﻿ ﻿CS 171

Lab Assignment 3

Data Type & Collection Data Types

This lab assignment uses many elements provided in the main bibliographic reference for

these lectures:

Programming in Python 3

A Complete Introduction to the Python Language,

2nd Edition,

Mark Summerfield

﻿**1 Exercises**

**﻿Exercise 1** *Repeat Exercise 1(Labchapter3.pdf), but in such a way that the program outputs a set (but not using the set() function to convert from a list). An example of the execution of such program is:*

$ Please enter a string: program

{(’p’, 1), (’r’, 2), (’o’, 1), (’g’, 1), (’a’, 1), (’m’, 1)}

**Exercise 2** *Modify quadratic.py (Book Page 94.) so that 0.0 factors are not output, and so that negative factors are output as - n rather than as + -n, and so that all factors with 0.0 can be executed as expected. And please name the file with quadratic\_zero.py.*

Example:

ax² + bx + c = 0

enter a: 0

enter b: 2

enter c: 5

Output:

2.0x + 5.0 = 0 → x = -2.5

Example:

ax² + bx + c = 0

enter a: 0

enter b: 0

enter c: 5

Output:

This is not a equation

Example:

ax² + bx + c = 0

enter a: 2

enter b: -4

enter c: 3

Output:

2.0x² - 4.0x + 3.0 = 0 → x = (1+0.7071067811865476j) or x = (1-0.7071067811865476j)