Welcome! This is Thomas Mak.

Handouts URL: https://MakClass.com

Course Grading

- Class Performance
- Workbooks
- Quiz: Multiple Choices
- Final Test Project

This course is divided into 3 parts

1. Basic logic, list, and files reading/writing
2. Fetching data from Internet
    1. Finding the patterns in URL
    2. Fetching data from API (in XML and JSON format)
    3. Web scraping data on web pages
    4. Web browser automation
3. Numpy, Pandas, and MatPlotLib for data processing
    1. Numpy for numeric calculation, e.g. vector and matrix.
    2. Pandas for tabular column-based calculation
    3. MatPlotLib for plotting figures

Why Python

Easy to learn
Reliability
Community is large
Many libraries and tools

Python 3.x

Current major Python version is 3.9.

Python distributions

- python.org official build
- Anaconda

Running Python

- Via distributions installation
- Running on Web Browsers
- Running on iOS
- Running on Android
- Running on Server-side

Running Python in Jupyter Notebook

- Code are divided into cells.
- Jupyter notebook shows the result of last line of each cell
- ENTER to edit the current selected cell.
- CTRL+ENTER to execute the current cell.
- SHIFT+ENTER to execute the current cell and move to next cell
- A to insert a cell above the current cell.
- B to insert a cell below the current cell.
- Be careful of not responding to input

Community & Python Enhancement Proposals

- PEP 8
    - Lower case variable name and function name
    - multi_words_with_underscore naming.
    - 4 spaces for indentation. (More on that later)

https://pep8.org

Running Python on Web Browsers

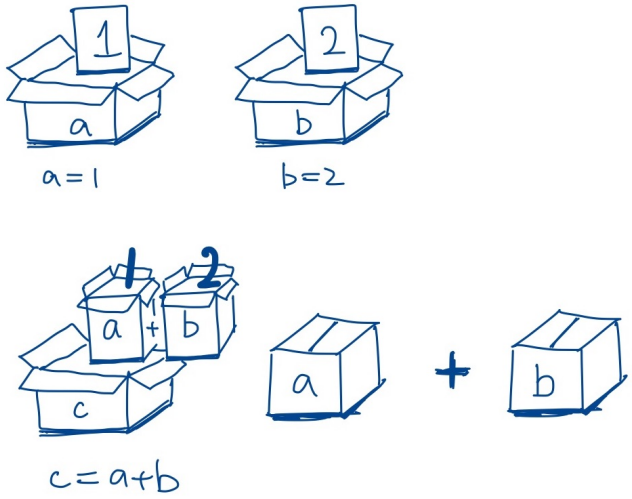
The easiest way to run Python is through web browser. The following lists some of the online editor that you run Python code directly.

- https://repl.it/languages/python3
- https://www.onlinegdb.com
- https://www.programiz.com/python-programming/online-compiler/
- https://trinket.io/features/python3
- https://www.pythonanywhere.com

Defining variables

```
a = 1
b = 2
c = a + b

print(c)
```



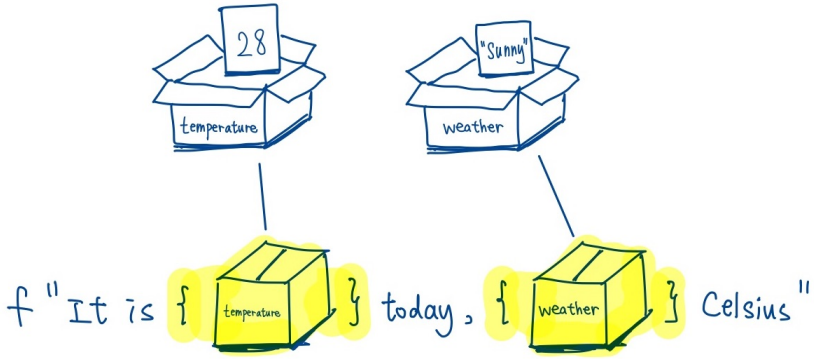
Common variable types

- Int
- Float
- String
- True/False
- List
- Tuple
- Set
- Dictionary
- None

Printing result

```
temperature = 28
weather = "sunny"

# Concat strings together
print(f"It is {weather} today, {temperature} Celsius
degrees.”)
```



Taking user inputs

```
name = input("What is your name? ")
print(f"Hello {name}”)
```