**PYTHON WEB DEVELOPMENT – TUTORIALS**

**CHAPTER 1: INFORMAL INTRODUCTION OF PYTHON**

**TOPICS COVERED:**

1.1 VARIOUS DEFINITIONS OF PYTHON

1.2 HISTORY OF PYTHON

1.3 MAJOR RELEASES OF PYTHON:

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1.9 FLAVORS OF PYTHON

**1.1 VARIOUS DEFINITIONS OF PYTHON**

Python is

* A general purpose language,
* A high level language,
* An interpreted language,
* Pure object oriented programming language,
* An open source,
* A cross platform language,
* A scripting language,
* A case sensitive language,
* Automatic memory mapping language,
* A duck typing language,
* A dynamic typing language,
* An extensible language.

**1.2 HISTORY OF PYTHON**

Founder name : Guido Van Rossum

Place : Centrum wiskunde & Informatica, Netherlands

Official DOB : 20 – Feb – 1991 (conceived in late 1989)

Maintenance : Python Software Foundation (from 2001)

(Successor to A, B & C language itself inspired by SETL)

**1.3 MAJOR RELEASES OF PYTHON:**

***Version Year***

Python 0.9.0 Feb 1991

Python 1.0 Jan 1994

Python 1.5 Dec 1997

Python 2.0(py2k) Oct 2000

Python 2.4 Nov 2004

Python 2.6 Oct 2008

Python 3.0(py3k) Dec 2008

Python 2.7 Jul 2010

Python 3.2 Feb 2011

Python 3.3 Sep 2012

Python 3.4 Mar 2014

Python 3.5 Dec 2015

Python 3.6 Dec 2016

Python 3.8 Oct 2019

Python 3.8.2 Feb 2020

**1.4 REASONS WHY PYTHON IS USED FOR WEB DEVELOPMENT**

**Python is ultimate choice for web development over years. Because of,**

* It is Powerful & Productive because of hiding complications
* Gives High level security with documentation
* Achieve more functionality in less time using lesser code
* It runs across any platforms
* Versatile in nature & code readability
* User friendly & beginner friendly data structures
* Extensible and easily integrate with any language
* Provides High scalability
* It also supports rapid development
* SEO optimized
* Trustable & Scalable
* Internal testing support for frameworks like Django and flask.

**1.5 SALIENT FEATURES OF PYTHON**

**Notable features of Python are,**

* Code Readability
* Open source and cross platform support
* Exception handling management
* Memory management with large standard library support
* Dynamic semantics support, easy and expressive syntax
* Object oriented and portable
* Embeddable and Interpreted
* Add on support and plug-in support

**1.6 SERVICES OFFERED BY PYTHON IN REAL WORLD SCENARIO**

**Python offers,**

* Web service development
* Dynamic website development
* Automation & AI integration services
* Desktop applications development
* Custom CMS development support
* Used in Machine learning world
* Used in Data Science & Data analytics
* Used for Data visualization
* Mainly used in Big data market
* Used in Robotics automation
* Used in IoT
* Used in GUI development
* Used in software development
* Used in scientific computing and Gaming
* Used in multimedia frequently
* Used in Natural language processing as well

**1.7 FAMILIAR PYTHON FRAMEWORKS FOR WEB DEVELOPMENT**

* Django, Web2py
* Pyramid, Turbo gears
* Bottle, Tornado
* Flask, Cubic web
* Cherrypy, Dash
* Falcon, Twisted
* Aiohttp, Sanic & Japronto

**1.8 COLOR CODING SCHEMES OF PYTHON**

**Color Description**

**Green - Unicode string values**

**Blue - Python processed return value**

**Orange - Keywords**

**Purple - Built in functions**

**Red - Error and exception**

**Black - Expression**

**1.9 FLAVORS OF PYTHON**

***Cpython (or) cython*** - python + C programming

***Jpython (or) jython*** - Python + java + JVM

***IronPython*** - Python + Dotnet + MVC

***RubyPython*** - Python + Ruby

***APython*** - Anaconda + Python + Big data

***Pyston*** - Python + JIT Interface for Dropbox

***Nuitka*** - Transpiler which converts python to executable codes

***Numba*** - Python + Numpy programs to low level codes

***Brython*** - creating browsers in PY Environment