

Descripció

Comencem a familiaritzar-nos amb Python mitjançant l'entorn de treball "Jupyter Notebook" !!! Comencem amb uns quants exercicis bàsics

Nivell 1

Exercici 1

Instal·la el programa Anaconda amb Python 3, i Jupyter Notebook.

Exercici 2

Utilitzant Jupyter Notebook executa alguns càlculs senzills, a la vegada que et familiaritzes amb el llenguatge Markdown.

Variables

```
In [11]: # declarar variables
x = 2
y = 5
xy = 'Hey'
print x+y, xy

In [ ]: # assignar diverses variables amb el mateix valor.
x = y = 1
print x,y
```

Operadores

	Símbol	Tasca realitzada
	+	Adición
	-	Resta
	/	División
	%	Módulo
	*	Multiplicación
	//	División piso
	**	Potenciación

```
In [28]: x = 2+3
print(x)

5

In [29]: x = 2-1
print(x)

1

In [31]: x = 1*2
print(x)

2

In [32]: # Si tanto el numerador como el denominador son números enteros, pero el resultado es
x = 1/2
print(x)

0

In [33]: #Para obtener la respuesta correcta debemos cambiar el numerador o el denominador a t
x = 1/2.0
print(x)

0.5

In [34]: x = 15%10
print(x)

5

In [35]: x = 2.8//2.0
print(x)

1.0
```

Operadores relacionales

Operador	Descripción
==	Devuelve True si ambos operandos son iguales
!=	Devuelve True si ambos operandos no son iguales
<	Devuelve True si el operador de la derecha es mayor que el operador de la izquierda
>	Devuelve True si el operador de la izquierda es mayor que el operador de la derecha
<=	Devuelve True si el operador de la derecha es mayor o igual que el operador de la izquierda
>=	Devuelve True si el operador de la izquierda es mayor o igual que el operador de la derecha

```
In [63]: 12 == 3 #False

Out[63]: False

In [64]: 12 != 3 #True

Out[64]: True

In [65]: 12 < 3 #False

Out[65]: False

In [66]: 12 > 3 #True

Out[66]: True

In [67]: 12 >= 3 #True

Out[67]: True

In [68]: 12 <= 3 #False

Out[68]: False
```

Operadores lógicos

Operador	Uso	Descripción
and	a and b	Devuelve True si ambos operandos son True
or	a or b	Devuelve True si alguno de los operandos es True
not	not a	Devuelve True si alguno de los operandos False

```
In [59]: a = True
b = False
print(a and b) #False

False

In [60]: print(a or b) #True

True

In [69]: print(not a) #False
print(not b) #True

False
True
```

Exercici 3

Prova de crear títols, llistes, canviar l'estil de la lletra o afegir imatges dins del Notebook.

- **Python** es un lenguaje *interpretado*, en contraste con **Java** y **C**, que son lenguajes compilados.
- Esto significa que podemos escribir declaraciones en el intérprete y se ejecutan inmediatamente.
- Los grupos de declaraciones se ejecutan todos uno tras otro

Tipos de variables

1. int
2. str
3. float
4. bool

```
In [ ]: type(1)

Out[ ]: int

In [ ]: type('hello')

Out[ ]: str

In [ ]: type(2.5)

Out[ ]: float

In [ ]: type(True)

Out[ ]: bool
```

```
In [5]: from IPython import display
display.Image("../jupyMark.png")

Out[5]:
```



Nivell 2

Exercici 1

Exporta el Notebook com a pdf i com a html.

Nivell 3

Exercici 1

Instal·la Nbxextensions al Notebook de Jupyter.

```
In [2]: !pip install nbconvert[webpdf]
```

