

Pemrograman Python Dasar

By: Sangsaka Wira Utama N

- Sharing Session -



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Perkenalan



Sangsaka Wira Utama N

Back End Developer

PT Altavindo

2020 – Present

S2 Teknik Fisika

Institut Teknologi Sepuluh Nopember

2018 – 2021

S1 Teknik Fisika

Institut Teknologi Sepuluh Nopember

2014 – 2018

Stack:

1. Javascript
2. Node.js
3. React.js
4. Python
5. Flask
6. Tensorflow
7. MongoDB (NoSQL)
8. PostgreSQL (SQL)

Portfolio

pgn SAKA power to discover

PLANT

GTG Sensor History Pike

PROFILE Security Settings

1 Total Turbin 3221 Total Pikes 18 Total Schedule 873 Total Warning

Direct Predict

- * Air Pressure (6.96 - 7.38)
Air Pressure
- * Temperature Enclosure (24 - 34.9)
Temperature Enclosure
- * Pressure Compressor Discharge (6.68 - 7.53)
Pressure Compressor Discharge
- * Actual Fuel Flow (378 - 643)
Actual Fuel Flow
- * Generator (324 - 1673)
Generator

Active Sensor

ID	Sensor	Warning Status	Online Status	Measurement
1	Temperature Enclosure	Normal	● Online	677

Generator Capacity (Output)

Temp Enclosure

T1 (Temp Inlet)

P2 (PCD)

Gas Fuel Temperature

Actual Fuel Flow

Air Pressure

Generator

Active Sensor

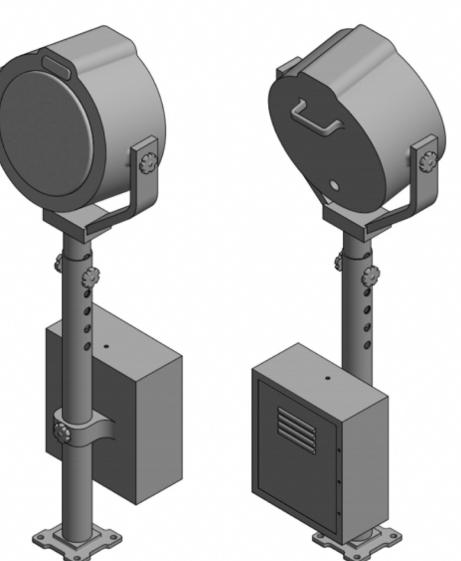
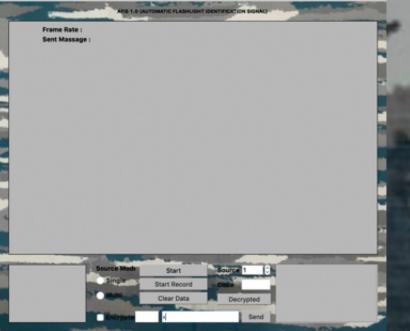
ID	Sensor	Warning Status	Online Status	Measurement
1	Temperature Enclosure	Normal	● Online	677



Portfolio

AFIS 1.0

Military Instrument Specialist



Features Including:

- 1. Desktop & Mobile Support
- 2. Read and Send Signal
- 3. Compatible for Every Platform
- 4. Easy to User

 GET IT ON Google Play

AFIS: Automatic Flash Identifier System
Lampu Pengirim dan Pembaca Sandi Morse
Wireless Terenkripsi Berbasis Image Processing

Apa itu Python?



