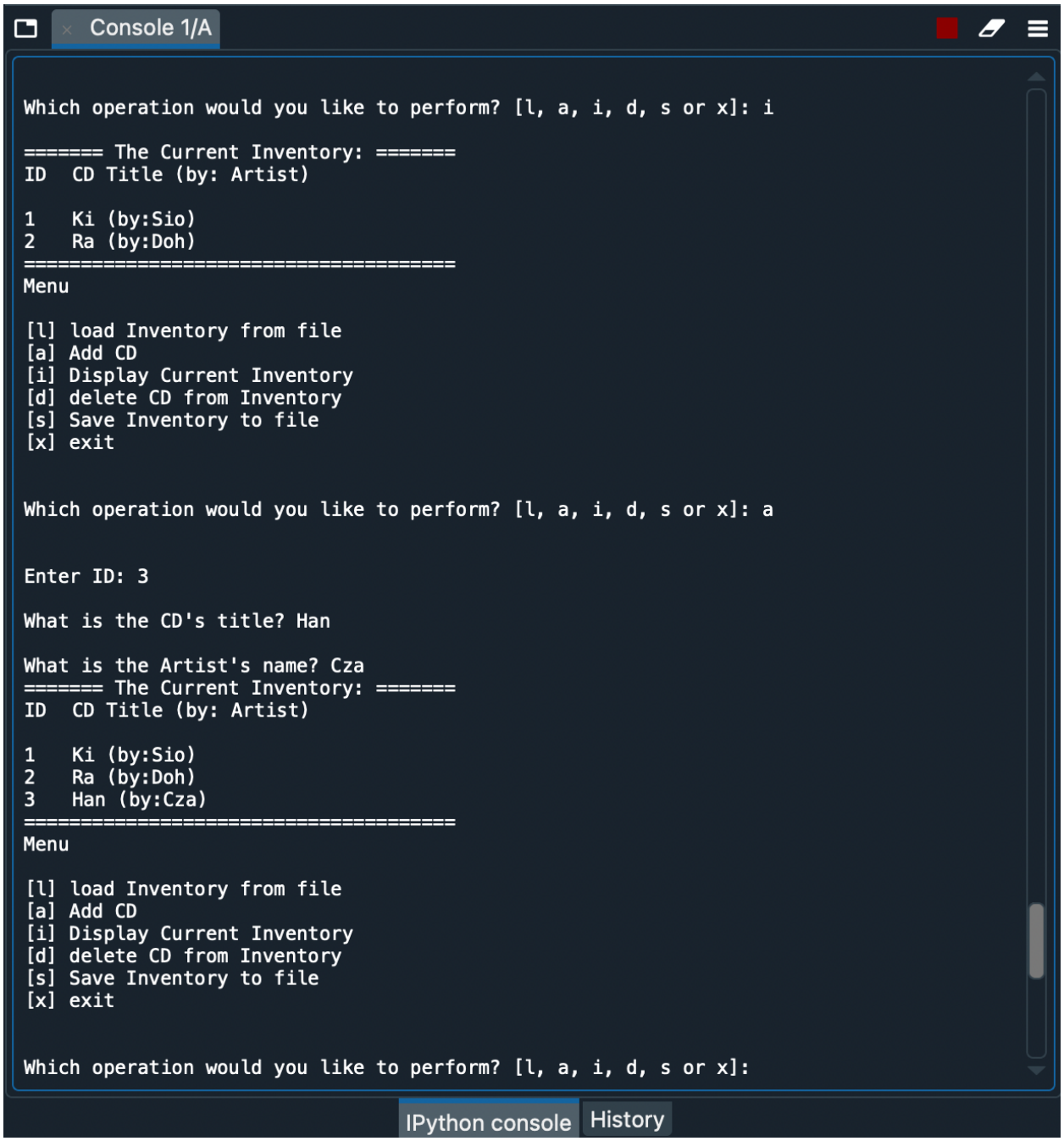

Fig1 CDInventory in Spyder

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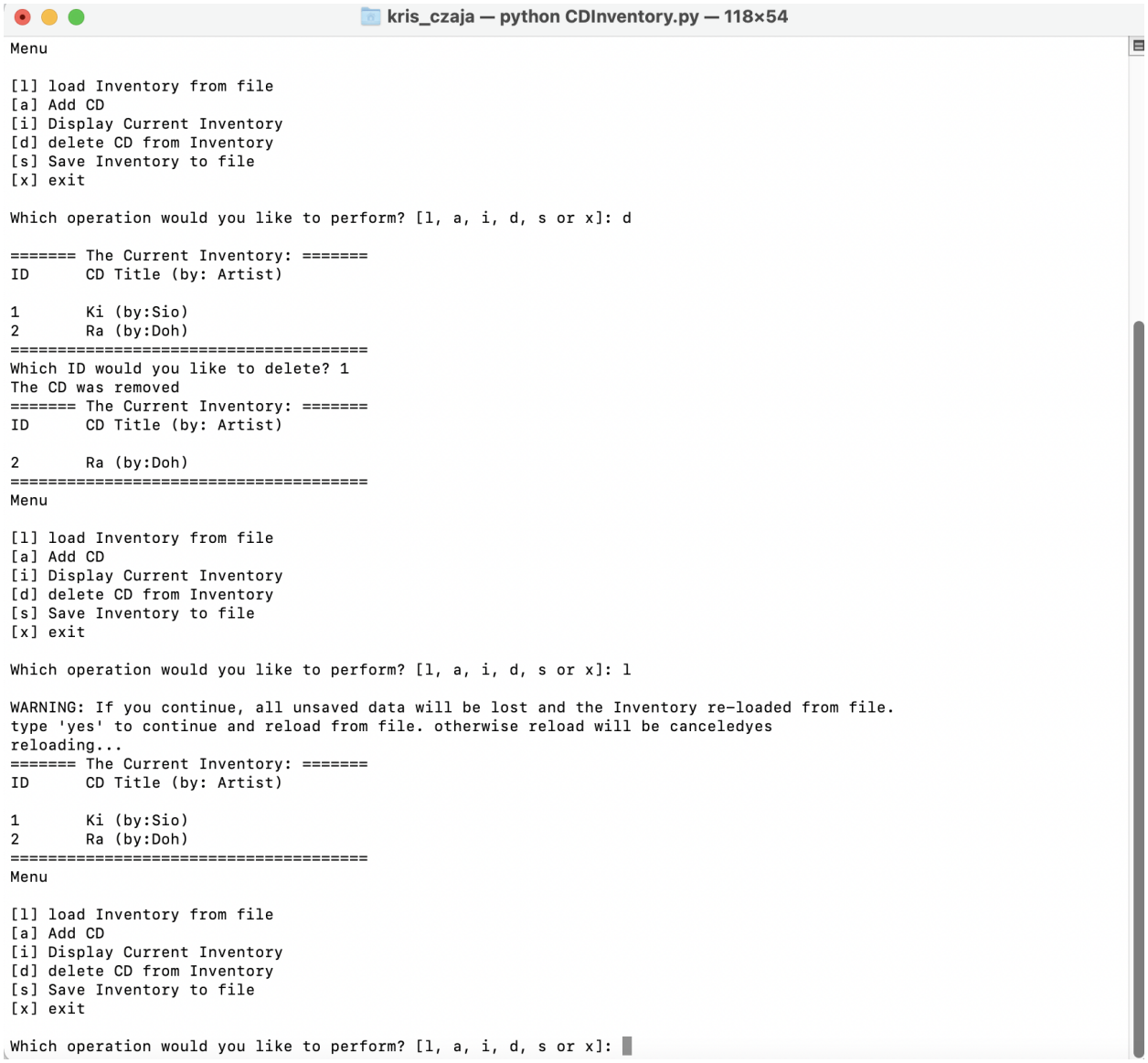

Fig2 CDInventory in Terminal

Summary

In the sixth module, I learned how to use functions. They're a powerful tool that come with some new challenges, like local/global variables and a need to neatly organize the code. The practical exercises in module 06 are focused on transforming existing code and organizing the data.