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Assignment 07

Foundations of Programming: Python

Binary Files and Exceptions

Introduction

In this assignment, we worked with writing to and reading from binary files, as well as working with and creating custom exceptions.

Binary Files

Following the module 07 lab, I defined a pair of functions that would dump data to a binary file using Pickle, as well as read that data into a list:

```
6 # ----- #
7 import pickle # This imports code from another code file!
8
9 # Data ----- #
10 strFileName = 'AppData.dat'
11 lstCustomer = []
12
13 # Processing ----- #
14 1 usage
15 def save_data_to_file(file_name, list_of_data):
16     objFile = open(file_name, "ab")
17     pickle.dump(list_of_data, objFile)
18     objFile.close()
19
20 2 usages
21 def read_data_from_file(file_name):
22     file = open(file_name, "rb")
23     list_of_data = pickle.load(file)
24     file.close()
25     return list_of_data
26
27 # Presentation ----- #
28 # TODO: Get ID and NAME From user, then store it in a list object
29 intId = input("Enter an Id: ")
30 strName = str(input("Enter a name: "))
31 lstCustomer = [intId, strName]
```

Custom Exceptions

To try some error handling, I created a pair of custom exceptions to test if the input ID was an integer and the name was not. Unfortunately, these didn't work while the inputs were called with an 'int' and and 'str', so I had to leave the input options open in order for the error handling to work:

```
C:\Users\samew\Documents\Python\Module07\venv\Scripts\python.exe C:\Users\samew\Documents\Python\Module07\Assignment07\Assignment07.py
Enter an Id: Fren
Enter a name: Gobbo
There was an error:
Use numbers for the ID.
Common base class for all non-exit exceptions.
<class 'Exception'>
345

Process finished with exit code 0

C:\Users\samew\Documents\Python\Module07\venv\Scripts\python.exe C:\Users\samew\Documents\Python\Module07\Assignment07\Assignment07.py
Enter an Id: 345
Enter a name: 678
There was an error:
Don't use numbers for your name.
Common base class for all non-exit exceptions.
<class 'Exception'>
345

Process finished with exit code 0
```

However, using the input types requested by the errors did allow the script to work as intended:

```
C:\Users\samew\Documents\Python\Module07\venv\Scripts\python.exe C:\Users\samew\Documents\Python\Module07\Assignment07\Assignment07.py
Enter an Id: 124
Enter a name: Sam
User ID:
124

Name:
Sam

Process finished with exit code 0
```

```
C:\WINDOWS\system32\cmd. X + v

C:\Users\samew\Documents\Python\Module07\Assignment07>Python.exe "Assignment07.py"
Enter an Id: 124
Enter a name: Sam
User ID:
124

Name:
Sam
|
```

Conclusion

Another limitation of this script is that it only appeared to save the first inputs entered to the dat file—subsequent name/ID inputs would return the first one entered until a new dat file was created.