Programming Languages



python™

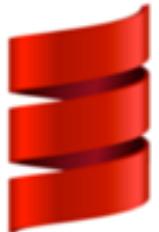


JavaScript

C++



Ruby



Scala



C#

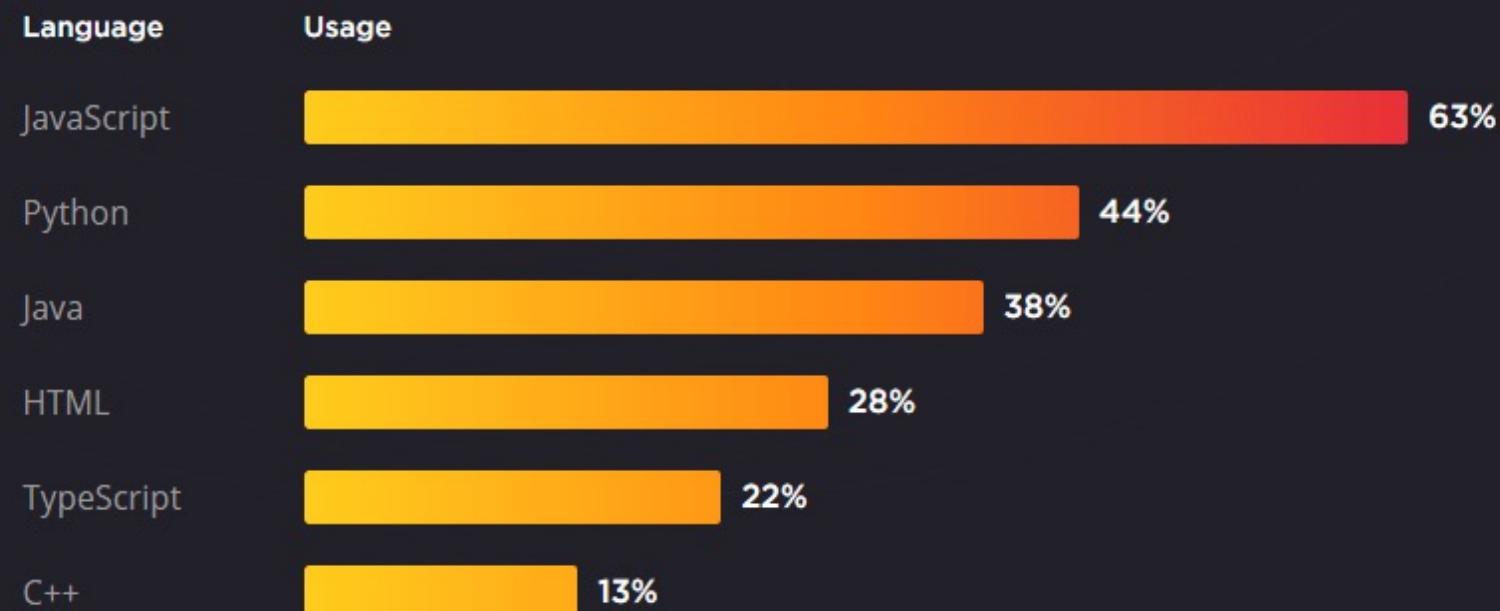
Kenapa Python?



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Kenapa Python?

Most Commonly Used Programming Languages by Software Engineers



Referensi:

https://dev.to/theme_selection/to-p-10-striking-programming-languages-2021-4d2h



Kenapa Python?

