Overview of Python

What is Python?

- Python is a general purpose, dynamic, high-level, and interpreted programming language. It supports Object Oriented programming approach to develop applications. It is simple and easy to learn and provides lots of high-level data structures.

- Python's syntax and dynamic typing with its interpreted nature make it an ideal language for scripting and rapid application development.

- Python makes the development and debugging fast because there is no compilation step included in Python development, and edit-test-debug cycle is very fast.

Python Features

- Easy to Learn and Use

- Expressive Language

- Interpreted Language

- Cross-platform Language

- Free and Open Source

- Object-Oriented Language

- Extensible, Integrated and Embeddable

- Large Standard Library

- GUI Programming Support

- Dynamic Memory Allocation

Python Installation

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

- Python distribution is available for a wide variety of platforms. You need to download only the binary code applicable for your platform and install Python.

Unix and Linux Installation

- Open a Web browser and go to https://www.python.org/downloads/.

- Follow the link to download zipped source code available for Unix/Linux.

- Download and extract files.

- Editing the Modules/Setup file if you want to customize some options.

- run ./configure script

- make

- make install

Setting up PATH

- In the csh shell – type setenv PATH "$PATH:/usr/local/bin/python" and press Enter.

- In the bash shell (Linux) – type export PATH="$PATH:/usr/local/bin/python" and press Enter.

- In the sh or ksh shell – type PATH="$PATH:/usr/local/bin/python" and press Enter.

- Note – /usr/local/bin/python is the path of the Python directory

Windows Installation

- Open a Web browser and go to https://www.python.org/downloads/.

- Follow the link for the Windows installer python-XYZ.msi file where XYZ is the version you need to install.

- To use this installer python-XYZ.msi, the Windows system must support Microsoft Installer 2.0. Save the installer file to your local machine and then run it to find out if your machine supports MSI.

- Run the downloaded file. This brings up the Python install wizard, which is really easy to use. Just accept the default settings, wait until the install is finished, and you are done.

Setting path at Windows

- To add the Python directory to the path for a particular session in Windows –

- At the command prompt – type path %path%;C:\Python and press Enter.

- Note – C:\Python is the path of the Python directory

Running Python

- There are three different ways to start Python –

- Interactive Interpreter

- Script from the Command-line

- Integrated Development Environment

Interactive Interpreter

- You can start Python from Unix, DOS, or any other system that provides you a command-line interpreter or shell window. Enter python the command line. Start coding right away in the interactive interpreter.

- $python # Unix/Linux

- or

- python% # Unix/Linux

- or

- C:> python # Windows/DOS

Script from the Command-line

- A Python script can be executed at command line by invoking the interpreter on your application, as in the following −

- $python script.py # Unix/Linux

- or

- python% script.py # Unix/Linux

- or

- C: >python script.py # Windows/DOS

Integrated Development Environment

- You can run Python from a Graphical User Interface (GUI) environment as well, if you have a GUI application on your system that supports Python.

- Python Tools for Visual Studio(Windows)

- PyStudio(Windows/Linux/Mac OS X)

- Spyder(Windows/Linux/Mac OS X)

- PyDev(Windows/Linux/Mac OS X)

- PyScripter(Windows/Linux/Mac OS X)

- NetBeans(Windows/Linux/Mac OS X)

Thank You