Artificial Intelligence
Lab Assignment 1

Title: Learning Python by Problem Solving

Viva or Quiz due on 17.1.2018

References:
https://www.tutorialspoint.com/python/index.htm
(from Python->Home to Python->Classes & Objects)

1. Write a program that takes three numbers as input from command line and outputs the largest among them.

   Sample Run:
   python findLargest.py 14 7 21
   21

2. Write a program that reads numbers from a given input text file (filename passed as command line argument). Each number is on a separate line in this input text file. After reading numbers, program finds the average of these numbers.

   Input File (input.txt):
   34
   23
   12
   45
   57

   Output File (output.txt):
   34.2

   Sample Run:
   python findAverage.py input.txt output.txt

3. Write a program that takes a sentence as input and outputs its reverse. Uppercase letters (if any) are converted to lowercase before reversing. Input sentence is taken as command line argument and output is printed on console.

   Sample Run:
   python reverseSentence.py “this is a straight sentence”
   sentence straight a is this

4. Write a program that reads a paragraph in English language from an input text file (filename passed as command line argument). After reading the paragraph, program

finds the number of sentences (separated by full stop), number of words (separated by space) and number of characters (full stop and spaces are ignored, paragraph won't contain any other punctuations), each on separate line in output file.

Input File (input.txt):
Welcome to AI course. We will work on python. This looks exciting.

Output File (output.txt):
3
12
52

Sample Run:
python processParagraph.py input.txt output.txt

5. Write a program that reads a paragraph in English language from an input text file (filename passed as command line argument). After reading the paragraph, program finds unique words (separated by space, uppercase & lowercase is ignored, all words are converted to lowercase) and finds frequency of occurrence of each word. Unique work and its frequency is to be written on separate line in output file.

   Input File (input.txt):
   This is nice. Are you looking at this ? They are good students.
   Today is nice day.

   Output File (output.txt):
   this,2
   is,2
   nice,2
   are,2
   you,1
   looking,1
   at,1
   they,1
   good,1
   students,1
   today,1
   day,1

   Sample Run:
   python findWordFrequency.py input.txt output.txt

6. URL Extractor: Write a program that takes source of a web page as input (HTML file), finds all the URLs (hyperlinks) and displays them in the output. (Hint: use beautifulsoup module available for Python)

7.

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