MAJOR COMPANIES
THAT USE



python

Google NETFLIX facebook Instagram

amazon

Dropbox

Quora

ebay

slack

Spotify

intel

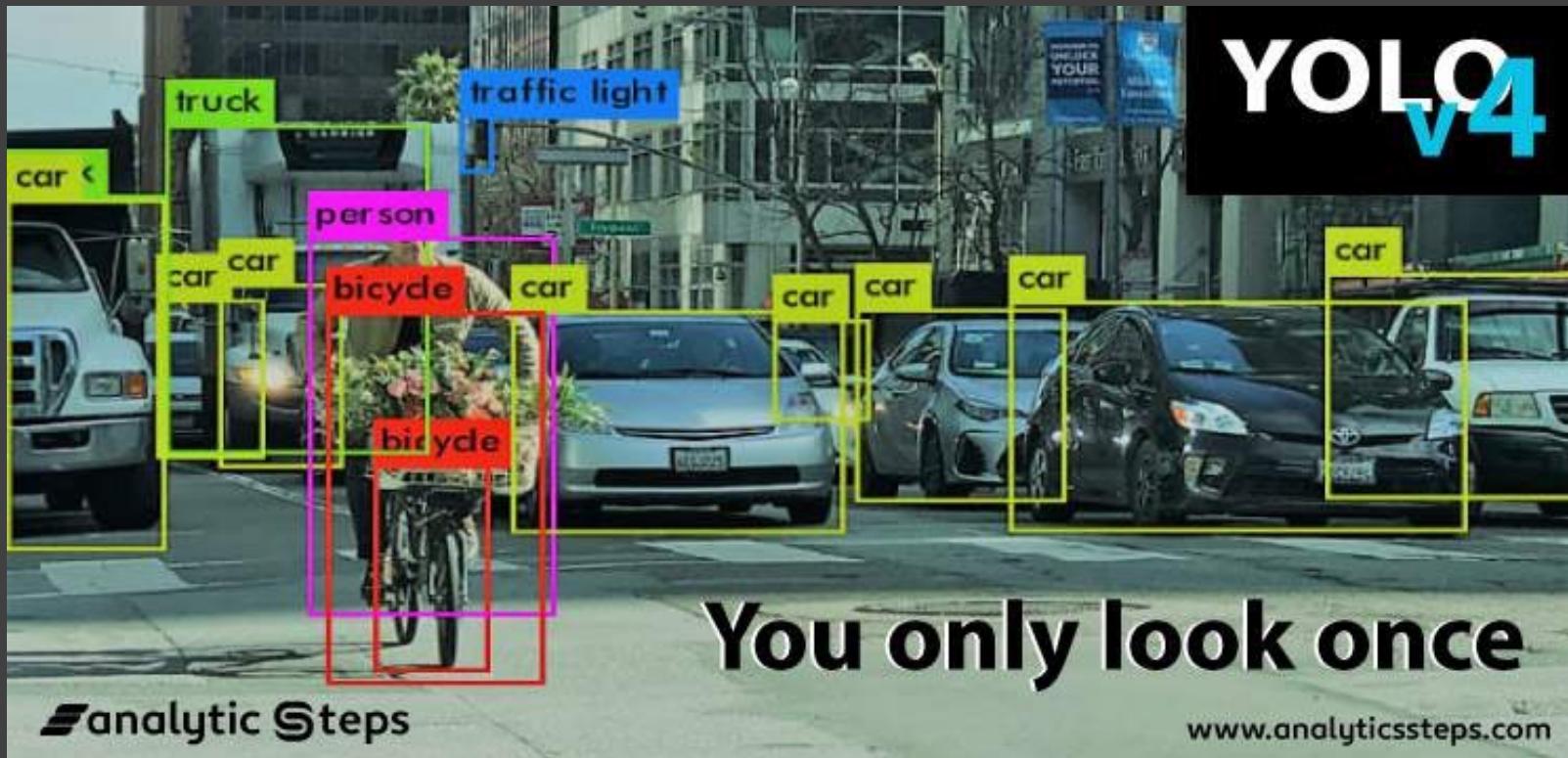
NASA

CapitalOne

Referensi: <https://codingnomads.co/wp-content/uploads/2019/06/PythonCompanies.png>



Kenapa Python?



Referensi:

[https://www.analyticssteps.com/b
ackend/media/thumbnail/7303766
/2600171_1592838425_Untitled-
1.jpg](https://www.analyticssteps.com/backend/media/thumbnail/7303766/2600171_1592838425_Untitled-1.jpg)

Kenapa Python?

Kegunaan Python yang Saya Sarankan Thn 2021

1. Data Science
2. Artificial Intelligence
3. Back End Development
4. Internet of Things
5. Desktop Application
6. Wajib Buat Kuliah

Kegunaan Python yang Tidak Saya Sarankan Thn 2021

1. Mobile App Development
2. Web Front End Development

Alasan: Python kurang populer di kalangan 2 disiplin diatas.



Apakah Python Cocok untuk Pemula?



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PRAKTEK

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Cara Install Python

The screenshot shows the Python.org homepage. At the top, there's a navigation bar with links for Python, PSF, Docs, PyPI, Jobs, and Community. Below the navigation is the Python logo and a search bar with a 'GO' button. A sidebar on the left displays a snippet of Python code related to fruit lists. The main content area features a large 'Download for Mac OS X' section with a 'Python 3.9.6' button. Below it, text states: 'Not the OS you are looking for? Python can be used on many operating systems and environments.' A link 'View the full list of downloads.' is provided. The footer contains four sections: 'Get Started', 'Download', 'Docs', and 'Jobs', each with a brief description and a link to more information.

python.org

Python PSF Docs PyPI Jobs Community

python™

Donate Search GO Socialize

About Downloads Documentation Community Success Stories News Events

All releases

Source code

Windows

Mac OS X

Other Platforms

License

Alternative Implementations

Download for Mac OS X

Python 3.9.6

Not the OS you are looking for? Python can be used on many operating systems and environments.

[View the full list of downloads.](#)

Python is a programming language that lets you work quickly and integrate systems more effectively. [» Learn More](#)

Get Started
Whether you're new to programming or an experienced developer, it's easy to learn and use Python.

[python.org/downloads/](#)

Download
Python source code and installers are available for download for all versions!

