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12/2/2022
IT FDN 110 A Au 22: Foundations Of Programming: Python
Assignment07
https://github.com/yiy4/IntroToProg-Python-Mod07

Pickling with Exception Handling

Introduction

Pickling is a method to save in and read from a binary file. In this assignment, **pickle.load()** and **pickle.dump()** were used to learn about how pickling process works.

Setup

```
import pickle  # This imports code from another code file!

# Data -------------------------------------------- #
strFileName = 'ChristmasWishList.dat'
userInput = []
wishList = []
list = []

# Processing/Presentation -------------------------- #

print("""
Option Menu:
1) Read data
2) Add data

[Type 'q' to exit at any time.]
""")

strChoice = str(input("Which option would you like to perform? [1 or 2] - "))
print()
```

Similar to previous assignments, I wanted to set up options in my program to explore different functions.

Option 1: Allow users to read data from .dat file

```
if (strChoice.strip() == '1'):
    file = open(strFileName, "rb")
    while(True): # Getting all data by iterating pickle.load()
        try:
            list = pickle.load(file)
            wishList.append(list)
        except EOFError:
            break
    file.close()
    for row in wishList: # Printing data
        print(row[0] + ', ' + row[1])
```

Here, **try/except** statement had to be used to retrieve all data through **pickle.load()** function because the program does not know when to stop the **while** loop. The **try/except** allowed the program to only run until all of the data is retrieved from .dat file.

The following screenshot shows the error when **try/except** statement is not used:

```
Traceback (most recent call last):
  File "C:\_PythonClass\Mod07\copycopy.py", line 26, in <module>
    list = pickle.load(file)
EOFError: Ran out of input
```

This type of error handling is further explained in GeeksforGeeks's article called *Handling EOFERROR exception in Python*.

Also, the **file.close()** function was used outside the **while** loop because otherwise, the program would have repeatedly read the first line. Then every row was stored in wishList.

Option 2: allow users to add data to .dat file

```
elif (strChoice.strip() == '2'):
    file = open(strFileName, "ab")
    while(True): # Saving multiple items without restarting the program
        print()
        name = str(input("Enter a Name: "))
        if(name.lower() == "q"):
            break
        item = str(input("Enter an Item: "))
        if (item.lower() == "q"):
            break
        userInput = [name, item]
        pickle.dump(userInput, file)
    file.close()
```

This part of the script was written for the user input to be automatically saved in .dat file. This allows for each item to be saved as one element and can be retrieve as such.

Other options

```
elif (strChoice.lower() == 'q'):
    print()
    print("Goodbye!")
    pass

else:
    print()
    print("Error! " + strChoice + " is not an option.")
    pass
```

The rest of the script was similar to ones used in previous assignments. The 'Q' option allows for users to exit the program, while any other input notifies users that they need to type options that are given. Here **pass** was used instead of **break** because loop was not used.

Conclusion

There were a lot challenges I encountered while trying to use pickle functions (load and dump) within classes and definitions. In the future, with more time, I would like to explore options utilizing loops and functions similar to Assignment 6.

Running Option 1 in PyCharm and Command Shell:

```
C:\Python\python.exe C:\_PythonClass\Assignment07\Assignment07.py

Option Menu:
1) Read data
2) Add data

[Type 'q' to exit at any time.]

Which option would you like to perform? [1 or 2] - 1

christine, fountain pen
daisy, necklace
josh, jacket
```

```
C:\Users\pjy10>cd C:\_PythonClass\Assignment07

C:\_PythonClass\Assignment07>python.exe Assignment07.py

Option Menu:
1) Read data
2) Add data

[Type 'q' to exit at any time.]

Which option would you like to perform? [1 or 2] - 1

christine, fountain pen
daisy, necklace
josh, jacket
jae, mug
cameron, earphones

C:\_PythonClass\Assignment07>
```

Running Option 2 in PyCharm and Command Shell:

```
C:\Python\python.exe C:\_PythonClass\Assignment07\Assignment07.py

Option Menu:
1) Read data
2) Add data

[Type 'q' to exit at any time.]

Which option would you like to perform? [1 or 2] - 2


Enter a Name: jae
Enter an Item: mug

Enter a Name: cameron
Enter an Item: earphones

Enter a Name: q

Process finished with exit code 0
```

```
C:\_PythonClass\Assignment07>python.exe Assignment07.py

Option Menu:
1) Read data
2) Add data

[Type 'q' to exit at any time.]

Which option would you like to perform? [1 or 2] - 2


Enter a Name: taylor
Enter an Item: book

Enter a Name: sam
Enter an Item: hand cream

Enter a Name: q

C:\_PythonClass\Assignment07>
```

Random Input and Exiting the Program:

```
C:\Python\python.exe C:\_PythonClass\Assignment07\Assignment07.py

Option Menu:
1) Read data
2) Add data

[Type 'q' to exit at any time.]

Which option would you like to perform? [1 or 2] - 3


Error! 3 is not an option.

Process finished with exit code 0
```

```
C:\_PythonClass\Assignment07>python.exe Assignment07.py

Option Menu:
1) Read data
2) Add data

[Type 'q' to exit at any time.]

Which option would you like to perform? [1 or 2] - jake


Error! jake is not an option.

C:\_PythonClass\Assignment07>
```

```
C:\Python\python.exe C:\_PythonClass\Assignment07\Assignment07.py

Option Menu:
1) Read data
2) Add data

[Type 'q' to exit at any time.]

Which option would you like to perform? [1 or 2] - q


Goodbye!

Process finished with exit code 0
```

```
C:\_PythonClass\Assignment07>python.exe Assignment07.py

Option Menu:
1) Read data
2) Add data

[Type 'q' to exit at any time.]

Which option would you like to perform? [1 or 2] - q


Goodbye!

C:\_PythonClass\Assignment07>
```

Works Cited

Dawson, M. (2010). *Python programming for the absolute beginner: Michael Dawson*. Course Technology Cengage Learning.

Handling EOFERROR exception in Python. GeeksforGeeks. (2020, September 2). Retrieved November 30, 2022, from https://www.geeksforgeeks.org/handling-eoferror-exception-in-python/

Root, Randal. *_Mod7PythonProgrammingNotes*. Microsoft Docs. Retrieved November 29, 2022.