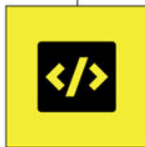


Python Course Outline



Python Programming Basic

- Art of Programming
- Zen of Programming
- About Python
- Environmental Setup
- Command Line
- Python Tutorial
- Reference



Web Development with Python

- Introduction to Web
- Frontend Development
- Backend Development
- Fullstack Development



Powerup

- Instructor Sharing
- Version Control
- Hosting
- Security
- Own Project
- Rewarding
- The Journey Begins . . .

ကျနော်တို့ဘယ်လိုလေ့လာကြမလဲ ?

- Assignment လုပ်ကြမယ်။
- အပြန်အလှန်ဆွေးနွေးမယ်။
- Note ရေးမယ်။
- Code ရေးမယ်။
- Sharing လုပ်မယ်။



The Art of Programming

- A computer program is a collection of instructions that can be executed by a computer to perform a specific task.
- Program is written by using programming language.
- Let's google it!



System Program



- Manage software applications.
- developed using low-level language.
- starts when the system turns on.

Software Program



- Perform a set of functions.
- Developed using high-level language.
- starts when the user requests.



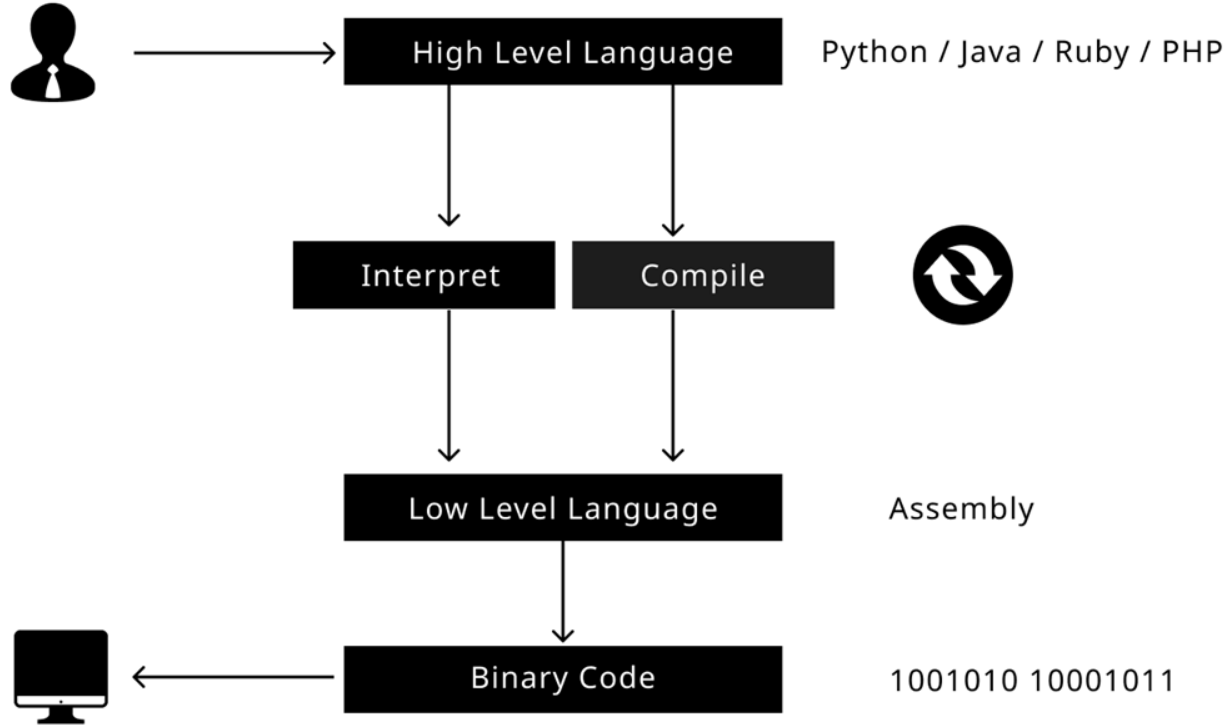
Low Level

- Machine code
- Assembly Code
- Considered difficult to use for beginner
- Faster than High Level Language

