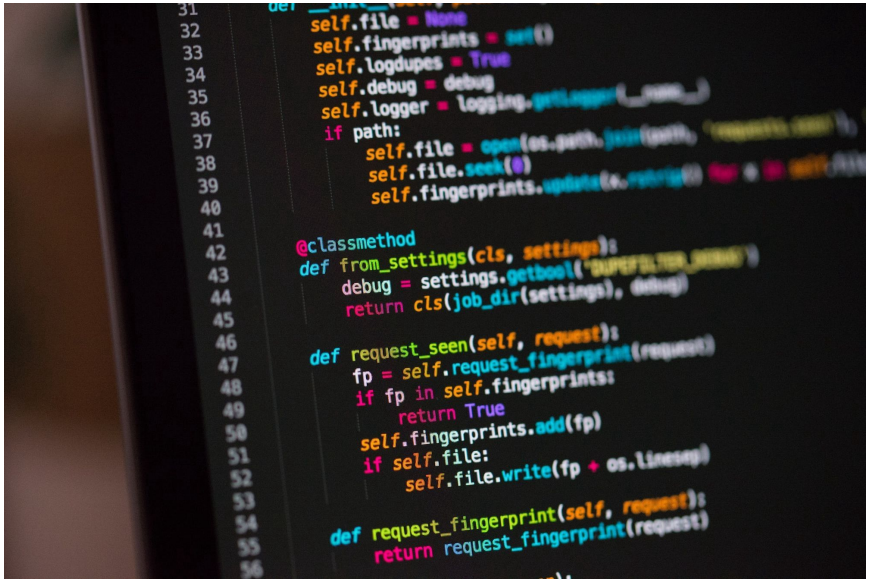
Python for Excel Users



Why this presentation?

- Due to COVID-19 many roles have been put on hold, EXCEPT DATA!
- Most programs foundational elements, many students give up in this early stage

SO…

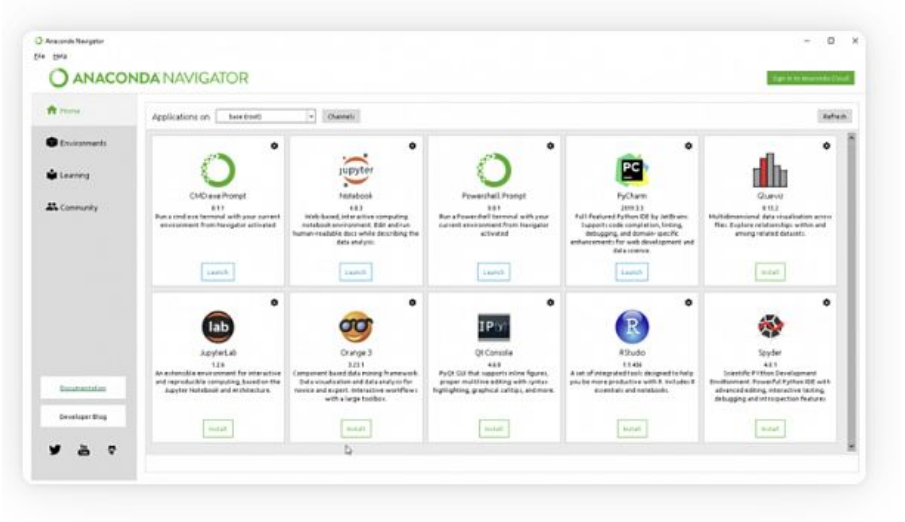
Let’s start with tangible example and fold in foundational concepts as we go!

Where Python helps

- Gets user out of multiple sheet issue and embedded formulas with other files
- Difficult with VLOOKUP if many rows
- Ability to standardize and automate tasks
- Batteries included!

How to download Python

- Anaconda
  - https://www.anaconda.com/products/individual
- Miniconda
  - https://docs.conda.io/en/latest/miniconda.html
- Base Python
  - https://www.python.org/downloads/



Difference between Jupyter and scripts

jupyter

In [17]:
```
# Import the pandas package as pd
import pandas as pd
import seaborn as sns
```

In [18]:
```
# Use the read_excel function to load ticket_sales.xlsx
sales= pd.read_excel('salesperson.xlsx')
```

In [19]:
```
print(sales)
```

```
  Salesperson Company  Yearly_Sales
0        John       A         75000
1       Suzie       A         50000
2         Bob       B         95000
```

In [20]:
```
sales.head(2)
```

Out[20]:

	Salesperson	Company	Yearly_Sales
0	John	A	75000
1	Suzie	A	50000

In [21]:
```
sales.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 3 entries, 0 to 2
Data columns (total 3 columns):
 #   Column        Non-Null Count  Dtype 
---  ------        --------------  ----- 
 0   Salesperson   3 non-null      object
 1   Company       3 non-null      object
 2   Yearly_Sales  3 non-null      int64 
dtypes: int64(1), object(2)
memory usage: 200.0+ bytes
```

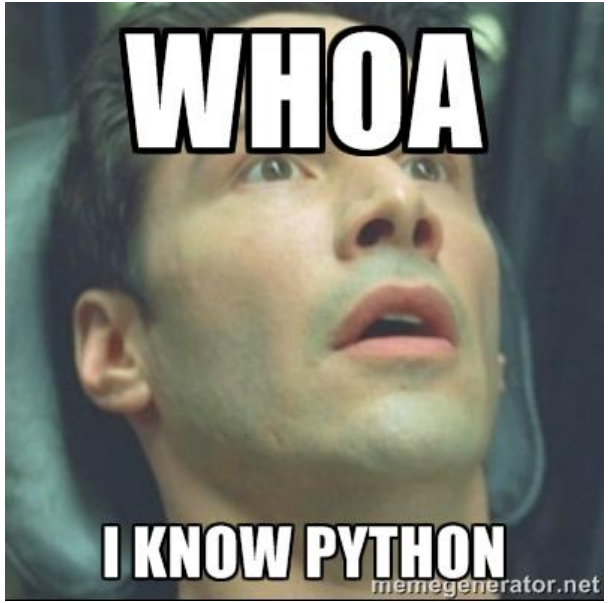
SparkDecisionTree.py

```
1 from pyspark.mllib.regression import LabeledPoint
2 from pyspark.mllib.tree import DecisionTree
3 from pyspark import SparkConf, SparkContext
4 from numpy import array
5
6 # Boilerplate Spark stuff:
7 conf = SparkConf().setMaster("local").setAppName("SparkDecisionTree")
8 sc = SparkContext(conf = conf)
9
10 # Some functions that convert our CSV input data into numerical
11 # features for each job candidate
12 def binary(YN):
13     if (YN == 'Y'):
14         return 1
15     else:
16         return 0
17
18 def mapEducation(degree):
19     if (degree == 'BS'):
20         return 1
21     elif (degree =='MS'):
22         return 2
23     elif (degree == 'PhD'):
24         return 3
25     else:
26         return 0
27
```

Source: Oreilly

Other great free resources

- Data Analyst
  - https://datatofish.com/
  - https://chrisalbon.com/
  - https://www.learnpython.org/
  - https://realpython.com/
- Data Science
  - https://jakevdp.github.io/PythonDataScienceHandbook/
  - https://www.datacamp.com/community/tutorials
  - https://towardsdatascience.com/



Appendix A: DataFrame Methods

Like functions but accessed through package

.describe()

.sort_values()

.info()

.head()