Latest: [Python 3.9.6](#)

Docs
Documentation for Python's standard library, along with tutorials and guides, are available online.

[docs.python.org](#)

Jobs
Looking for work or have a Python related position that you're trying to hire for? Our [relaunched community-run job board](#) is the place to go.

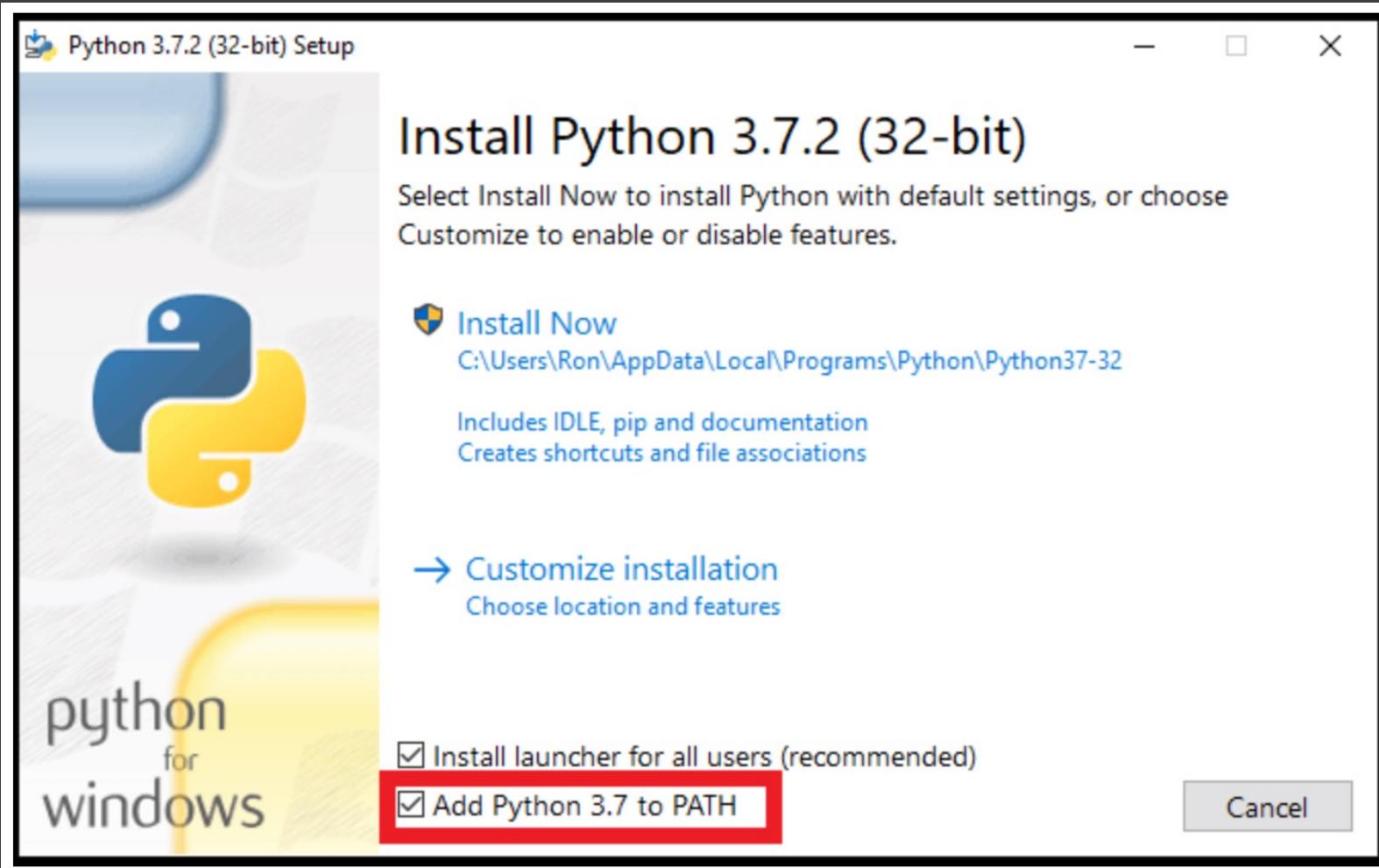
Tahapan:

1. Go to www.python.org
2. Download Python 3.9.6
3. Install Python cukup klik "next"

Catatan khusus Windows
pastikan python terpasang di "environment variables" dengan cara centang pada opsi install. Misal lupa bisa pasang manual kok santai!



