EBU7240
Computer Vision
- Setting up your environment -

Semester 1, 2020

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Notes

- Following slides are guidelines **for those who start Python from scratch**

- You can use your own way to setup the environment
- **BUT** make sure that your code is runnable in the provided environment:
  - Python 3.8
  - *pyqt5*
  - *numpy*
  - *opencv-python*
  - *opencv-contrib-python*
  - *matplotlib*

Anaconda

- **A free and open-source distribution of the Python languages**
  - for scientific computing (data science, machine learning applications, large-scale data processing, predictive analytics, etc.),
  - aims to simplify package management and deployment.

Miniconda (Anaconda)

- **A free minimal installer for conda.**
  - A small, bootstrap version of Anaconda that includes only conda, Python, the packages they depend on, and a small number of other useful packages, including pip, zlib and a few others.
  - https://docs.conda.io/en/latest/miniconda.html

Windows installers

Python version	Name	Size	SHA256 hash
Python 3.9	Miniconda3 Windows 64-bit	58.1 MiB	b33797064593ab2229a0135dc69001bea05cb56a20c2f243b1231213642e260a
Python 3.8	Miniconda3 Windows 64-bit	57.3 MiB	8940cdd621557bc55743d6bb4518c6d343a4587127e76de808fb07e51df03fea
Python 3.7	Miniconda3 Windows 64-bit	55.8 MiB	9c031506bfcb0428a0ac46c9152f9bdd48d5bdaa83046691bf8e0a4480663c05
Python 3.9	Miniconda3 Windows 32-bit	55.3 MiB	24f438e57ff2ef1ce1e93050d4e9d13f5050955f759f448d84a4018d3cd12d6b
Python 3.8	Miniconda3 Windows 32-bit	54.5 MiB	f81c165384c18d1986e2ba2f86cef384bc62266c46b34cd3d274e751ff5d91ed
Python 3.7	Miniconda3 Windows 32-bit	55.3 MiB	a1bb8338be12ee09dbd4cab9dcc2fbdc99f65d99281dd2c07d24ad0f23dd1f7c

Windows

Download → Install

PyCharm

- **Making your Python coding easier**

PyCharm

- **Download -> Install!**

Setup

Setup

1. Your directory

EBU7240_CHANGJAE_OH_1900XXXX

Your name!   QM number!

2. Put "requirements.txt" (in QMPlus) in the above folder

nd (D:) > EBU7240_CHANGJAE_OH_1900XXXX

Name

requirements.txt

requirements.txt - Notepad

File   Edit   Format   View   Help

pyqt5
numpy
opencv-python
opencv-contrib-python
matplotlib
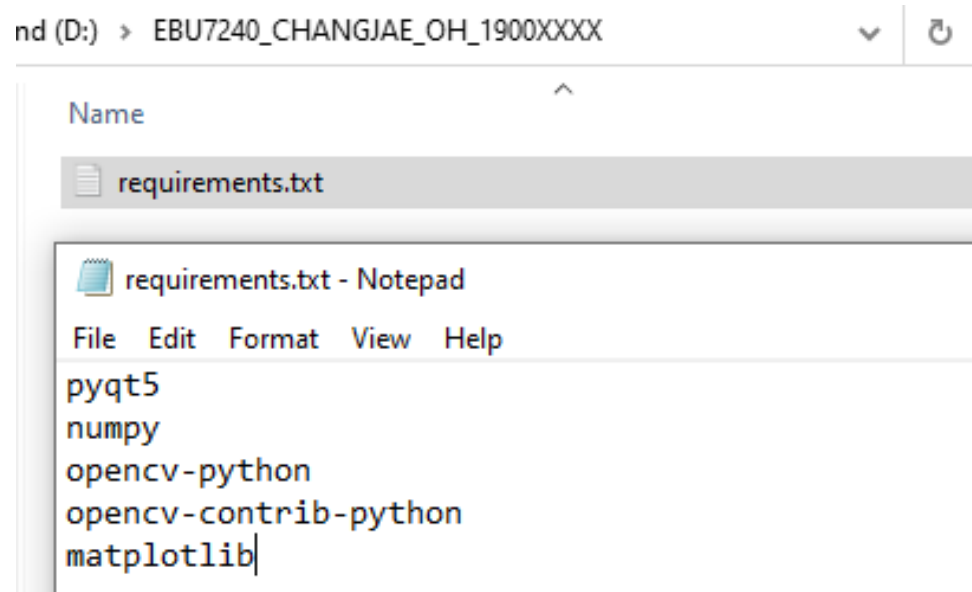
Setup

