Geo106E
Fundamentals of Programming
Lab-8

2018-2019
Spring Semester

LabWork 8.1 Read File (File name « Lab8.1.py »)

open()

Write a Python script that opens and reads the contents of “names.txt” file and prints them.

Hints: read() and close() methods

read() method returns a string with each line ending with newline character

Use file open mode “w” and ‘r’

Character	Meaning
`'r'`	open for reading (default)
`'w'`	open for writing, truncating the file first
`'x'`	open for exclusive creation, failing if the file already exists
`'a'`	open for writing, appending to the end of the file if it exists
`'b'`	binary mode
`'t'`	text mode (default)
`'+'`	open a disk file for updating (reading and writing)
`'U'`	universal newlines mode (deprecated)

LabWork 8.2
(File name « Lab8.2.py »)

open()

Write a script that opens text file named “numbers.txt” which contains integer values in each line. Calculate the square of each integer value and print them on the screen.

Hints:

use for loop to iterate on values of sequence (list of lines obtained from readlines())

use strip method to get rid of newline character

use int() function to convert strings to integers

LabWork 8.3
(File name « Lab8.3.py »)

In your lab folder there is a file named “coordinates.txt” that contains information about some traverse points. In each line of the file, point numbers, X, Y coordinates and orthometric heights are stored for individual traverse points

(FORMAT: point numbers, X,Y coordinates and orthometric heights)

Write a python script that reads data from the file and appends each data to its specific list like pID, xcoord, ycoord, height. and calculate the horizontal distance between consecutive points. Print the calculated distances to the screen as given in the example.

Distance between P101 and P102 : 162.865 m

Distance between P102 and P103 : 162.865 m

Distance between P103 and P104 : 162.865 m

Distance between P104 and P105 : 162.865 m

Distance between P105 and P106 : 162.865 m

Distance between P106 and P107 : 162.865 m

Distance between P107 and P108 : 162.865 m

Distance between P108 and P109 : 162.865 m

Distance between P109 and P110 : 162.865 m

LabWork 8.4 Open File
(File name « Lab8.4.py »)

Write a Python script that creates files ‘pid.txt’, ‘xcoordinates.txt’, ‘ycoordinates.txt’, ‘heights.txt’ and ‘distances.txt’and write the corresponding values from LabWork 8.3 to these text files.

Use print() function and write() function to write the values to the files.