Khusus Windows

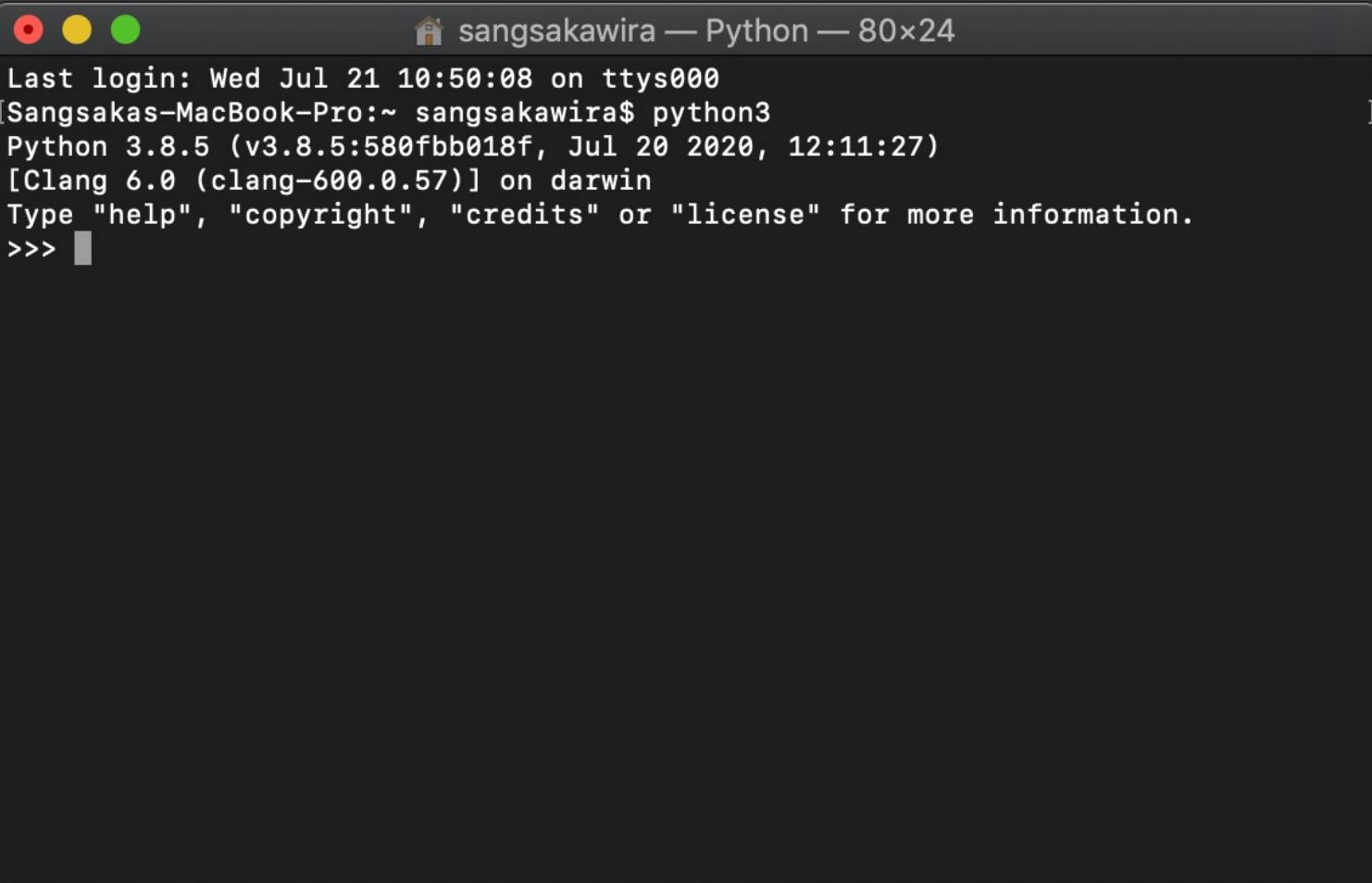


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Cara Test Python Sudah Terinstall



A screenshot of a terminal window titled "sangsakawira — Python — 80x24". The window shows the following text:

```
Last login: Wed Jul 21 10:50:08 on ttys000
[Sangsakas-MacBook-Pro:~ sangsakawira$ python3
Python 3.8.5 (v3.8.5:580fbb018f, Jul 20 2020, 12:11:27)
[Clang 6.0 (clang-600.0.57)] on darwin
Type "help", "copyright", "credits" or "license" for more information.
>>> ]
```