3. Run Anaconda Prompt

Anaconda Prompt (miniconda3)
App
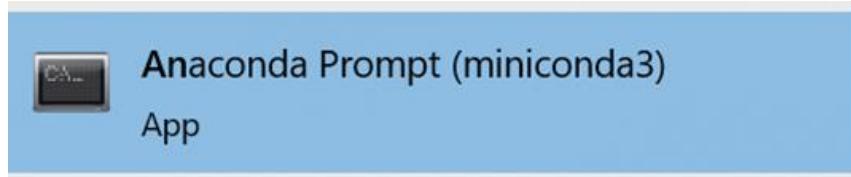
4. Create the virtual environment (your playground)

```
(base) D:\EBU7240_CHANGJAE_OH_1900XXXX>conda create -n ebu7240_CV python=3.8_
```

5. Activate the environment

```
Executing transaction: done
#
# To activate this environment, use
#
#     $ conda activate ebu7240_CV
#
# To deactivate an active environment, use
#
#     $ conda deactivate

(base) D:\EBU7240_CHANGJAE_OH_1900XXXX>conda activate ebu7240_CV

(ebu7240_CV) D:\EBU7240_CHANGJAE_OH_1900XXXX>
```

Setup

6. Installing packages from "requirements.txt"

```
(base) D:\EBU7240_CHANGJAE_OH_1900XXXX>conda activate ebu7240_CV

(ebu7240_CV) D:\EBU7240_CHANGJAE_OH_1900XXXX>pip install -r requirements.txt
```

Your virtual environment includes all libraries you need for this module

Now, let's connect this virtual environment with PyCharm

Setup
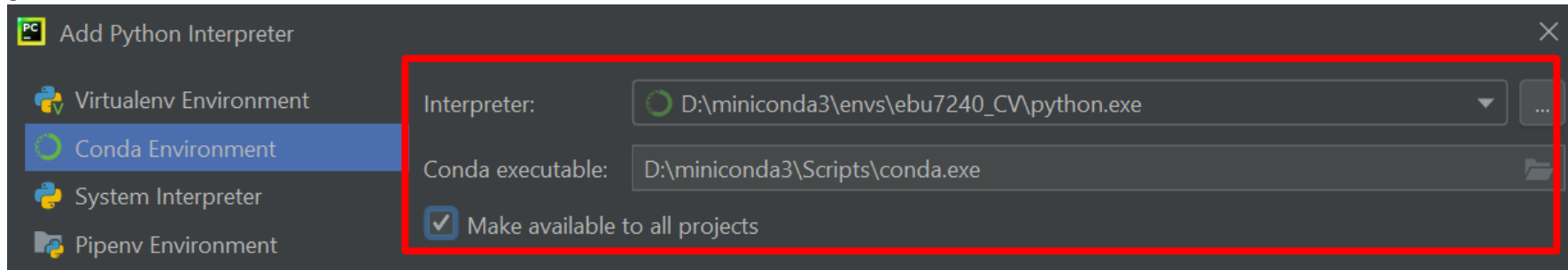
9. Open PyCharm -> Projects -> New Project

