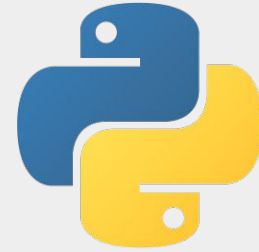# *Software Systems Development*
# Lab

Will start at 2.35PM

20/10/2020

*Python is an **interpreted**, **high-level** and **general-purpose programming** language.*

- Virtual environment and Falsk setup
- Demo: Building a simple calculator using GET and POST requests in Flask

# Python Packages

- A python package is a set of python code libraries which can be used in python project
- Packages can be downloaded using Python package manager `PIP` through command line interface
- Refer to [Installation — pip 20.2.3 documentation](#) for installation and detailed instructions
- Refer to [Installing Packages](#) for package installation using `PIP`

# Flask Setup

- Virtual environment setup (go to [virtualenv - PyPI](#) for more details)
    - `sudo apt-get install python3-venv`
    - `virtualenv -p python3 venv`
    - `source ven/bin/activate`


- Flask installation using PIP (Go to [Installation — Flask Documentation (1.1.x)](#) for more details)
    - `pip install flask`

# Demo - Calculator App

- Add, subtract or multiply two or more numbers by passing them as
  - Query parameters in URL
    - Example:[/calculate?n=2&n=4&n=2&operation=mul](/calculate?n=2&n=4&n=2&operation=mul) → 16


  - JSON payload in POST request
    - Example:
      - Payload:
        - `{ "numbers"=[2,3,4], "operation": "add" }`
      - Output: 9

# Learn and Practice Python

- [jerry-git/learn-python3](jerry-git/learn-python3) (recommended for practice)
- [A Beginner's Python Tutorial/Very Simple Programs](A Beginner's Python Tutorial/Very Simple Programs)
- [The Hitchhiker's Guide to Python](The Hitchhiker's Guide to Python)
- [Python Examples](Python Examples)