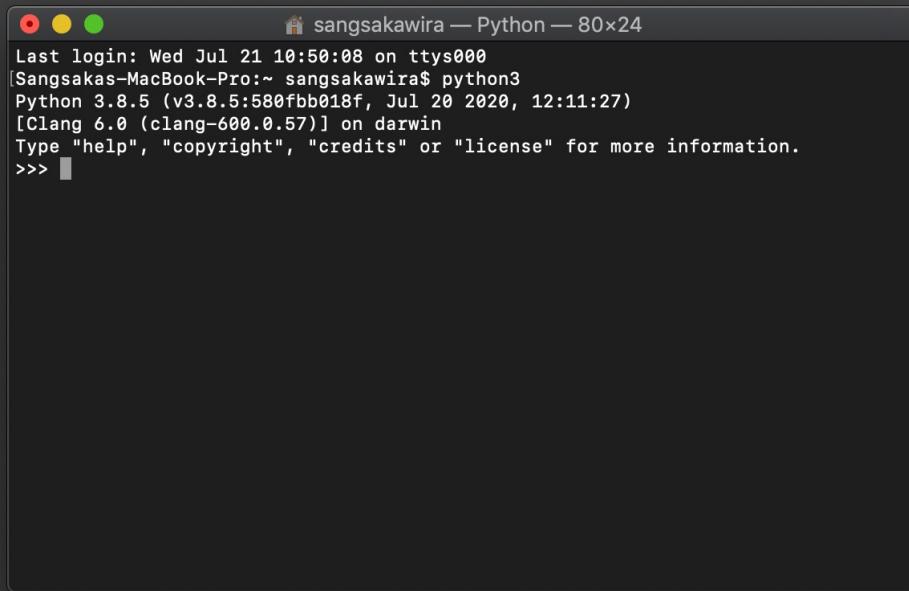


Cara Test Python Sudah Terinstall

```
C:\Users\syahmad>python  
'python' is not recognized as an internal or external command,  
operable program or batch file.
```



Cara Menjalankan Python



```
Last login: Wed Jul 21 10:50:08 on ttys000
[Sangsakas-MacBook-Pro:~ sangsakawira$ python3
Python 3.8.5 (v3.8.5:580fb018f, Jul 20 2020, 12:11:27)
[Clang 6.0 (clang-600.0.57)] on darwin
Type "help", "copyright", "credits" or "license" for more information.
>>> ]
```

```
# data analysis
import pandas as pd
import numpy as np

# visualization
import matplotlib.pyplot as plt
import matplotlib.ticker as mtick
import seaborn as sns

import warnings
warnings.filterwarnings('ignore')

#read files
data = pd.read_csv("../input/telco-customer-churn/WA_Fn-UseC_-Telco-Customer-Churn.csv")
```

Python Shell

Python Script .py



Cara Menjalankan Python



Visual Studio Code

<https://code.visualstudio.com/>

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Turunan Cara Menjalankan Python

The screenshot shows the Google Colab interface. The top navigation bar includes 'File', 'Edit', 'View', 'Insert', 'Runtime', 'Tools', and 'Help'. On the left, there's a 'Table of contents' sidebar with sections like 'Getting started', 'Data science', 'Machine learning', 'More Resources', and 'Machine Learning Examples'. The main content area displays a section titled 'What is Colaboratory?'. It explains that Colaboratory allows writing and executing Python in a browser with features like zero configuration, free access to GPUs, and easy sharing. It also mentions that Colab can make work easier for students, data scientists, and AI researchers. Below this, a 'Getting started' section shows a code cell with the following Python script:

```
[ ] seconds_in_a_day = 24 * 60 * 60
seconds_in_a_day
86400
```

It also provides instructions on how to execute code and information about variable scope.

