

Assignment # 8

Foundations of Programming, Python

<https://github.com/purake/Assignment.08>

Patrick Moy — moyyp@uw.edu

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1 Introduction

In this document, I will outline thoughts and learnings from creating a Python program as part of the eighth assignment for *Foundations of Programming, Python*. This program, like many of the previous assignments, requires that we create a CD inventory management program. The main difference is that this time, we are to implement the CD data storage as a class object, instead of as a dict or as a list.

2 Code Design

2.a Outline

The overall structure of this assignment has not changed much. There are fewer menu choices in the pseudocode comments; notably deleting is not a required function. I implemented the CD class as a simple class with properties for each value: ID, title, and artist. I included getters and no setters; it did not make sense to change the CD information after creating it. In reality, album names will not just change on a whim, etc. I included my previous duplicate ID check, but I realized it is not necessary since there is no deleting of CDs involved here. I left it in anyways; I used a set of IDs bound as a static class variable to keep track of IDs. The FileIO and IO classes were relatively straightforward to implement, as we have written variations on these many times. The documentation took probably the most time in this assignment.

3 Script Results

```

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

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

1   Island (by:Seven Lions)
5   Feel Something (by:Illenium, Excision, I Prevail)
=====
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, c, or x]: a

Enter ID: 9

What is the CD's title? When the Night Falls

What is the Artist's name? Jason Ross, Fiora
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, c, or x]: s

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, c, or x]: i

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

1   Island (by:Seven Lions)
5   Feel Something (by:Illenium, Excision, I Prevail)
9   When the Night Falls (by:Jason Ross, Fiora)
=====
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, c, or x]: x

```

Figure 1: Results of running program in Spyder

```
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, c, or x]: a

Enter ID: 125
What is the CD's title? A Million Miles
What is the Artist's name? Au5, Diandra Faye
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, c, or x]: i

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

5       Feel Something (by: Illenium, Excision, I Prevail)
101     Worlds Apart (by: Seven Lions)
1997    Puzzle Box (by: Rezz, Subtronics)
125     A Million Miles (by: Au5, Diandra Faye)
=====
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, c, or x]: a

Enter ID: 101
This is a duplicate ID.
Enter ID: 5
This is a duplicate ID.
Enter ID: -1
ID must be greater than 0.
Enter ID: sad;f
Invalid number sad;f entered.
Enter ID: 875
What is the CD's title? Let Me Go
What is the Artist's name? i_o, Tommy Trash, Daisy Guttridge
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, c, or x]: i

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

5       Feel Something (by: Illenium, Excision, I Prevail)
101     Worlds Apart (by: Seven Lions)
1997    Puzzle Box (by: Rezz, Subtronics)
125     A Million Miles (by: Au5, Diandra Faye)
875     Let Me Go (by: i_o, Tommy Trash, Daisy Guttridge)
=====
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, c, or x]: s
```

Figure 2: Results of running program in terminal

4 Conclusion

I got to practice writing Python classes and adhering to OOP principles, which I haven't really done much of yet.