**Python Notes:**

**History of Python:**

* Python Programming Language Conceived in the year 1980.
* Python PL was bringing into action in the year 1989.
* Officially released in the year of 1991 Feb.
* Developed by “GUIDO VAN ROSSUM” (Father of Python).
* Python was Maintained and Managed by the Non-Commercial Organization “Python Software Foundation” (PSF).

Official website for the Python is: [www.python.org](http://www.python.org)

**Versions of Python:**

It contains 3 Types of Versions. They are:

1. Python 1.X – as on today python 1.x is Outdated
2. Python 2.X – as on today python 2.x is Outdated on 01-01-2020
3. Python 3.X – now is using in Industry.

**Features of Python Programming Language:**

We have 11 Features of Python Programming. They are:

1. Simple
2. Freeware & Open Source
3. Platform Independent
4. Dynamically Typed
5. Interpreted
6. High Level
7. Extensible
8. Embedded
9. Both Procedural & Object-Oriented Prog Lang.
10. Robust (Strong)
11. Extensive Supports for Third Party APIs (Numpy, Pandas, Scipy, Scikit,… etc)

**Realtime Applications developed by using PYTHON**

**Python Programming can be used in 23 different area/applications.**

1) Web Application Development(Django Flask, pyramid...etc)

2) Gaming Application development

3) Artificial Intelligence(Machine learning and Deep Learning

Applications)

4) Desktop GUI Applications.

5) Image Processing Based Applications

6) Text processing Based Applications.

7) Business Based Applications

8) Education Sector

9) Audio and Video based Applications

10) Web Scrapping / Harvesting Application

11) Data Visualization.

12) Scientific and Numerical Applications

13) Software development

14) Operating System development

15) CAD and CAM based Applications

16) Embedded System

17) Console Based Applications.

18) Computer Vision.

19) Language development.

20) Automation in testing

21) Data Analysis and Data Analytics

22) Development of IOT

23) Enterprise Applications

**Features:**

1. **Simple:**

Python is one of the SIMPLE Programming Language, because of 3 important Technical Factors.

1. Python Programming Provides “RICH SET OF APIs”. So that Python Programmer can re-use the pre-defined code and develops real time applications easily without code.
2. Python Programming Provides an In-built facility called as ‘Garbage Collector’, which is running of every python program for collecting Un-Used Memory space and improve the performance of Python Based Applications.
3. Python Programming Provides “User Friendly Syntaxes”. So that Python programmer can develop error-free program in limited span of time.
4. **Freeware and Open Source:**

* Freeware:

Since Python software is Freely Downloadable and hence Python is one of the Freeware.

* Opensource:

The Standard python’s name released by PSF to the real time is called CPYTHON.

Some Companies came forward and customized CPYTHON for their in-house tools’ development and these customized development of CPYTHON are called “Python Distributions”.

Some of the Python Distributions are:

1) JPython (or) Jython---->It is used for running Java Based Applications.

2) Iron Python (OR) Ipython--->It is used for running C#.net Applications.

3) Ruby Python-----> It is used to run RUBY Based Applications

4) Micro Python----> It is used to develop Micro Controller Applications.

5) Anakonda Python--> It used to develop Big Data / Hadoop Based Applications.

6) Stackless Python---> Concurrency

7) PyPy----> It provides JIT (Just-in Time) compiler .................etc.