Requirement already satisfied: nbconvert[webpdf] in /home/leo/.local/lib/python3.8/site-packages (6.0.7)
Requirement already satisfied: jupyter-core in /home/leo/.local/lib/python3.8/site-packages (from nbconvert[webpdf]) (4.7.1)
Requirement already satisfied: pygments>=2.4.1 in /home/leo/.local/lib/python3.8/site-packages (from nbconvert[webpdf]) (2.8.0)
Requirement already satisfied: pandocfilters>=1.4.1 in /home/leo/.local/lib/python3.8/site-packages (from nbconvert[webpdf]) (1.4.3)
Requirement already satisfied: nbformat>=4.4 in /home/leo/.local/lib/python3.8/site-packages (from nbconvert[webpdf]) (5.1.2)
Requirement already satisfied: nbclient<0.6.0,>=0.5.0 in /home/leo/.local/lib/python3.8/site-packages (from nbconvert[webpdf]) (0.5.2)
Requirement already satisfied: defusedxml in /home/leo/.local/lib/python3.8/site-packages (from nbconvert[webpdf]) (0.6.0)
Requirement already satisfied: testpath in /home/leo/.local/lib/python3.8/site-packages (from nbconvert[webpdf]) (0.4.4)
Requirement already satisfied: jupyterlab-pygments in /home/leo/.local/lib/python3.8/site-packages (from nbconvert[webpdf]) (0.1.2)
Requirement already satisfied: entrypoints>=0.2.2 in /home/leo/anaconda3/lib/python3.8/site-packages (from nbconvert[webpdf]) (0.3)
Requirement already satisfied: bleach in /home/leo/.local/lib/python3.8/site-packages (from nbconvert[webpdf]) (3.3.0)
Requirement already satisfied: traitlets>=4.2 in /home/leo/.local/lib/python3.8/site-packages (from nbconvert[webpdf]) (5.0.5)
Requirement already satisfied: Jinja2>=2.4 in /home/leo/.local/lib/python3.8/site-packages (from nbconvert[webpdf]) (2.11.3)
Requirement already satisfied: mistune<2,>=0.8.1 in /home/leo/.local/lib/python3.8/site-packages (from nbconvert[webpdf]) (0.8.4)
Collecting pyppeteer==0.2.2
 Downloading pyppeteer-0.2.2-py3-none-any.whl (145 kB)
 |#####| 145 kB 4.3 MB/s eta 0:00:01
Requirement already satisfied: urllib3<2.0.0,>=1.25.8 in /home/leo/anaconda3/lib/python3.8/site-packages (from pyppeteer==0.2.2->nbconvert[webpdf]) (1.26.4)
Collecting websockets<9.0,>=8.1
 Downloading websockets-8.1-cp38-cp38-manylinux2010_x86_64.whl (78 kB)
 |#####| 78 kB 4.2 MB/s eta 0:00:01
Collecting pyee<8.0.0,>=7.0.1
 Downloading pyee-7.0.4-py2.py3-none-any.whl (12 kB)
Requirement already satisfied: tqdm<5.0.0,>=4.42.1 in /home/leo/anaconda3/lib/python3.8/site-packages (from pyppeteer==0.2.2->nbconvert[webpdf]) (4.59.0)
Requirement already satisfied: appdirs<2.0.0,>=1.4.3 in /home/leo/anaconda3/lib/python3.8/site-packages (from pyppeteer==0.2.2->nbconvert[webpdf]) (1.4.4)
Requirement already satisfied: MarkupSafe>=0.23 in /home/leo/anaconda3/lib/python3.8/site-packages (from Jinja2>=2.4->nbconvert[webpdf]) (1.1.1)
Requirement already satisfied: jupyter-client>=6.1.5 in /home/leo/.local/lib/python3.8/site-packages (from nbclient<0.6.0,>=0.5.0->nbconvert[webpdf]) (6.1.11)
Requirement already satisfied: async-generator in /home/leo/.local/lib/python3.8/site-packages (from nbclient<0.6.0,>=0.5.0->nbconvert[webpdf]) (1.10)
Requirement already satisfied: nest-asyncio in /home/leo/.local/lib/python3.8/site-packages (from nbclient<0.6.0,>=0.5.0->nbconvert[webpdf]) (1.5.1)
Requirement already satisfied: python-dateutil>=2.1 in /home/leo/anaconda3/lib/python3.8/site-packages (from jupyter-client>=6.1.5->nbclient<0.6.0,>=0.5.0->nbconvert[webpdf]) (2.8.1)
Requirement already satisfied: pyzmq>=13 in /home/leo/.local/lib/python3.8/site-packages (from jupyter-client>=6.1.5->nbclient<0.6.0,>=0.5.0->nbconvert[webpdf]) (22.0.3)
Requirement already satisfied: tornado>=4.1 in /home/leo/.local/lib/python3.8/site-packages (from jupyter-client>=6.1.5->nbclient<0.6.0,>=0.5.0->nbconvert[webpdf]) (6.1)
Requirement already satisfied: ipython-genutils in /home/leo/.local/lib/python3.8/site-packages (from nbformat>=4.4->nbconvert[webpdf]) (0.2.0)
Requirement already satisfied: jsonschema!=2.5.0,>=2.4 in /home/leo/.local/lib/python3.8/site-packages (from nbformat>=4.4->nbconvert[webpdf]) (20.3.0)
Requirement already satisfied: six>=1.11.0 in /home/leo/anaconda3/lib/python3.8/site-packages (from jsonschema!=2.5.0,>=2.4->nbformat>=4.4->nbconvert[webpdf]) (1.15.0)
Requirement already satisfied: attrs>=17.4.0 in /home/leo/.local/lib/python3.8/site-packages (from jsonschema!=2.5.0,>=2.4->nbformat>=4.4->nbconvert[webpdf]) (20.3.0)
Requirement already satisfied: pyrsistent>=0.14.0 in /home/leo/.local/lib/python3.8/site-packages (from jsonschema!=2.5.0,>=2.4->nbformat>=4.4->nbconvert[webpdf]) (0.17.3)
Requirement already satisfied: setuptools in /home/leo/anaconda3/lib/python3.8/site-packages (from jsonschema!=2.5.0,>=2.4->nbformat>=4.4->nbconvert[webpdf]) (52.0.0.post20210125)
Requirement already satisfied: webencodings in /home/leo/.local/lib/python3.8/site-packages (from bleach->nbconvert[webpdf]) (0.5.1)
Requirement already satisfied: packaging in /home/leo/.local/lib/python3.8/site-packages (from bleach->nbconvert[webpdf]) (20.9)
Requirement already satisfied: pyparsing>=2.0.2 in /home/leo/.local/lib/python3.8/site-packages (from packaging->bleach->nbconvert[webpdf]) (2.4.7)
Installing collected packages: websockets, pyee, pyppeteer
Successfully installed pyee-7.0.4 pyppeteer-0.2.2 websockets-8.1