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Foundations of Programming: Python
Assignment05

Using Lists to Collect Data

Introduction

This assignment builds off of assignment 04 through its similar use of conditional logic, variables, and storing data in a file. This assignment differs by the addition of data handling and using dictionaries.

Starting the Assignment

I started this assignment by adding in the error handling piece because I found that to be an easier concept for me to understand at first in comparison to dictionaries. I did the errors that handled the user inputs first name and last name.

Defining Constants and variables

I defined all the constants and variables as usual although I was cautious of the dictionary set up.

Dictionaries

The part I struggled with the most was the dictionary piece. I tried to set up and understand them in a different part of the code. I was confused by the use and calling of “keys”. Looking back on it now it does not look that bad but it was really rough at the time of creation. The following is my code for assignment 05. Recall that the append feature adds the new student data to the previous named students.

```
# Input user data
if menu_choice == '1':
   try:
       student_first_name: str = input('Please enter the first name for the
student ')
       student_last_name: str = input('Please enter the last name for the
student ')
       course_name: str = input('Please enter the name of the course ')
       students_data: dict = {'first name': student_first_name, 'last name':
student_last_name,
                              'course name': course_name}
       students.append(students_data)
```

```
    except TypeError as error:
        print(error)

# Present the current data
elif menu_choice == '2':
    for student in students:
        temp_line: str = f"{student['first name']},{student['last
name']},{student['course name']}"
        print(temp_line)

    # Save the new data to a file
elif menu_choice == '3':
    try:
        file = open(FILE_NAME, 'w')
        for student in students:
            temp_line: str = f"{student['first name']},{student['last
name']},{student['course name']}\n"
            file.write(temp_line)
            print(temp_line.strip())
        file.close()
    except IOError:
        print('File Not Found or this program does not have permissions to write
to the specified file')

# Stop the loop
elif menu_choice == '4':
    exit()
```

Summary

In summary, this was a tougher assignment for me because I did not understand dictionaries but I got through it with the help of my coder friend and watching a lot of the suggested course materials. I was mostly intrigued by the error handling and all of the variations of reading and understanding errors within python. In retrospect, I do see how dictionaries could be useful and I might even use it for a python project I might do in the future to call recipes and ingredients into a code.