



Introductory Course of Python Programming Language



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Introductory Course of Python Programming Language



Lesson 1: Introduction About Programming Languages and Python

Course Introduction

- Lesson 1: Introduction About Programming Languages and Python
- Lesson 2: Variables and Data Structures
- Lesson 3: Dealing with Programming Errors
- Lesson 4: Conditionals and Functions
- Lesson 5: Loops and User Input
- Lesson 6: File Handling
- Lesson 7: More Functionalities



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Lesson 1: Introduction About Programming Languages and Python

Course Introduction

- Lesson 8: Numpy Library
- Lesson 9: Python Modules

References:

I used couple of video Lectures in Udemy, Lynda, Faradars and couple of eBooks to furnish materials of this course.

Ebook: “Learning Python”, 5th Edition, Mark Lutz, O’Reilly Publication



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Lesson 1: Introduction About Programming Languages and Python

What we learn in Lesson 1:

- Course Introduction
- Introduction to programming and OOP
- Three typical Python Programs
- Setting up python on windows
- Creating and executing a python program windows
- Setting up Atom on windows



Lesson 1: Introduction About Programming Languages and Python

Introduction to programming and OOP

- Name some Programming Languages:

C, C++, Python, C#, Java, JavaScript, php, perl, Ruby, Objective-C, ...

- Name some software:

Matlab, Adobe Photoshop, Mathematica, Adobe Premiere, Ansys, ...

- What is deference btw software and programming Language??

Software is created by programming Languages (using their UI frameworks)

- Some example: search on web adobe Photoshop, Matlab and etc.



Lesson 1: Introduction About Programming Languages and Python

Introduction to programming and OOP

- What is a High Level Programming Language??

a programming language with strong abstraction from the details of the computer **Name Some High Level Languages**

- What is an IDE:

Integrated Development Environment

Name Some IDEs

- What is OOP:

Object Oriented Programming



Lesson 1: Introduction About Programming Languages and Python

Introduction to programming and OOP

- Three pillars of procedural programming??
 - Loops
 - Conditionals
 - Functions
- Three pillars of Object Oriented programming??
 - Encapsulation
 - Inheritance
 - Polymorphism



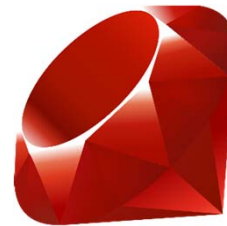
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Lesson 1: Introduction About Programming Languages and Python

Introduction to programming and OOP

“Comparing some programming Languages”





Lesson 1: Introduction About Programming Languages and Python

Introduction to programming and OOP

- What makes python distinguished?

Great Libraries *** Simple syntax *** Open Source

High Level Object Oriented **** High Speed and low size on disk

Lots of Mixture with other programming Languages like:

Cython (C & python) *** Jthon (Java & Python) ***

Pyobjc (python & Objective-c)

- What python mostly used for?

Data science *** Machine Learning *** Artificial Intelligence



Lesson 1: Introduction About Programming Languages and Python

Introduction to programming and OOP

History of Python

- ✓ Python is an interpreted, high-level, general-purpose programming language. Created by Guido van Rossum and first released in 1991, Python's design philosophy emphasizes code readability with its notable use of significant whitespace. Its language constructs and object-oriented approach aims to help programmers write clear, logical code for small and large-scale projects.



Lesson 1: Introduction About Programming Languages and Python

Introduction to programming and OOP

History of Python

- ✓ Python is dynamically typed and garbage-collected. It supports multiple programming paradigms, including procedural, object-oriented, and functional programming. Python is often described as a "batteries included" language due to its comprehensive standard library.

