



Inspire...Educate...Transform.

INTRODUCTION TO PYTHON

PYTHON LAB

Data Scientists

INSOFE

June 24, 2018



AGENDA

- What is Python?
- Differences between programming and scripting language
- History of Python
- Scope of Python
- Features
- Who uses Python today?
- Python Code execution process
- Advantages of Python



What is Python?

- Python is a general purpose programming language that is often applied on scripting roles
- Python is also called 'Interpreted Language'
- Object oriented programming language
- It focuses on productivity



Differences b/w programming languages & scripting languages

PROGRAMMING LANGUAGE	SCRIPTING LANGUAGE
A program is executed (i.e. the source is first compiled, and the result of that compilation is expected)	A script is interpreted
A program is in general is a sequence of instructions written so that a computer can perform a certain task	A “script is code written in a scripting language. A scripting language is nothing but a type of programming language in which we can write code to control another software application

History

- Invented in Netherlands in early 90's by GUIDO VAN ROSSUM
- It was conceived in late 80's and its implementation was started from December 1989
- Why did he named this language as Python?
- It is open sourced from the beginning



“Python is an experiment in
how much freedom
programmers need”

- Guido Van Rossum



Scope of Python

- Science
 - Bio-informatics
- System administration
 - Unix
 - Web logic
 - Web sphere
- Web application Development
 - CGI
 - Jython – servlets

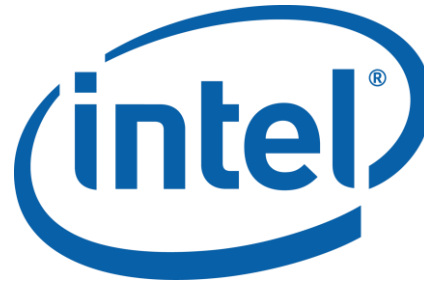
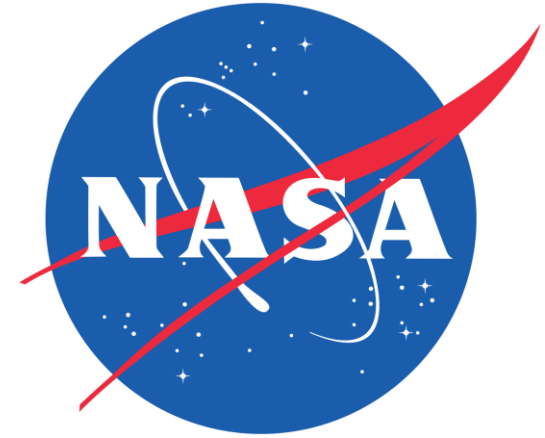


Features

- It is Object-oriented language
- Cross platform
- Open source
- Productive
- Portability
- Easy to Use & Easy to Learn



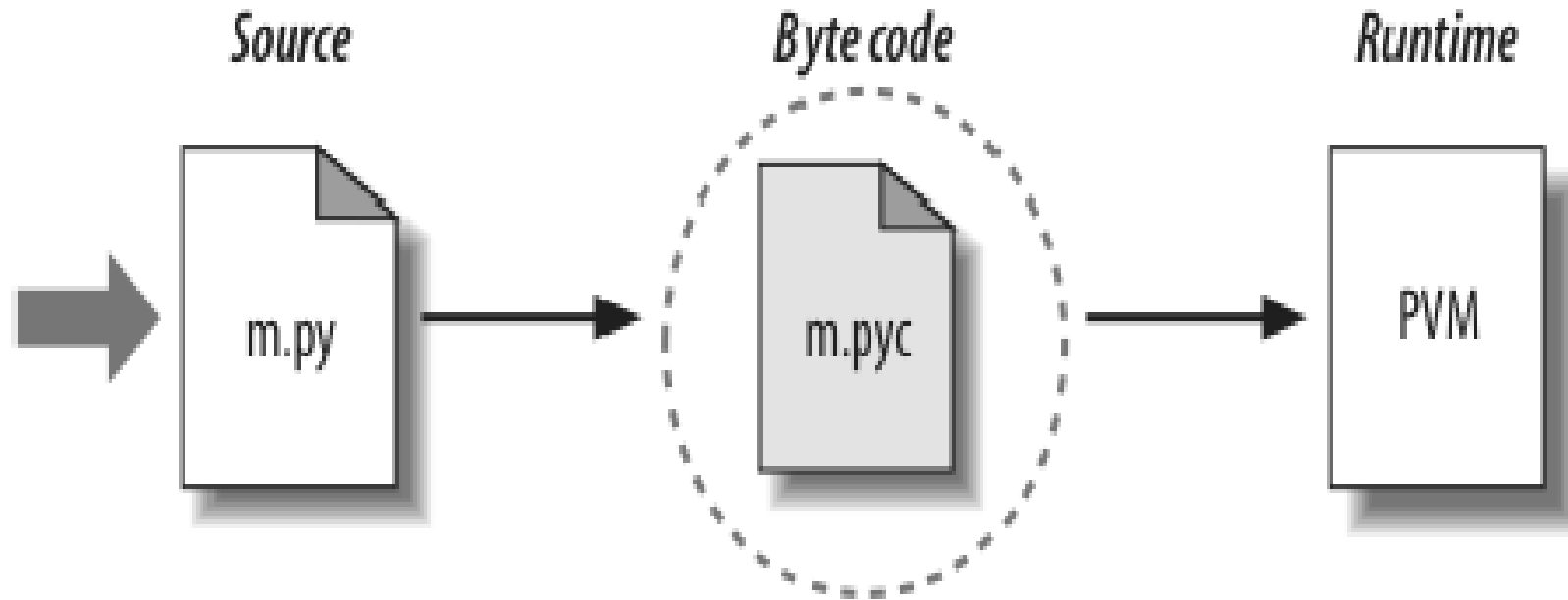
Who uses Python?



.... the list goes on



Python Code Execution



Advantages of Python

- Presence of third-party modules
- Extensive support libraries
- Open source & community development
- Productivity & speed
- Ease for Learning & support available
- Scalability
- Uses minimum configuration for its usage



Releases

- Created in 1989 by '**Guido Van Rossum**'
- Python 1.0 released in 1994
- Python 2.0 released in 2000
- Python 3.0 released in 2008
- Python 3.x is used now-a-days



Overview of today's topics - Python

- **BASICS**
- **PYTHON FOR DATA-SCIENCE**



Basics

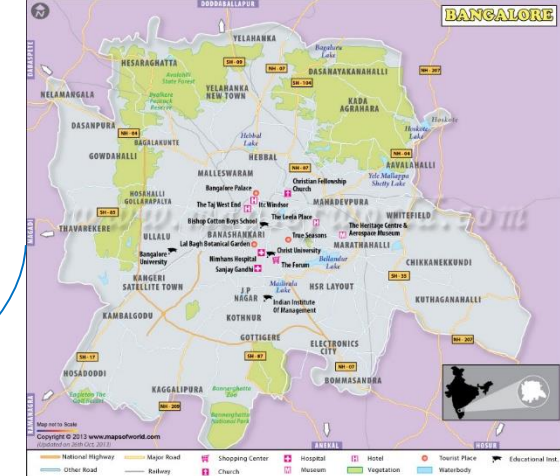
- Basic Operations
- Data Types in python
- Containers
- Loops
- Dictionaries
- Functions



Python for Data Science

- **Numpy**
 - Creation and manipulation of arrays
- **Pandas**
 - Creating data frames
 - Exploring data
 - using pandas applied functions





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