CPE_Group9 CPE106L/B3

Engr. Dionis Padilla April 29, 2024

LABORATORY EXERCISE #2

Strings, Lists, Tuples, and Dictionaries

PreLab

METIS book: Chapter 4 and Chapter 5

Fundamentals of Python: First Programs

Kenneth A. Lambert

Edition 3

ISBN: 9780357881132

Cengage Learning US

2019

Websites: https://docs.python.org/3/contents.html

cplusplus.com/reference/list/list/?kw=list

Readings, Insights, and Reflection:

- Torres, Nicole Allyson B.
    - Fundamentals of Python: First Programs (Chapter 4 and 5)
    - The book's fourth chapter comprehensively explains strings and their various properties. According to the chapter, a string is a sequence of characters, and the "len" function returns the number of characters in a string. Moreover, the chapter explains that the subscript operator "[ ]" can access a character at a specific position in a string. The index inside the subscript operator must be an integer expression whose value is less than the length of the string. The chapter also discusses the concept of slicing, which enables us to extract a substring from a string using the subscript operator. When the subscript has the form [<start>:],

the substring contains the characters from the start position to the end of the string.

Chapter 5 of the book explains lists and dictionaries, which are fundamental data structures in Python. The chapter defines a list as a sequence of elements of any type. Each list component occupies a specific position, ranging from 0 to the length of the list minus 1. Furthermore, the chapter explains that a list is a mutable data structure, meaning an element can be replaced with a new one, added to the list, or removed. The chapter also discusses the concept of dictionaries, which are key-value pairs. Finally, the chapter highlights pertinent files and websites that can be utilized to enhance our learning experience. We can better understand Python by studying and applying these concepts to programming problems.

- Pangilinan, Cromuel
    - Fundamentals of Python: First Programs

- Gavino, Karl Ignatius G.
    - Fundamentals of Python: First Programs

The basic ideas of control structures in Python, such as loops (while and for loops) and decision structures (if, else if, and else statements) are presented in Chapter 4 of the book. These structures let programmers efficiently iterate over data and regulate the program's flow based on circumstances. Learning these control structures equips students with the skills necessary to construct more dynamic programs. Control structures are one of the building blocks of any software application, and mastering them lays a solid foundation for further learning and exploration in Python. The author's approach to explaining these concepts is clear and structured, with plenty of examples and exercises to reinforce learning.

Using functions as a starting point, Chapter 5 delves into the Python notion. Functions are crucial for encouraging modularity and code efficiency by arranging code into reusable building parts. The knowledge to define functions, pass parameters to them, and have them return values is gained in this chapter. Also, it discusses the idea of scope, explaining how variables can exist in different portions of a program and have varying lifetimes and visibility. These chapters

emphasize the importance of writing clean, readable, and maintainable code. By following best practices in coding style and organization, one can cultivate good habits early on, setting themselves up for a good future in Python programming.

- Alonzo, Xavier
    - Fundamentals of Python: First Programs

Answers to Questions:

1. B
2. B
3. A
4. B
5. B
6. C
7. B
8. B
9. B
10. B