Mahasiswa Cinta Quran

Python Fundamentals

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Agenda

Introduction

- Python Programming
- Data Types
- Functions
- Modules

Setup Environment

- Python installation
- Setup IDE

Coding in python

- Syntax
- Create simple program in Python

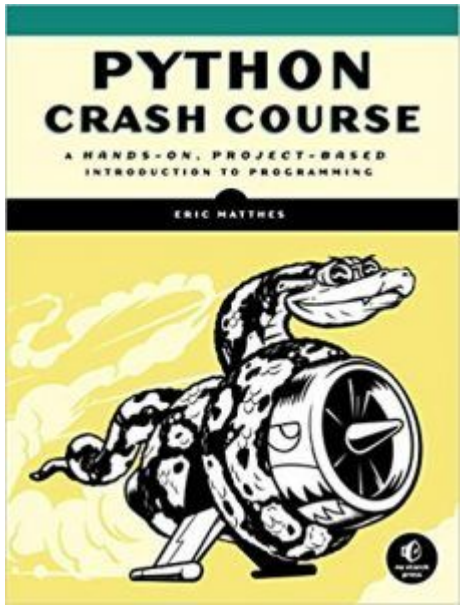
Takeaways

- Recap
- Referensi belajar

Source

Most of the materials in this talk inspired by and based on “**Python Crash Course**” book by Eric Matthes

https://ehmatthes.github.io/pcc_2e/regular_index/



Python Programming

Python is general purpose programming that can be used in any projects.

Support multi programming paradigm such as OOP, Functional, etc .

Data Type

Python has primitive and non-primitive data types. Primitive data type such as String, Integer, Boolean, and Float.

Non-primitive data types store collection of values.

```
variable_int = 13 #variable with integer data type

string_variable="Ngaji Generation" #String data type

list_var = ['islam','itu','keren'] #list of string

list_int = ['1','2','3'] #list of integer
```

Function in Python

Function takes some input and produce some output. Function is just a piece of code that can reuse.

You can create your own function or use other people's function.

Function as first-class object

```
def greet(name):
    print("Selamat pagi " + name)

def double(number):
    print("Hasil dikali 2= " + number * 2)

def hello():
    print("hello world")

double_func = lambda x: x*2

add_one = lambda x: x+1
```

Modules

Module is a file containing python function or variables. The module name is the file name e.g. `telebot.py`.

You can use the module by using import keyword e.g `import telebot`

Import modules

```python
# telebot.py
def generate_token():
    return random.randint(0,9)

def greet():
    return "Hello"
```

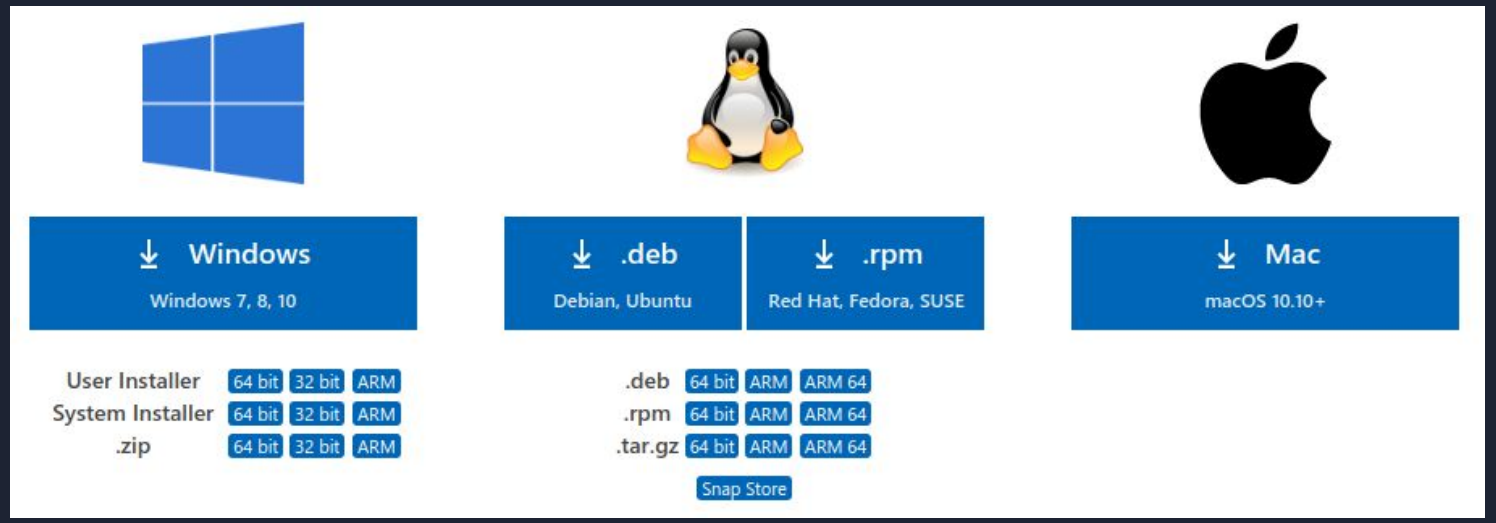
```python
# app.py
import telebot

say_hello = telebot.greet("Awesome bot")

token = telebot.generate_token()
```

Installation

Anaconda is tools to install python environment, download it on:
https://docs.conda.io/en/latest/miniconda.html

Setting Up IDE

IDE stands for Integrated Development Environment or also called code editor. We'll use VSCode for this project. Get it here: https://code.visualstudio.com/download



Let’s Code!

Have fun with function

- **Pizza Robot**: Fungsi untuk menambahkan toping di pizza, inputan contoh “Meat lover”, output “ meat lover with .... toping”
- **Grateful Robot**: Fungsi untuk menerima input string “apa kabar?” dan menampilkan output dengan menambahkan kata “baik , alhamdulilah” di akhir pesan
- **Greeting Robot**: Fungsi untuk generate kalimat sapa secara random
- **Euro Conversion Bot**: Fungsi yg menerima input uang dan menampilkan output “uang anda setara... rupiah”
- **Sholat Reminder Bot**: Fungsi yg menerima input waktu sekarang dan menampilkan output “ayo sholat subuh/dzuhur/ashar....”

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Recap!

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Thank You!

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