who am I

> Islam Gomaa
> SCE studnet year 3
> Machine learning

> Terminal Lover
> Linux User BTW

🌐https://www.linkedin.com/in/iislamgom3a/

outlines

> History
> Python versioning
> Run code
> Ipython
> Packages & Libraries
> Virtual environment

> anaconda
> Jupyter

History

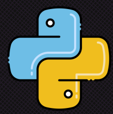
Guido van Rossum

- hobby project 1989
- Release of Python 1.0 (1994)
- Introduction of Python 2.0 (2000)
- Release of Python 3.0 (2008)

🌐https://www.bocasay.com/history-python-programming/

why Python?

- General purpose
- high level
- easy
- dynamically typed
- community support
- dozens of libraries



Python versioning

3.14.0

Major Version
Minor Version
Patch Version

```
$ python --version
```

🌐https://onecompiler.com/python2

🌐https://www.python.org

Run code

Interactive mode
Script mode

> REPL (interactive) Mode

REPL -> read, execute, print, loop

> Script Mode

> VS code : test editor
🌐https://code.visualstudio.com/

Ipython

🌐https://ipython.org/

> installation

```
$ pip install ipython
```

> auto completion

> magic functions

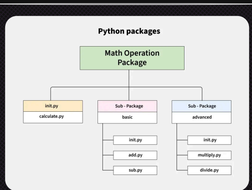
snippet

```
In [1]: print("Hello AZEX")
Hello AZEX

In [2]: print("I am ipython")
I am ipython

In [3]:
```

Packages & library

> what's a python packages:
  - set of scripts (modules)

> what's a library:
  - set of pacakges



🌐https://www.geeksforgeeks.org/python/python-packages/

> Standard Library
🌐https://docs.python.org/3/library/index.html

> where are python packages

```
import sys
print(sys.path)
```

pip

🌐https://pip.pypa.io/en/stable/

```
$ pip install numpy
```

🌐https://pypi.org/

Virtual Environment

> what's a virtual environment?
> why do we need them?

> creation:

```
$ python -m venv virtual_env
```

> Activation (linux):

```
$ source virtual_env/bin/activate
```

> Activation (windows):

```
$ source virtual_env/scripts/activate
```

> diactivation :

```
$ deactivate
```

> what does activation mean?

Prompt change
sys.path

> test different venv

```
$ pip list
```

> test in Vs code

Anaconda

> what's Anaconda?
> Installation:
🌐https://www.anaconda.com/download/success

> explore anaconda navigator

> conda
🌐https://docs.conda.io/projects/conda/en/latest/_downloads/843d9e0198f2a193a3484886fa28163c/conda-cheatsheet.pdf

Jupyter

> launch from anaconda navigator
> launch form terminal
> explore interface
> cell types

```
import seaborn as sns
sns.set()
df = sns.load_dataset("iris")
sns.pairplot(df, hue= "species")
```