IB

May 14, 2024

IT FDN 110 A

Assignment 05

Exceptions and JSON

Introduction

In the fifth module, we learned about using new data types and a new data format with javascript object notation (JSON). I enjoyed learning to work with JSON files as the key value pairs make for easier viewing and understanding. We also learned about structured error handling, and the ability to raise an exception, and we finally learned about source control with github.

Importing the JSON module

To use JSON, we need to first import the JSON module using 'import' at the top of the python script. This provides a set of methods to simplify working with JSON data. This is the first time we have used the import statement to add built-in python modules to our code. This module simplified the process to open and close a JSON file using the json.load() & json.dump() functions.

```
7
8   import json
9
```

Figure 1: import statement

```
try:
    file = open(FILE_NAME, "r")
    student = json.load(file)
    for row in file.readlines():
        # Transform the data from the json file
        student_data = {'first_name': student_first_name, 'last_name': student_
```

Figure 2: json.load() function

Error & Exception Handling

One of the new capabilities we needed to add in this assignment was to add error and exception handling. By using the try, except, and finally statements, we are able to gracefully handle errors by providing simple feedback, or provide verbose information for further troubleshooting. Error and exception handling also provides the ability to have the program respond to an error in a pre-specified manner and perform certain actions no matter what happens.

```
try:
    file = open(FILE_NAME, "w")
    json.dump(students, file)
except FileNotFoundError as e:
    print("The file must exist before running this script!\n")
    print(e, e.__doc__)
except Exception as e:
    print("There was a non-specific error!\n")
    print(e, e.__doc__)
finally:
    if file.closed is False:
        file.close()
```

Figure 3: try, except, finally statements

Creating a GitHub account & repository

Creating a GitHub account and our first source code repository
The final part of this week's assignment was to create a GitHub account, create a repository, and upload our script to the repository. GitHub is a very powerful platform that has MANY different features for collaboration, change history, and even security.
I'm excited to learn more about the ways we can use this tool to be to collaborate with others when working on a project, and to also track who, when and what changes were made.

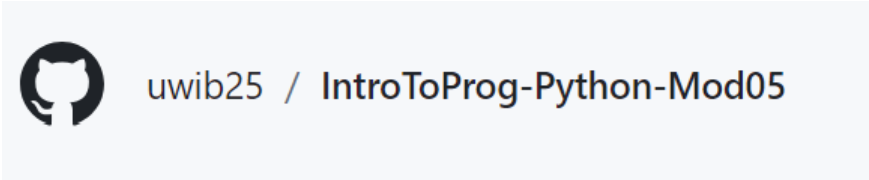

Figure 4: GitHub Account

Summary

In summary, we have added to our list of data types we can use, as well as when and where to add error and exception handling. This makes our script more robust, and able to handle unexpected input and to direct a user what input to type. Finally, by leveraging a source control platform such as GitHub, we will be able to share our code with others, as well as view and assist others with their own projects!