INTRO – PYTHON

Shah Ayub Quadri

Ayub.quadri89@gmail.com

Introduction

- Introduction to Python
  - Why Python?
  - Facts and versions of python
  - Various Libraries
  - Code compilation process
  - Installation and IDEs
  - First Python Program

- Python Basics
  - Data Types
  - Arithmetic operations
  - Logical Operations
  - Variables
  - I/O Program

- Python Basics – cont
  - Conditional statements
    - If – else
    - If – elif – else
    - Nested if – else
  - Loops
    - For Loop
    - While Loop
    - Nested Loop
  - Control Flows
    - Brake
    - Continue
    - Pass
  - String Manipulations
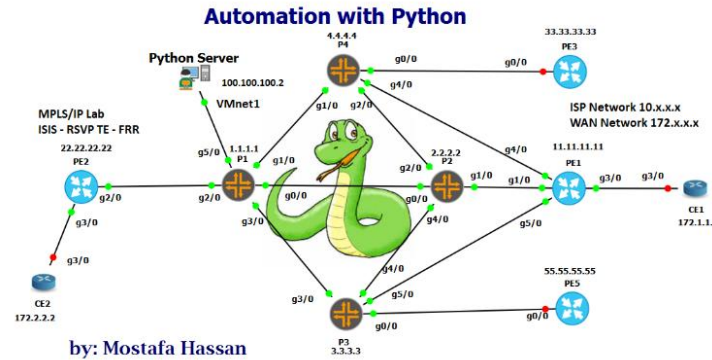   - Accessing String, Basic Operations & String Slicing
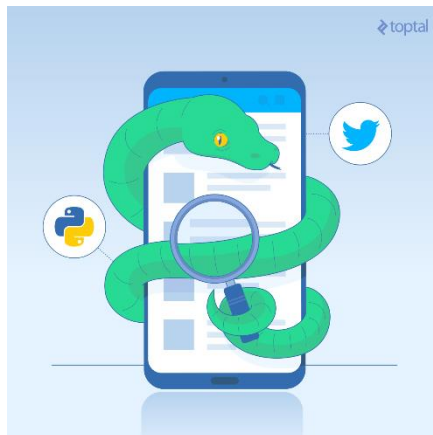
Why Python?

Web App Development
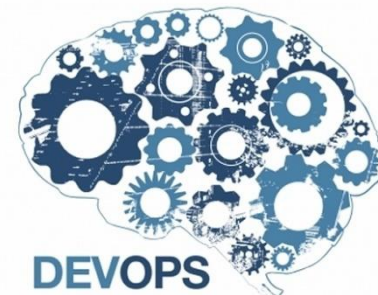

Network management Systems

Python For Gamming

Text Mining or Sentiment Analysis
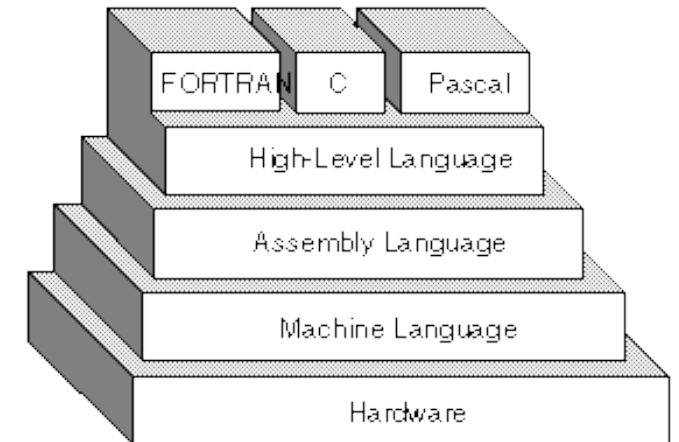

Data Science

DevOps Scripts

Intro - Python

- Python is a powerful *high-level, Object-oriented language* created by Guido Van Rossum

Features of Python

- Simple and Easy to Learn

- Free & open source

- Portability

- High Level, interpreter language.

- Extensibility: can be easily extensible with other languages.

- Huge libraries with Community support

- Object Oriented

Facts of python

Rossum was fan of a comedy series from late 1970's.
The name "Python" was adopted from the series
"Monty Python's Flying Circus"

Version	Release Data
Python 1.0 (first standard release) Python 1.6 (Last minor version)	January 1994 September 5, 2000
Python 2.0 (Introduced list comprehensions) Python 2.7 (Last minor version)	October 16, 2000 July 3, 2010
Python 3.0 (Emphasis on removing duplicative constructs and module) Python 3.5 (Last updated version)	December 3, 2008 September 13, 2015

Installation & IDE

- Mac
  - https://docs.python.org/3/using/mac.html#getting-and-installing-macpython
  - https://www.python.org/downloads/mac-osx/

- Linux/Ubuntu
  - https://www.python.org/downloads/source/

- Windows
  - https://www.python.org/downloads/

- IDE (Integrated Development Environment)
  - Python IDE
  - PyCharm (JetBrains)
  - Sublime Text
  - Atom (Google's IDE)

- First Program Hello World

Keywords & Variables

Keywords: reserved words of python
- Key words cant be used for
  - variable name
  - Function name or any other identifiers
- Python keywords are case sensitive
- Python has 33 keywords
- Most of the keywords are in lower case except (True, False & None)

Variables are the place holder for any data type.

- Rules for Variable names
  - It can be combination of letters in lowercase (a-z) and upper case (A-Z) or with underscore (_)
  - It cannot start with digit
  - Keywords cant be used as identifiers or variables
  - It cannot have special characters (!, @, #, $, % etc)

False	class	finally	is	return
None	continue	for	lambda	try
True	def	from	nonlocal	while
and	del	global	not	with
as	elif	if	or	yield
assert	else	import	pass	
break	except	in	raise	

Comments & Indentation

Comments

- Single Line: #
- Multiple line: "" ""

- Indentation: C, C++, Java uses {} for a block of code. But python uses indentation a proper space styling method.
  - Code block start with indentation and ends without indentations.

Assignment – 1

- Difference between high level language and low level language.

- What is the difference between python 2.7 & python 3.6 ?

- Create at least 5 variables that are valid

- Create at least 5 variable that are not valid

- Try out assigning variable names with keywords and give the results, specify the error if any

- Try out Single line comment & multiple Line comment.