High Level

- Human Readable
- Easier to use for beginner
- Provide Software Development
- Slower than Low Level Language





Let's see how it works

HIGH LEVEL LANGUAGE

`print("Hello World")`

LOW LEVEL LANGUAGE

<code>global _main</code>	<code>0 LOAD_NAME</code>	<code>0 (print)</code>
<code>extern _printf</code>	<code>2 LOAD_CONST</code>	<code>0 ('Hello World')</code>
<code>section .text</code>	<code>4 CALL_FUNCTION</code>	<code>1</code>
<code>_main:</code>	<code>6 POP_TOP</code>	
<code>push message</code>	<code>8 LOAD_CONST</code>	<code>1 (None)</code>
<code>call _printf</code>	<code>10 RETURN_VALUE</code>	
<code>add esp, 4</code>		
<code>ret</code>		
<code>message:</code>		
<code>db 'Hello, World', 10, 0</code>		

BINARY CODE

`0111000001110010011010010110111001110100`

`0010100000110001001010110011001000101001`



Algorithm

- Step By Step
Instructions to solve
problems

Data Structure

- Data Organization
- Management
- Relationship
- Algorithm
- Program



The Zen of Programming

“ အလုပ်အကိုင်အခွင့်အလမ်းကောင်းတွေကြောင့် Programmer တွေ ဒီအလုပ်ကို လုပ်တယ် လို့ထင်ကောင်းထင်ကြမယ်ဗျ။ တကယ်တမ်းက ပြဿနာတွေကို ဖြေရှင်းရတာ သဘောကျတာရယ် ကိုယ်ရေးထားတဲ့ program လေးတစ်ခုကို သူများတကာတွေသုံးနေတာကို မြင်ရတာ ပီတိ ဖြစ်လို့ရယ်ပါ။ Program ရေးတယ်ဆိုတာ တကယ်တော့ အနုပညာပါ။ ”

Linus Torvalds - Linux Developer



The Art



The Artist



Guido van rossum





“ ရိုးရိုးရှင်းရှင်းလုပ်ပါ။ ”
“ **Make it Simple** ”



About Python Programming

What is Python?

- High Level Language
- General Purpose Language
- Dynamic Type
- Interpreted
- Object Oriented



About Python Programming

What can Python do?

- Almost Everything

Modern



Numpy

Desktop



Tkinter

Mobile



Kivy

Web



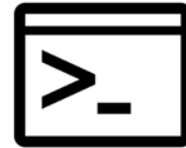
Django

Security



Nmap

Script



Shell Scripting



Pros

- Simple
- Productivity
- Bigger Market
- Free & Open Source
- Huge Library

Cons

- Slow Speed
- Weak in Mobile Dev
- Runtime Error
- Indentation Error
- Easy to Learn



Environmental Setup

A Laptop & A Browser & A Connection

- Python Installation
- IDE



မှော်လက်ကွက်များ

- Ctrl + C
- Ctrl + V
- Alt + Tab



Command Line Interface

- GUI - Graphical User Interface
- CLI - Command Line Interface
- Let's Try Command Line Interface



Python Tutorial

- Syntax
- Variables and DataTypes
- Builtin Functions
- Condition
- Loop
- Data Structure
- Function
- Class



“ Let’s Code ”



1. Syntax



Syntax

- Python codes are executed line by line
- Case Sensitive
- Built in Functions
- Indentation Error
- Run Time Error



2. Variables and Data Types



Variables and Data Types

- Naming and Using Variables
- Programmatical Expression
- Trouble Shooting
- String and Methods
- String Concatenation
- Integer and Methods
- Other Data Types



3. Builtin Functions



Builtin Functions

- Python Builtin Functions



4. Condition



Condition

- What is condition?
- Where to use?
- Types of Condition
- Types of Operators



5. Loop



Loop

- What is loop?
- Where to use?
- Types of Loop



6. Data Structures



Data Structures

- What is Data Structure?
- Where to use?
- Types of Data Structures
 - List
 - Tuple
 - Set
 - Dictionary



7. Function



Function

- What is Function?
- Where to use?
- Function Object
- Parameter and Argument
- Types of Argument



8. Class



Class

- What is Class?
- Where to use?
- Class Object
- Class Method
- Class Attribute
- Inheritance



