

Lab. 7 I/O files (collaborative)

Members:

Josue Isaias Gomez Cosme

Bruno Hernández López

Jose Alberto Gomez Diaz

Christian Aaron Ortega Blanco

1. Review the next resources
 - <https://towardsdatascience.com/complete-guide-on-file-handling-in-python-314cc8f0fdab>
 - https://www.w3schools.com/python/python_file_handling.asp
 - <https://www.geeksforgeeks.org/file-handling-python/>

CSV Writing

- <https://code.tutsplus.com/es/tutorials/how-to-read-and-write-csv-files-in-python--cms-29907>
 - <https://docs.python.org/3/library/csv.html>
2. Execute the next exercises
 - Write a program that takes a text file as an argument containing some of your favorite text - perhaps a poem, a speech, instructions to bake a cake, some inspirational verses to a song, etc. Write a function which removes all punctuation from string, breaks the string into a list of words, and counts the number of words in your text that contain the letter 'e'. Your program should print an analysis of the text like this:

Your text contains 243 words, of which 109 (44.8%) contain an 'e'. (Exercise extracted from <http://www.openbookproject.net/books/bpp4awd/exercises/ch06/ch06s02.html>)



```
FOLDERS
▼ moveregister
  /* design.sv
  /* detector_111
  /* detector_111.sv
  /* fileregister.sv
  /* mux_2to1.sv
  /* regLoad.sv
  /* testbench.sv
  /* tristate.sv
  /* tst.sv

1  x=""
2  with open('fightclub.txt') as f:
3      line = f.readline()
4
5      while line:
6          line = f.readline()
7          x=x+line
8
9
10 disallowed_characters = ",._-\"!"
11 for character in disallowed_characters:
12     x = x.replace(character, "")
13
14 words=x.split()
15 index = x.count('e')
16 percent=(index*100)/len(words)
17
18 print("your text contains",len(words),"of which ",index," (",round(percent),"%)", " contains an 'e'")

your text contains 453 of which 208 ( 46 %) contains an 'e'
[Finished in 165ms]
```

Create the following programs:

- A program called that generates a file called "multiplos.txt" with the first ten multiples of 5.

```
C: > Users > isaia > OneDrive > Documentos > Intel_Trabajo > Trabajos > Python > Prueba.py > ...
140 > """Semana 5 Lab 5. Lists and tuples ACT.2...
153 > """Semana 5 Lab 5. Lists and tuples ACT.3...
166 > """Semana 5 Lab 6. Loops ACT.1...
180 > """Semana 5 Lab 6. Loops ACT.2 Juego de Adivinar numero entre 0-50...
206 > """Semana 5 Lab 7. Loops ACT.2
207 > """
208 from io import open
209
210 text_file=open("multiplos.txt","w")
211 sentence="5, 10, 15, 20, 25, \n 30, 35, 40, 45, 50"
212 text_file.write(sentence)
213 text_file=open("multiplos.txt","r")
214 text=text_file.read()
215 #text_lines=text_file.readlines()
216 print(text)
217 text_file.close()
218 #print(text_lines)
219 #print(text_lines[1])

PROBLEMAS SALIDA TERMINAL CONSOLA DE DEPURACIÓN

PS C:\Users\isaia> & C:/RoboDK/Python37/python.exe c:/Users/isaia/OneDrive/Documentos/Intel_Trabajo/Trabajos/Python/Prueba.py
5, 10, 15, 20, 25,
 30, 35, 40, 45, 50
PS C:\Users\isaia> █
```

- A program that reads the contents of the file "multiplos.txt" and prints it on the screen.

```
140 > """Semana 5 Lab 5. Lists and tuples ACT.2...
153 > """Semana 5 Lab 5. Lists and tuples ACT.3...
166 > """Semana 5 Lab 6. Loops ACT.1...
180 > """Semana 5 Lab 6. Loops ACT.2 Juego de Adivinar numero entre 0-50...
206 > """Semana 5 Lab 7. Loops ACT.2
207 > """
208 from io import open
209
210 #text_file=open("multiplos.txt","w")
211 #sentence="5, 10, 15, 20, 25, \n 30, 35, 40, 45, 50"
212 #text_file.write(sentence)
213 text_file=open("multiplos.txt","r")
214 #text=text_file.read()
215 text_lines=text_file.readlines()
216 #print(text)
217 text_file.close()
218 print(text_lines)
219 print(text_lines[1])

PROBLEMAS SALIDA TERMINAL CONSOLA DE DEPURACIÓN

PS C:\Users\isaia> & C:/RoboDK/Python37/python.exe c:/Users/isaia/OneDrive/Documentos/Intel_Trabajo/Trabajos/Python/Prueba.py
['5, 10, 15, 20, 25, \n', ' 30, 35, 40, 45, 50']
 30, 35, 40, 45, 50
PS C:\Users\isaia> █
```

