

# Topic 1, Part 2:

## Introduction to Jupyter Notebook

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Remember, Python is the programming language; Jupyter Notebook is the Integrated Development Environment (IDE)!

Types of cells

Code Cells

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In these cells you put your Python Code

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You will recognise them easily, as they have `In []` next to them

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```
In [1]:
```

```
1+1
```

```
Out[1]:
```

```
2
```

Markdown Cells



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In these cells you can write comments, section headers, or even import some media!

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You can check [this post](#) for the "ultimate" guide on how to use markdown

# Keyboard Shortcuts

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For instance, you can press "B" and add a cell below, instead of having to click in the options above or below this cell

Loading images/videos into a Jupyter Notebook



Images from your local drive (using a Markdown cell):

1. Store the image **in the same directory as the notebook**
2. Use "!", then put a text inside squared brackets "[]" for reference, and parenthesis "()" for the file name



If you prefer, you can create a subdirectory for all of your images:



Inserting an image online (make sure you have access always)



Loading an image AS DATA, you can use packages such as `OpenCV` or `Pillow` (we will use this a lot during the module!)

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```
In [2]: # This cell will work only if the image is in the same directory as this notebook  
from PIL import Image  
im = Image.open("Wind_turbines_in_southern_California.png")  
im
```

Out[2]:



```
In [3]: # the variable im contains the pixels of the image  
im.size
```

```
Out[3]: (490, 367)
```

## Inserting a YouTube Video:

1. Go to YouTube
2. Under "Share" select embed
3. You will get an html code, copy it inside the following Python code

```
from IPython.display import HTML  
HTML('embed html code here')
```

```
In [4]: import warnings;
warnings.simplefilter('ignore')
from IPython.display import HTML
HTML('<iframe width="560" height="315" src="https://www.youtube.com/embed/r-u0
```

Out[4]:

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Loading data into a Jupyter Notebook

Just as we loaded the wind farm image as data before, you must know that we can load data from different extensions (.csv, .tsv, .txt, .xlsx) to our notebooks!

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```
In [5]: import pandas as pd
```

Just as we loaded the wind farm image as data before, you must know that we can load data from different extensions (.csv, .tsv, .txt, .xlsx) to our notebooks!

The easiest way to do so is with a Python module called Pandas

```
In [5]: import pandas as pd
```

```
In [6]: # This cell will work only if the "data.csv" is in the same directory as this  
data = pd.read_csv('data.csv')  
data
```

```
Out[6]:
```

	<b>Name</b>	<b>Age</b>	<b>Height</b>
<b>0</b>	Nick	21	1.85
<b>1</b>	Chris	29	1.79
<b>2</b>	Tim	28	1.75
<b>3</b>	Ron	34	1.81
<b>4</b>	Monica	35	1.69
<b>5</b>	Cassandra	21	1.66

Commands such as `read_csv` can also take a web address as an input, and load images from online repos!

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For instance, if `data.csv` is in my [Dropbox](#), I can copy the dropbox link, change `d1=0` for `raw=1` and load the file

```
In [7]: # This command will run anywhere (as long as you have internet connection)  
data_dropbox = pd.read_csv('https://www.dropbox.com/s/my97tgyus8s05e1/data.csv')  
data_dropbox
```

```
Out[7]:
```

	<b>Name</b>	<b>Age</b>	<b>Height</b>
<b>0</b>	Nick	21	1.85
<b>1</b>	Chris	29	1.79
<b>2</b>	Tim	28	1.75
<b>3</b>	Ron	34	1.81
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