**PYTHON**

To get started, you’ll need the knowledge of Python and its syntax. Learning python is not hard. Here are a few resources which will teach you about the language swiftly:-

* <https://youtu.be/8DvywoWv6fI> **(mandatory)**
* [W3Schools Tutorials](https://www.w3schools.com/python/)

There is no hard and fast compulsion on watching these videos, you just need to get familiar with the syntax of python, but whether you watch Apna College or you watch TechWithTim for it is upto you. But just acquire the basic knowledge of python before moving forward.

Pro tip: In case you come across a weird syntax or want to find a solution to a problem, the [official documentation](https://docs.python.org/3/) is the best way to resolve the issues!

**NUMPY**

Mathematics is the foundation of statistical modelling (because, statistics is a part of mathematics? :P ). Most of the mathematical tasks can be performed using NumPy. A python library. Some resources that you can use to learn about NumPy are as follows:

* [Video By Free Code Camp](https://www.youtube.com/watch?v=QUT1VHiLmmI)
* <https://youtu.be/GB9ByFAIAH4> **(mandatory)**
* [W3Schools Tutorials](https://www.w3schools.com/python/numpy/) **(mandatory)**
* The best way is still official [documentation](https://numpy.org/doc/).

**PANDAS**

Analyzing, visualizing, and cleaning information is an essential step in the modelling process. Pandas is an open-source python package built on top of Numpy***.***

1. [Youtube Tutorial](https://youtu.be/vmEHCJofslg)
2. [W3Schools Tutorials](https://www.w3schools.com/python/pandas/) **(mandatory)**
3. <https://pandas.pydata.org/docs/>

**MATPLOTLIB**

Matlotlib is a powerful library that provides tools (histograms, scatter plots, pie charts, and much more) to make sense of data.

* [Free Code Camp](https://www.youtube.com/watch?v=3Xc3CA655Y4)
* <https://www.w3schools.com/python/matplotlib_intro.asp> **(mandatory)**

**STATISTICS**

Before going further, let us recall some basic concepts of Maths and Statistics. Follow these resources: **(mandatory)**

* <https://youtu.be/cECVvmFOKFc>
* <https://youtu.be/qsoBcnsrF38>

**GITHUB & GIT**

We’ll be sharing data files and accepting submissions through github, so it would be worth if you would learn about Git and GitHub.

<https://youtu.be/RGOj5yH7evk> **(mandatory)**

**GOOGLE COLAB**

**What is google colab?** Google Colaboratory, or "Colab" as most people call it, is a cloud-based Jupyter notebook environment. It runs in your web browser (you can even run it on your favorite Chromebook) and lets anyone with internet access experiment with machine learning and coding for artificial intelligence.

Learn more about google colab from below:

<https://youtu.be/JJYZ3OE_lGo> **(mandatory)**

<https://youtu.be/iMlMfrXJYSg> **(mandatory)**

**(SOME MORE) STATISTICS**

Below are some slightly advanced statistics concepts which will be required afterwards: P-Values & Significance Tests, Hypothesis Testing

Please watch them in the given order -

[P-values and significance tests | AP Statistics | Khan Academy](https://youtu.be/KS6KEWaoOOE)

[Hypothesis Testing: Critical Value Approach versus P-Value Approach](https://youtu.be/4mDemwLHzbo)

[Hypothesis Testing: Critical Value Approach versus P-Value Approach - Part 2](https://youtu.be/JkLCPOZcc4A)

[Tutorial 33- P Value,T test, Correlation Implementation with Python- Hypothesis Testing](https://youtu.be/4-rxTA_5_xA)

[Hypothesis testing Practical Implementation|Hypothesis testing with data example in python](https://youtu.be/DaBL4ZR5FSY)