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Course: FDN 110
Assignment: Assignment 05

Assignment 05 -

Introduction

In this week's course, we learned about creating a table using a dictionary, it can also be used for adding and deleting data.

Dictionary Collections

In dictionaries, keys are used as identifiers to access a value, they are unique, immutable, and case sensitive, while dictionary itself is mutable and can be changed/edited. Dictionaries make data easy to organize, and because each key is unique, python can find values easily, they are ideal for storing structured data.

```
Vic,Vu is registered in Python.
Sue,Jones is registered in Python.
Bob,Baker is registered in fdn.
Enter the first name to remove: vic

--- Displaying data ---
Vic,Vu is registered in Python.
Sue,Jones is registered in Python.
Bob,Baker is registered in fdn.
```

```
Vic,Vu is registered in Python.
Sue,Jones is registered in Python.
Bob,Baker is registered in fdn.
Enter the first name to remove: Vic

--- Displaying data ---
Sue,Jones is registered in Python.
Bob,Baker is registered in fdn.
```

Figure 1.1 & 1.2 Keys are case sensitive, the first name was stored as Vic instead of vic (left), so nothing was removed in the left image.

Dictionaries can be used for CSV and JSON file types, it can read every row in each file, splitting the values and convert them into unique keys, when we want to add inputs as a new row, it will be appended to the existing table. However, while JSON files can store dictionaries and keep the data types, the CSV files can only create tables, while changing everything into a string, which makes it difficult when we want to work with real numbers.

Exceptions

There are four codes for exception handling, try, except, else, and finally. It can be used to anticipate errors and respond to them, so that our program can continue to run instead of crashing. We put "try" at where the code might cause an error, Python will skip to "else" if no error was seen, and will jump to "except" if an error occurs. This method allows us to put in our own exceptions, allowing us to put in "ValueError" for an error message we create, and it will stop

the program when the user input an invalid value, as shown in Figure 2.1. But with exception handling, we can simply stop the user from entering invalid values and communicate directly with the program, and we can decide whether to continue or stop the program Figure 2.2.

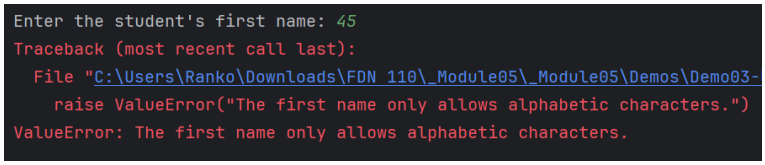

Figure 2.1 Entire program stops, error message pop up when trying to enter a non-alphabetic character

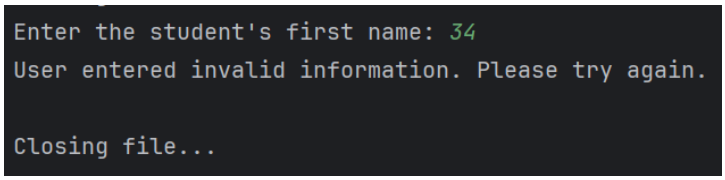

Figure 2.2 Program does not crash at error, we can decide what to do next

Github

Github is a very useful online tool that we can use to upload our codes and communicate with others. We can create a repository on this site, and upload our code to it. When we make changes on previously uploaded files, then upload it again, the github updates our file instead of creating a duplicate, and it saves all the changes we've made in "commit".

Summary

I find that with dictionaries, it is more obvious for what value I entered, because instead of using integers, I was able to use strings, and all other immutable data types, as my keys. And with exception handling, now we can control what happens when we encounter an error, decide whether to log the error or continue and ask for input again.