Al-Ansar Mohammed

Dictionary Assignment

Presented to  
Mr. Marc Balardelle

Introduction to Computer Science  
420-GEB-03  
Group: 402

Royal Military College Saint-Jean  
16 October 2020

Acknowledgement Statement

This work conforms to RMC Saint-Jean Academic Integrity Policy as it is found at <http://www.cmrsj-rmcsj.forces.gc.ca/ea-cs/pie-amp/pie-amp-eng.asp>.

By uploading an electronic version or providing a paper copy, I acknowledge that I am in compliance with the principles of academic integrity.

I have taken adequate time to reflect on the sources of this work in order to quote all external sources and helps in the detailed declaration below. I have also stated the help I provided to other classmates. (Activities on a public or teacher moderated forums need only to be identified with your account identification, date and topic, and the site address.)

Any subsequent use of the files making up this assignment constitutes an act of plagiarism unless an updated declaration is provided in an updated submittal.

**Date : 16 October 2020**

|  |  |  |
| --- | --- | --- |
| Date | Detailed activity or Forum | Participants or My account |
|  | No activity to declare |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

Declaration of Assistance

Goal/Overview of Program

The goal of this program was to take a given text and convert it to NATO phonetic alphabet using dictionaries.

This program does the above while also allowing the user to redefine the encoding system. The program starts loaded with NATO phonetic alphabet and then allows users to change the code. EX. Instead of ‘a’ being alpha, they could make ‘a’ into apple. This program also includes an option to terminate the program.

Difficulties/Challenges

While this assignment was not too complex, it did require me to familiarize myself with dictionaries in python. At first, going off memory, I was using tuple notation and was met with many errors upon runtime. This led to quite a bit of frustration on my part, up until I reviewed the notion. This taught me the valuable lesson of not being too sure of myself. Regardless of how proficient of a programmer I see myself as, an intelligent programmer should know when and how to use their resources.

In the future to help with this difficulty, I will review the syntax/data structures/logic patterns I will be using before I start the assignment. This way, I most efficiently use my time and can use the time I have saved from going back and forth from Google to my code to improve my program.

Learned

Similar to above, throughout this assignment I learned about dictionaries and tuples.

Above is a sample tuple and a sample dictionary. A tuple is an ordered immutable collection. Tuples are commonly used when expressing colours in hexadecimal, where the values is not having any operations performed on them. Whereas a dictionary is an unordered mutable collection with both indices and keys. A dictionary contains unique keys that access the paired (not necessarily unique) value.

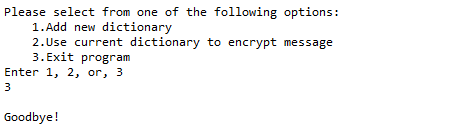
Improvements

If I were to redo this assignment, I would have the dictionary be read and written from a file, rather than hardcoding the initial NATO phonetic alphabet. This would allow someone using my code to easily load different default codes. Additionally it makes rewriting the dictionary a lot more elegant with having users write their code to the file rather than just changing to dictionary. This would allow saved dictionaries to be carried on for future use after runtime.

# Gallery

**Figure 2 – Demonstration of updating dictionary and using it upon update**

**Figure 1 – Sample message using the default NATO phonetic alphabet**



**Figure 3 – Exiting the program**

# GitHub

An extremely important aspect of programming is sharing your work with others. GitHub is a type of version control system that allows users to share and work on code together. It is heavily used when working on large projects with a variety of working parts. Below I have included a link to my own page, where you can find this assignment as well as some of other past work samples.

[**https://github.com/scienceguy131**](https://github.com/scienceguy131)