

**Allen E. Paulson College of Engineering& Computing**

**Department of Information Technology**

**Lab 7**

Report for **Lab 7** that is due on Thursday, March 3, 2022

As part of ITW 2431 Data Programming II

**Name: Michael Patak**

**Date of Submission: Thursday, March 3, 2022**

# Section 1 – Lab 7 Prob 1 Purpose(s) of Program Problem, Output of Sample Run, and Learning Experience

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| 1. **Purpose(s) of Problem:**   The program will take a word as input from the user. The program will take the input and convert it  to a tuple and it will then count the number of occurrences of each letter in the tuple. The program  will output the input as a converted tuple and the number of occurrences of only the letters with  more than one occurrence. |
| 1. **Source Code File Name:** ITW2431\_L7\_P1\_mpatak.py |
| 1. **Other Supporting File(s) (if any):** n/a |
| 1. **Hours Spent on Developing the Solution of the Problem and Writing the Program:** 1 hours |
| 1. **The Output of Program Sample Run:** |
| 1. **Overall Learning Experience for the Problem:**   For this problem I reused some code from a previous lab for counting the number of occurrences in an input word/string. Instead of just using a dictionary I converted the input string to a tuple. I then determined the number of occurrences which I stored in a new dictionary. For the output I parsed through the dictionary of occurrences and printed out the letter with more than one occurrence. |

# Section 1 – Lab 7 Prob 2 Purpose(s) of Program Problem, Output of Sample Run, and Learning Experience

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| 1. **Purpose(s) of Problem:**   The program will take a hardcoded dictionary and create a list of tuples. The program will then sort  the list in ascending order and that list will be used to create a tuple using the sorted list. The  program will then output the sorted list. The program will then sort the list in descending order and  print out the sorted list. |
| 1. **Source Code File Name:** ITW2431\_L7\_P2\_mpatak.py |
| 1. **Other Supporting File(s) (if any):** n/a |
| 1. **Hours Spent on Developing the Solution of the Problem and Writing the Program:** 1.5 hours |
| 1. **The Output of Program Sample Run:** |
| 1. **Overall Learning Experience for the Problem:**   This was a fun problem. The first thing was building the steps of the program from an existing dictionary to a list to be sorted and then using that list to create a tuple. The printing part was building a print string first using the tuple\_name[x][y] to access each element of the tuple. |