**INTRODUCTION TO PYTHON**

**Python** is a high-level, interpreted, interactive and object-oriented scripting language. Python is designed to be highly readable. It uses English keywords frequently whereas the other languages use punctuations. It has fewer syntactical constructions than other languages.

• **Python is Interpreted**: Python is processed at runtime by the interpreter. You do not need to compile your program before executing it. This is similar to PERL and PHP.

• **Python is Interactive**: You can actually sit at a Python prompt and interact with the interpreter directly to write your programs.

• **Python is Object-Oriented**: Python supports Object-Oriented style or technique of programming that encapsulates code within objects.

• **Python is a Beginner's Language**: Python is a great language for the beginner level programmers and supports the development of a wide range of applications from simple text processing to WWW browsers to games.

**Python's features**

• **Easy-to-learn:** Python has few keywords, simple structure, and a clearly defined syntax. This allows a student to pick up the language quickly.

• **Easy-to-read:** Python code is more clearly defined and visible to the eyes.

• **Easy-to-maintain:** Python's source code is fairly easy-to-maintaining.

• **A broad standard library:** Python's bulk of the library is very portable and cross platform compatible on UNIX, Windows, and Macintosh.

• **Interactive Mode:** Python has support for an interactive mode, which allows interactive testing and debugging of snippets of code.

• **Portable:** Python can run on a wide variety of hardware platforms and has the same interface on all platforms.

• **Extendable:** You can add low-level modules to the Python interpreter. These modules enable programmers to add to or customize their tools to be more efficient.

• **Databases:** Python provides interfaces to all major commercial databases.

• **GUI Programming:** Python supports GUI applications that can be created and ported to many system calls, libraries and windows systems, such as Windows MFC, Macintosh, and the X Window system of Unix.

• **Scalable:** Python provides a better structure and support for large programs than shell scripting.

**INSTALLATION OF ANACONDA**

From the link given below you can download the Anaconda Software:

<https://www.anaconda.com/products/individual>

For the reference check out this video link:

<https://youtu.be/5mDYijMfSzs>

**CODE ENVIRONMENT**

Local Environment Setup:

Open a terminal window and type "python" to find out if it is already installed and which version is installed.

**Windows platform**

Binaries of latest version of Python 3 are available on <https://www.python.org/downloads/windows/>

**(Note**: In order to install Python 3.5.1, minimum OS requirements are Windows 7 with SP1. For versions 3.0 to 3.4.x, Windows XP is acceptable)

**Linux platform**

Different flavours of Linux use different package managers for installation of new packages. On Ubuntu Linux, Python 3 is installed using the following command from the terminal.

$sudo apt-get install python3-minimal

Installation from source

Download Gzipped source tarball from Python's download URL: [https://www.python.org/ftp/python/3.5.1/Python-3.5.1.tgz](https://www.python.org/ftp/python/3.5.1/Python-3.5.1.tgz%20)

Extract the tarball

tar xvfz Python-3.5.1.tgz

Configure and Install:

cd Python-3.5.1

./configure --prefix=/opt/python3.5.1

make

sudo make install

X

**Mac OS**

Download Mac OS installers from this <URL:https://www.python.org/downloads/mac-osx/>

• Mac OS X 64-bit/32-bit installer: python-3.5.1-macosx10.6.pkg

• Mac OS X 32-bit i386/PPC installer: python-3.5.1-macosx10.5.pkg

Double click this package file and follow the wizard instructions to install.

The most up-to-date and current source code, binaries, documentation, news, etc., is available on the official website of Python:

Python Official Website: [http://www.python.org/](http://www.python.org/%20) You can download Python documentation from the following site.

The documentation is available in HTML, PDF and PostScript formats. Python Documentation Website : [www.python.org/doc/](http://www.python.org/doc/)