10. Set location as your folder

11. Previously configured interpreter → click "..."

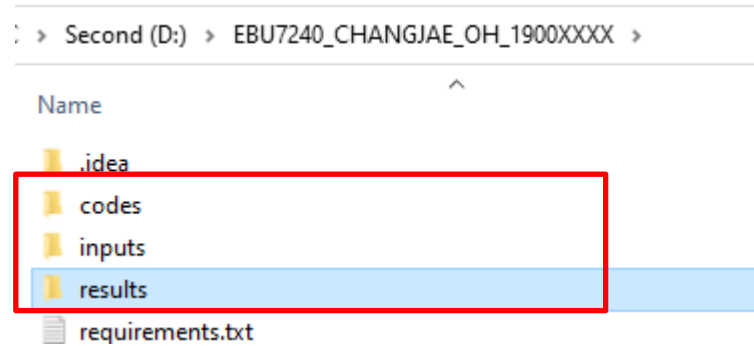12. Load your conda environment

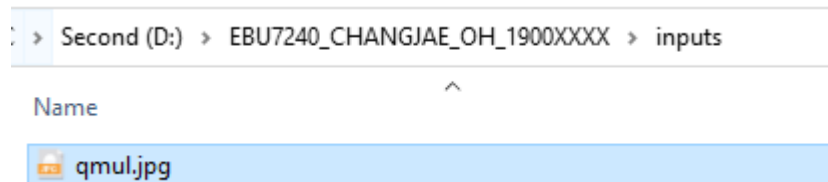13. Click "OK" → "Create" → "Create from Existing Sources"
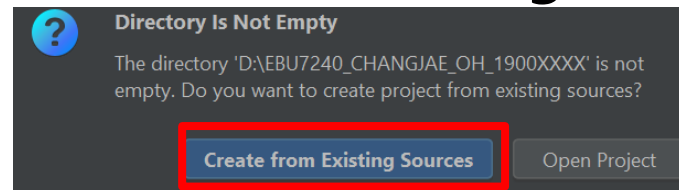
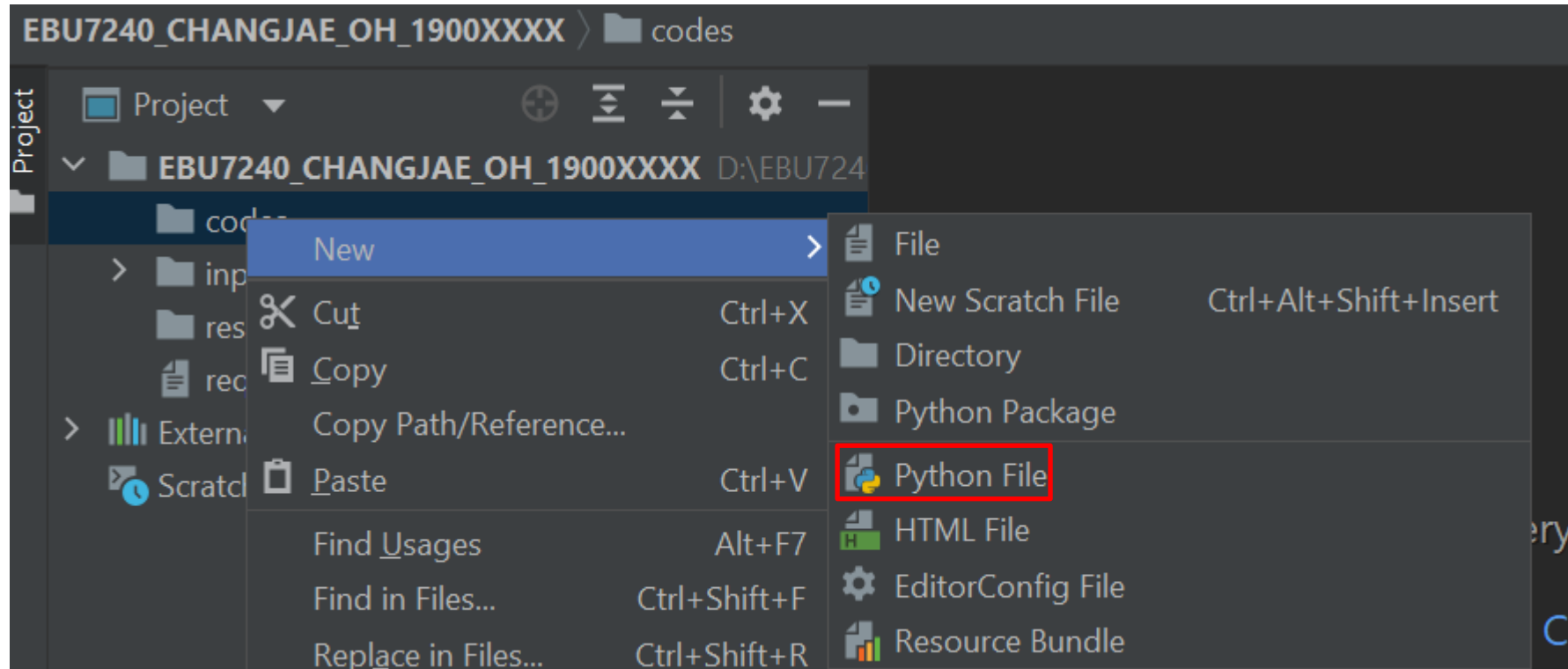# Setup