Reference

- Codethakin - <https://codethakhin.pythonanywhere.com>
- Bootcamp - <https://www.freecodecamp.org/learn/scientific-computing-with-python/>
- Youtube - <https://www.youtube.com/watch?v=rfscVS0vtbw>
- PDF
 - Python Crash Course
 - Learn Python3 the Hard Way
 - Python Myanmar Book





Fullstack Development



Frontend Development

HTML



CSS



Bootstrap



Backend Development

Django



Introduction To Web

- What is Website?
- Components of URL
- Static Website
- Dynamic Website
- Progressive Website



What is Website?

- A website is a collection of web pages and related content that is identified by a common domain name and published on at least one web server.



Components of URL



Static Website

- Web Design - HTML / CSS / JavaScript / Static Site Generator
- Content
- Server Hostable
- example - <https://springzephyr.pythonanywhere.com>



Dynamic Website

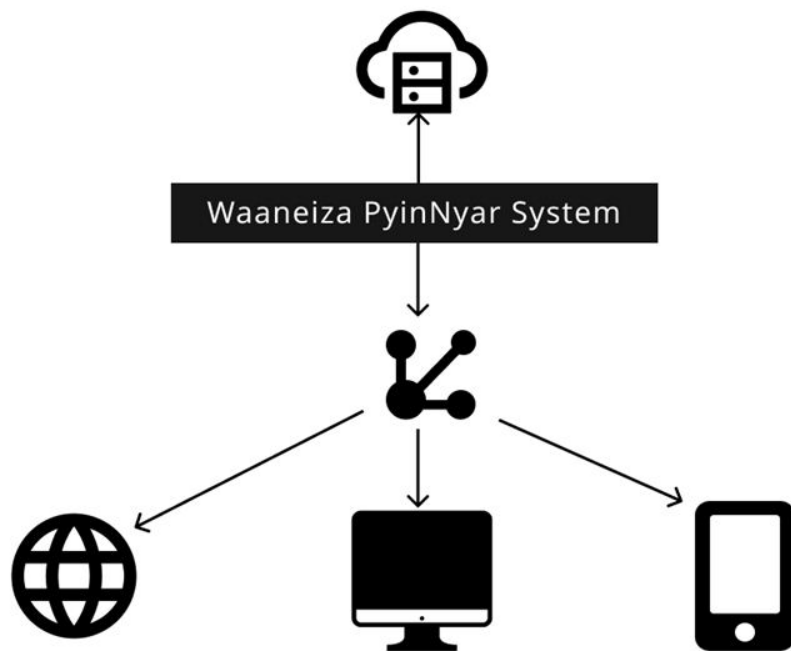
- Access Data Storable
- Information is updated frequently
- Make it easier to contribute
- example - facebook / twitter
- <https://danielfrank.pythonanywhere.com/>



Progressive Web App

- Application software delivered through the web.
- Work on any platform that uses a standards-compliant browser, including both desktop and mobile devices.





Frontend Development

- HTML
- CSS
- Figma
- Bootstrap
- Templates and Open Source
- Frontend Project



Backend Development

- Introduction to Django
- Environmental Setup
- Creating Project
- Starting Application
- File System
- Model
- Database Migration
- Admin
- Backend Project



Fullstack Development

- Models
- Views
- Templates
- URL
- MVT
- Social Blog Project





Next Level Professionalism



Version
Control



Host
Project



Security



Manage
Data



Instructor
Sharing

Version Control

- Introduction to Git
- Why Git?
- Store Your Project to Git



Host Project

- Introduction to PythonAnywhere
- Why PythonAnywhere?
- Host your Project



Security

- Introduction to Security
- Web Security



Manage Data

- Introduction to Database Management System
- Trendy Database Softwares



Instructor Sharing



Let's Build your Own Project



REWARDING

IDEA STUNNING PROJECT WILL BE REWARDED

- 1 Year Domain (\$10)
- 1 Month Hosting (\$5)

Terms and Conditions

- Project Presentation will be audited.
- Be sure projects and ideas created are unique and helpful for real world solutions.
- Rewarded Project will be selected by WWS Team



The Journey Begins

