LISTS & DATAFRAMES

April 28, 2021

1 INTRODUCTION TO PYTHON

1.1 Goal:

- How to create different objects (lists and dataframes) in Python.

1.2 Tasks:

- Create lists of different types of data
- Select different elements from a list (indexing)
- Add, delete or modify items in a list
- Create a Dataframe from lists

2 Creating lists with data from Social Networks

[1]:
```
# Social networks
#================================

fbk = ["Facebook", 2449, True]
twt = ["Twitter", 339, False]
ig = ["Instagram", 1000, True]
yt = ["YouTube", 2000, False]
lkn = ["LinkedIn", 663, False]
wsp  = ["WhatsApp", 1600, True]

fbk, twt, ig
```

[1]:
```
(['Facebook', 2449, True], ['Twitter', 339, False], ['Instagram', 1000, True])
```

2.1 We add a 4th element: Creation date

- For this we will use the function `.append ()`

[2]:
```
# We add data Creation Date
#================================

fbk.append(2006)
twt.append(2006)
```

```
ig.append(2010)
yt.append(2005)
lkn.append(2003)
wsp.append(2009)


# fbk.remove(2006)
# twt.remove(2006)
# ig.remove(2010)
# yt.remove(2005)
# lkn.remove(2003)
# wsp.remove(2009)


fbk, twt, ig, yt, lkn, wsp
```

[2]:
```
(['Facebook', 2449, True, 2006],
 ['Twitter', 339, False, 2006],
 ['Instagram', 1000, True, 2010],
 ['YouTube', 2000, False, 2005],
 ['LinkedIn', 663, False, 2003],
 ['WhatsApp', 1600, True, 2009])
```

3 Select different items (Indexing)

[3]:
```
# We select an element from the list
#==================================
print(fbk[0])


# We select a range of elements from the list
#==================================
print(fbk[0:2])


# We select all the elements of the list
#==================================
print(fbk[:])
```

```
Facebook
['Facebook', 2449]
['Facebook', 2449, True, 2006]
```

[4]:
```
# We create a list with the social network names
#==================================
nombres_rrss = ["Facebook", "Twitter", "Instagram", "Youtube", "LinkedIn",␣
 ↪"WhatsApp"]
```

```
# The last item does not enter the selection (WhatsApp)
#================================
print(nombres_rrss[0:5])


# We can make the selection in reverse
#================================
print(nombres_rrss[-1])
```

```
['Facebook', 'Twitter', 'Instagram', 'Youtube', 'LinkedIn']
WhatsApp
```

4 Add, delete or modify items in a list

4.1 Other functions (extend, pop, remove, instert)

- **Extend:** We can add more than one element (at one time) as a list
- **Pop:** We will remove an element by the index (by default, the last one will be removed)
- **Remove:** We will remove the element we want (according to name)
- **Insert:** Insert an element, in the position we want

[5]:
```
# Create list from zero
#================================
tlg = []


# Add data to the list
#================================
tlg.append("Telegram")
tlg.extend([400, True, False])
tlg.insert(3,2017)


# Remove false data (2017, False)
#================================
tlg.pop(4)
tlg.remove(2017)


# Modify True data (wrong data)
#================================
tlg[2] = False


# We add in position 3 with the insert function
#================================
```

```
tlg.insert(3, 2014)

tlg
```

[5]:
```
['Telegram', 400, False, 2014]
```

5 Create a Dataframe from Lists

[10]:
```
# We collect in a list all the information of the RRSS
#==================================

lista_rrss = [fbk, twt, ig, yt, lkn, wsp]

lista_rrss
```

[10]:
```
[['Facebook', 2449, True, 2006],
 ['Twitter', 339, False, 2006],
 ['Instagram', 1000, True, 2010],
 ['YouTube', 2000, False, 2005],
 ['LinkedIn', 663, False, 2003],
 ['WhatsApp', 1600, True, 2009]]
```

[11]:
```
# Import pandas and use DataFrame function
#==================================

import pandas as pd

df = pd.DataFrame(lista_rrss, columns=["Nombre", "Cantidad", "es_FBK", "Año"])

df
```

[11]:

	Nombre	Cantidad	es_FBK	Año
0	Facebook	2449	True	2006
1	Twitter	339	False	2006
2	Instagram	1000	True	2010
3	YouTube	2000	False	2005
4	LinkedIn	663	False	2003
5	WhatsApp	1600	True	2009

6 It's all by now!

6.1 Session Information

[2]:
```
from sinfo import sinfo

sinfo()
```

```
-----
sinfo       0.3.1
-----
IPython             7.19.0
jupyter_client      6.1.7
jupyter_core        4.7.0
jupyterlab          2.2.6
notebook            6.1.6
-----
Python 3.8.5 (default, Sep  3 2020, 21:29:08) [MSC v.1916 64 bit (AMD64)]
Windows-10-10.0.19041-SP0
8 logical CPU cores, Intel64 Family 6 Model 126 Stepping 5, GenuineIntel
-----
Session information updated at 2021-04-14 12:54
```