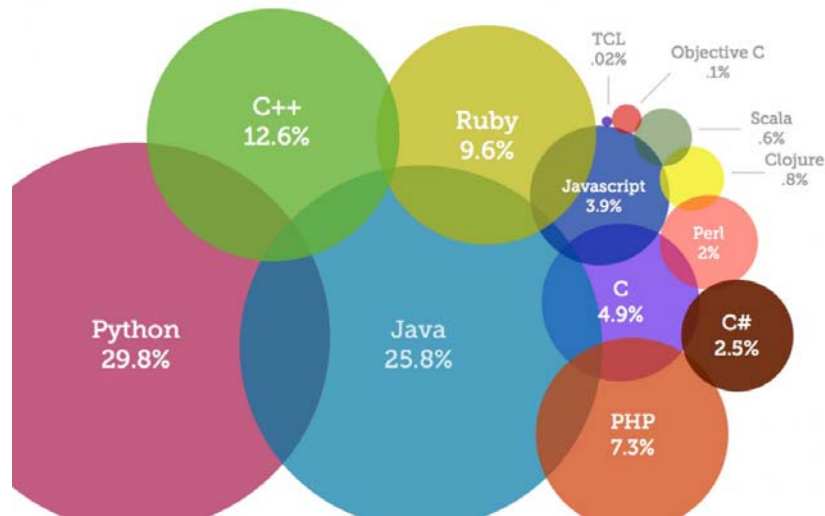


Lesson 1: Introduction About Programming Languages and Python

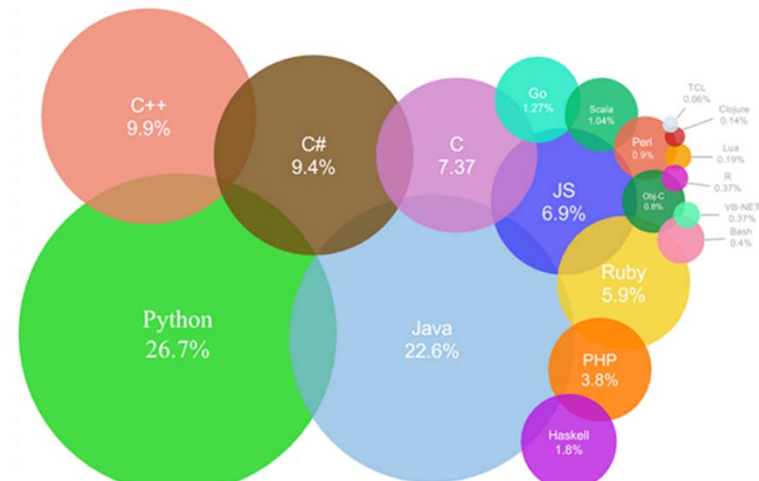
Introduction to programming and OOP

Most Popular Programming Languages (Statics)

Most Popular Coding Languages of 2018



Most Popular Coding Languages of 2016





Lesson 1: Introduction About Programming Languages and Python

Three typical Python Programs

1- cmd type programs

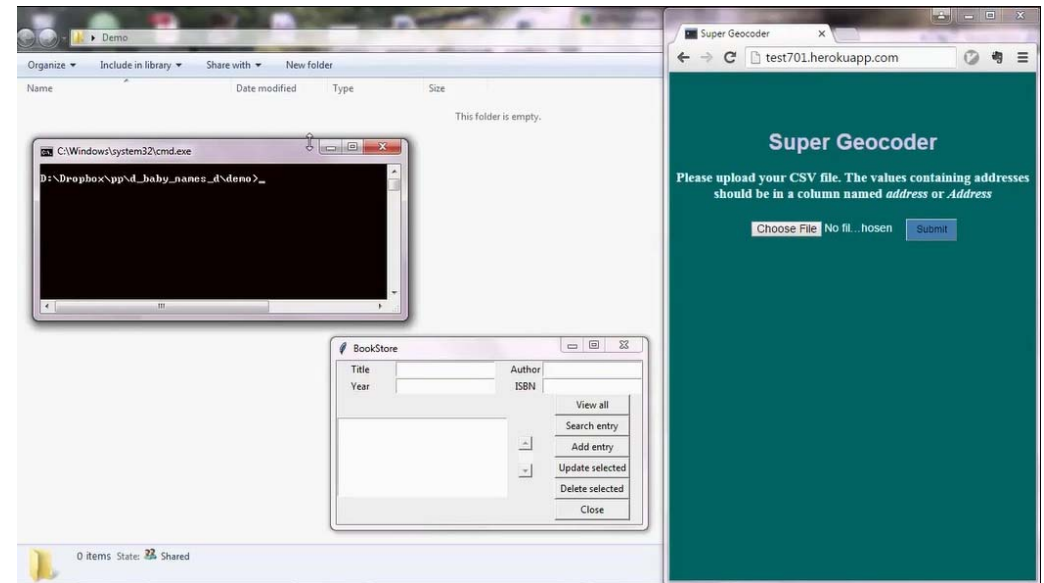
Cmd command: exact folder address

> python filename.py

2- Graphical user interface programs

(Desktop Applications)

3- web programs





Lesson 1: Introduction About Programming Languages and Python

Setting up python on windows

- Python.org → Download for windows → 3 or 2 versions → setup

Note: After Dec 2019, python 2 is not supported anymore!!!

- Cmd: >python → type some 1 line code (like math operations)
- Cmd: exit()
- Opening python shell → running some codes



Lesson 1: Introduction About Programming Languages and Python

Creating and executing a python program windows

- Uncheck → Hide extensions for known files (folder option > view)
- Text file → rename: test.py → edit with notepad: print(“Hello”) → shift + right click → open command window here (for win10: open PowerShell window here) → python test.py

If you write first letter of filename and press Tab, it will autofill.



Lesson 1: Introduction About Programming Languages and Python

Setting up Atom on windows

- Atom → one of best IDEs for python
- <https://atom.io> → download → install
- Atom → File → Setting → System → Check: show in file context menus && Check: show in folder contest menus
- Click right in file: open with Atom
- Atom → File → Settings → Install → search: platformio-ide-terminal → then install it (to integrate cmd with editor area) → then click + in bottom left of atom to see cmd lines

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**THANK YOU FOR
YOUR ATTENTION!**

You can keep in touch with me for any other possible helps or workshops, via:

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