Python indroduction:

**Day 1 - What is Programming and Python?**

**What is Programming**

Programming is a way for us to tell computers what to do. Computer is a very dumb machine and it only does what we tell it to do. Hence we learn programming and tell computers to do what we are very slow at - computation. If I ask you to calculate 5+6, you will immediately say 11. How about 23453453 X 56456?

You will start searching for a calculator or jump to a new tab to calculate the same. This 100 days of code series will help you learn python from starting to the end. We will start from 0 and by the time we end this course, I promise you will be a Job ready Python developer!

**What is Python?**

* Python is a dynamically typed, general purpose programming language that supports an object-oriented programming approach as well as a functional programming approach.
* Python is an interpreted and a high-level programming language.
* It was created by Guido Van Rossum in 1989.

**Features of Python**

* Python is simple and easy to understand.
* It is Interpreted and platform-independent which makes debugging very easy.
* Python is an open-source programming language.
* Python provides very big library support. Some of the popular libraries include NumPy, Tensorflow, Selenium, OpenCV, etc.
* It is possible to integrate other programming languages within python.

**What is Python used for**

* Python is used in Data Visualization to create plots and graphical representations.
* Python helps in Data Analytics to analyze and understand raw data for insights and trends.
* It is used in AI and Machine Learning to simulate human behavior and to learn from past data without hard coding.
* It is used to create web applications.
* It can be used to handle databases.
* It is used in business and accounting to perform complex mathematical operations along with quantitative and qualitative analysis.

**Why Replit?**

* Replit is very easy to share tutorials and code.
* You can easily fork this repl and continue learning in your own style. Video, code as well as text tutorial on the same page which makes things easy!
* For fellow teachers out there, you create a .tutorial folder to create tutorials using replit.

**Day 3 - Modules and pip in Python!**

Module is like a code library which can be used to borrow code written by somebody else in our python program. There are two types of modules in python:

1. Built in Modules - These modules are ready to import and use and ships with the python interpreter. there is no need to install such modules explicitly.
2. External Modules - These modules are imported from a third party file or can be installed using a package manager like pip or conda. Since this code is written by someone else, we can install different versions of a same module with time.

**The pip command**

It can be used as a package manager [pip](https://pip.pypa.io/en/stable/) to install a python module. Lets install a module called pandas using the following command

pip install pandas

**Using a module in Python (Usage)**

We use the import syntax to import a module in Python. Here is an example code:

import pandas

# Read and work with a file named 'words.csv'

df = pandas.read\_csv('words.csv')

print(df) # This will display first few rows from the words.csv file

Similarly we can install other modules and look into their documentations for usage instructions.  
We will find ourselved doing this often in the later part of this course