



<https://gitlab.com/azman1204/python-pgn>

# Python Training

28 - 30 May 2024

# What is Python Programming Language ?

Python is a high-level, general purpose, interpreted programming language known for its readability, simplicity, and versatility

## Strong Points :

- Interpreted
- Readability and simplicity, fun to learn
- Versatility
- Large standard library
- Community and ecosystem
- Cross Platform
- 2<sup>nd</sup> most popular programming language after JavaScript for many years (stack overflow survey)



Guido van Rossum (Python original author)  
*Dutch computer scientist and mathematician*

# Python Version

Year	Version
1991	0.9
1994	1.0
2000	2.0
2008	3.0
2024	3.13

Website : <https://www.python.org>

# Why Python ?

- Easy to Learn
- Data Science - data analysis / Scientific app.
  - Pandas, NumPy
- Automation
- Machine Learning
  - OpenCV, Scipy, PyTorch, Keras, TensorFlow, Scikit-Learn
- API
  - FastAPI
- Web Application
  - Django, Flask
- Utility Program
- Games
- Robotic
  - Raspberry Pi

# Tools

- Visual Studio Code (VSC) - IDE
- Python 3.12
- SQLite - DB Browser , [DBeaver](#)
- Anaconda Jupyter

# What We Will Learn

- Types – numbers, string, lists, dictionaries
- Class, object, function & control flow
- Interact with files on your computer
- Mini Projects

# Revision Day #1

- Installation python, VSC, python terminal, print("Hello World")
- Data type: string, number, Boolean, List, Map / dictionary
- Function: custom func, built-in funct (print(), len(),...)
- Def <nama>(parameter) :
- From math import ceil, floor, sqrt / import math
- Method vs function
- "abc".upper()
- From random import random
- From matematik import tambah, tolak
- Control flow (if, if..else, if ..elif...else)
- Loop: for <nama> in <list>:, while condition:

## Class vs Object

Class = definasi / blueprint

- Property
- Action / method / function

Object = hasil dari blue print



# Point of Sales

- List all the items
- Key-in the purchase
- Print the bill
- Item... qty... total amount
- ..
- ..
- Tax (7%)
- Total Amount

1. list of items - List of Object
2. Purchasing info (item no, qty)
  1. List of map

Class Item

- Method : list\_item()

Clas Purchase

- Method scan
- Print\_bill

# Investment Calculator

Input:

1. How much to invest : RM 100,000
2. How long to invest (years): 10
3. Dividend rate (%): 6.5

Year	Amount	Profit	
2024	100000	6500	
2025	106500	...	
...			
2034	...	..	

# PIP – Package Manager

- `>pip --version`
- `>pip list`
- `>pip install flask`

# Tentative

- 9:00 – start
- 10.30 – break (15 min)
- 01:00 – lunch
- 02:00 – continue
- 03.30 – break (15 min)
- 05:00 - end

# Revision Day # 2

- OOP. Class / object. Method. `__init__(self)`
- Inheritance. Method overriding
- File. `Open()`
- `pypyodbc`