- A program that adds to the file "multiplos.txt" the next ten multiples of 5. To do this the program must find out what was the last number written.

```

Clase 24 > Multiplo.py > ...
1  import os
2  multiplos=[]
3  file = open("multiplos.txt", "r")
4  multiplos=file.read().split(',')
5  file.close()
6  print("CONTENIDO DEL ARCHIVO: ")
7  print(multiplos)
8
9  ultimo=int(multiplos[-1])
10 file = open("multiplos.txt", "a")
11 for x in range(1,10):
12     ultimo+=5
13     file.write(','+str(ultimo))
14 file.close()
15 file = open("multiplos.txt", "r")
16 multiplos=file.read().split(',')
17 file.close()
18 print("CONTENIDO ACTUALIZADO: ")
19 print(multiplos)

```

PROBLEMS OUTPUT DEBUG CONSOLE **TERMINAL**

```

thonFiles\lib\python\debugpy\launcher' '62167' '--' 'c:\Users\alber\OneDrive\Documentos\Verificacion Pre-silicio\VS
PS C:\Users\alber\OneDrive\Documentos\Verificacion Pre-silicio\VSC> c;; cd 'c:\Users\alber\OneDrive\Documentos\Ver
SC'; & 'C:\Users\alber\AppData\Local\Programs\Python\Python310\python.exe' 'c:\Users\alber\.vscode\extensions\ms-py
thonFiles\lib\python\debugpy\launcher' '62180' '--' 'c:\Users\alber\OneDrive\Documentos\Verificacion Pre-silicio\VS

CONTENIDO DEL ARCHIVO:
['5', '10', '15', '20', '25', '30', '35', '40', '45', '50']
CONTENIDO ACTUALIZADO:
['5', '10', '15', '20', '25', '30', '35', '40', '45', '50', '55', '60', '65', '70', '75', '80', '85', '90', '95']

```

INDICATIONS

- It generates a list containing the following information for 5 persons:
- Name
- Grade and group
- Final grade
- Import the information to a CSV file where you organize the information by column:

	A	B	C	D	E	F	G	H
1	Nombre	Grado y grupo	calificación final					
2	Rosa	1B	9.8					
3								
4								
5								
6								
7								
8								
9								

1. An empty csv file with name "example.csv" was created in order to import the data code into the file

Nombre	Fecha de modificación	Tipo	Tamaño
.vscode	03/06/2022 08:22 a. m.	Carpeta de archivos	
example.csv	03/06/2022 08:40 a. m.	Archivo de valores sepa...	1 KB

- Code with list generated, and then writing the values in "example.csv":

```

Untitled-1.py • example.csv
.vscode > Untitled-1.py > ...
1 import csv
2
3 myData = [{"Nombre", "Grado", "Calificacion Final"},
4           ['Jose', '8A', '9.4'],
5           ['Christian', '9B', '9.5'],
6           ['Isaías', '7C', '9.2'],
7           ['Bruno', '6B', '8.7'],
8           ['Alumno 5', '10A', '6.8']]
9
10 myFile = open('example.csv', 'w')
11 with myFile:
12     writer = csv.writer(myFile)
13     writer.writerows(myData)
14

```

- Data from list is exported and organized in columns and rows

example.csv - Excel

Archivo Inicio Insertar Disposición de página Fórmulas Datos Revisar Vista Complementos Ay

Pegar Fuente Alineación Número Estilos

OBTENGA OFFICE AUTÉNTICO Su licencia no es original y puede ser víctima de una falsificación de software. Evite las interrupciones mantenga sus archivos a salvo con una licencia original de Office hoy mismo.

	A	B	C	D	E	F	G	H
	Nombre	Grado	Calificacion Final					
	Jose	8A	9.4					
	Christian	9B	9.5					
	Isaías	7C	9.2					
	Bruno	6B	8.7					
	Alumno 5	10A	6.8					

- To validate in VisualCode, we added the followings lines of code:

```

10  myFile = open('example.csv', 'w')
11  √ with myFile:
12      | writer = csv.writer(myFile)
13      | writer.writerow(myData)
14
15  print("Writing complete")
16
17
18  results = []
19  √ with open('example.csv') as File:
20      | reader = csv.DictReader(File)
21  √   | for row in reader:
22      |     results.append(row)
23      | print (results)

```

5. In the terminal console, the information from “example.csv” is imported and shown.

```

Writing complete
[{'Nombre': 'Jose', 'Grado': '8A', 'Calificacion Final': '9.4'}, {'Nombre': 'Christian', 'Grado': '9B', 'Calificacion Final': '9.5'}, {'Nombre': 'Isaías', 'Grado': '7C', 'Calificacion Final': '9.2'}, {'Nombre': 'Bruno', 'Grado': '6B', 'Calificacion Final': '8.7'}, {'Nombre': 'Alumno 5', 'Grado': '10A', 'Calificacion Final': '6.8'}]

```