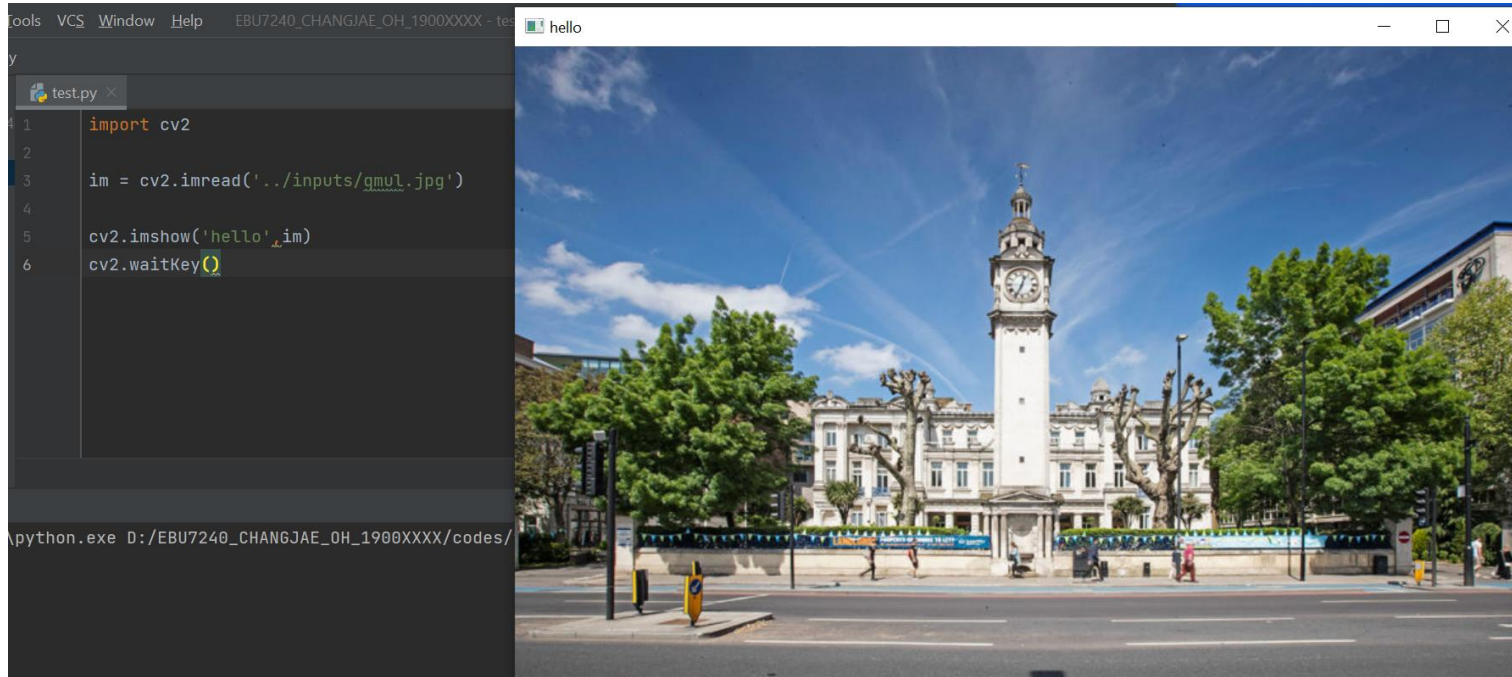13. Create the subfolders you will need
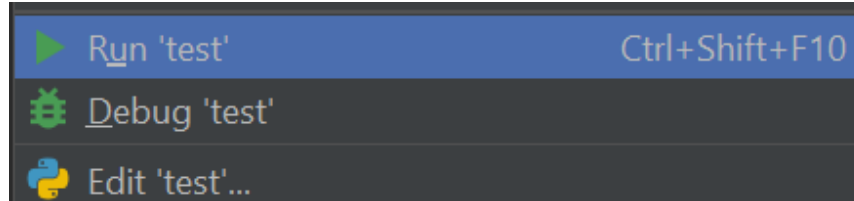

14. Put any image in ./inputs/

Setup

15. Create python File in the ./codes/

Setup

16. Right click -> Run

Now you are ready to code!