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Lab 9 — Dictionaries & Tuples

COMP 150 : Introduction to Programming

(100 points)

Brief Description

The goal of this lab is to [assess your knowledge and skills on the concepts of string manipulations, file processing and dictionaries in Python](#), and to give you adequate support during the laboratory session so as to solidify your knowledge of the learnt concepts.

Problem Definitions

60 points You are to complete function `countNumbers(fileName)`, by inserting the required block of code (DO NOT MODIFY OTHER GIVEN CODES). The function returns a dictionary of numbers and their respective frequencies enclosed in the given file "`numbers.txt`".

HINT – Solving the problem requires that you pass a fully-qualified file name (in our case - "`numbers.txt`", since the file is in the same location as "`lab9.py`") of the file given to you (see attached zipped file) as argument and manipulating its content. A correct implementation will produce a table of pairs like the following (arranged in descending order of frequencies). **A variation from these requirements will result in a 50% loss of the entire points.**

<i>Numbers</i>	<i>Counts</i>
2	112
5	107
4	107
6	103
9	100
8	100
1	99
0	97
7	91
3	84

10 points Include a program design for your program.

5 points Document your program extensively.

25 points Develop a flowchart for function *countNumbers(fileName)* only – please refer to the example in my lecture notes.

*****CHECK OFF - Ensure you show your working code to either the lab monitor or instructor before the end of lab session.**