Contoh:

1. Google Colab (Free)
2. Jupyter Notebook (Open Source)

Browser

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Introduction to Python Programming

Variabel & Tipe Data



Tipe Data

Variabel

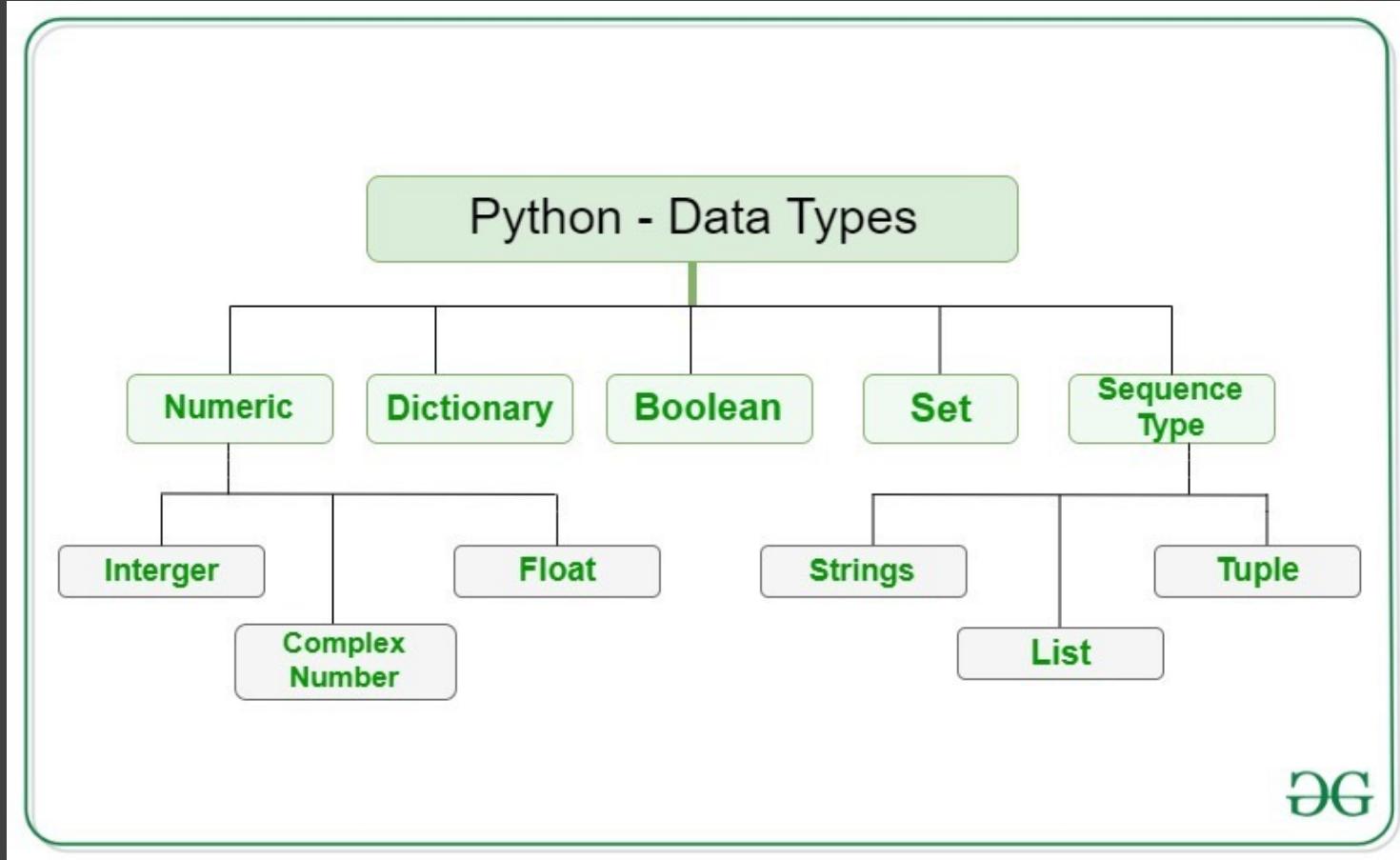


Tipe Data

Tempat menyimpan data sementara



Tipe Data



Referensi:
<https://www.geeksforgeeks.org/python-data-types/>



Tipe Data

Numeric (Integer & Float)



Tipe Data

String (“Hello”)



Tipe Data

Boolean (True & False)



Tipe Data

List ([1,2,3])



Tipe Data

Tuple (((1,2,3)))



Tipe Data

Set ($\{1,2,3\}$)



Tipe Data

Dictionary ({nama:"John Doe"})



Tipe Data

Kalkulator Sederhana dengan “input()”



Comparison and Operator



Comparison

If and Else



Comparison

Elif



Comparison

Aplikasi Kalkulator Lingkaran dan Persegi



PERTANYAAN

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RESOURCES

<https://github.com/SangsakaWira/Webinar-24-July-2021>



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Thank You



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