OpenCV Installation

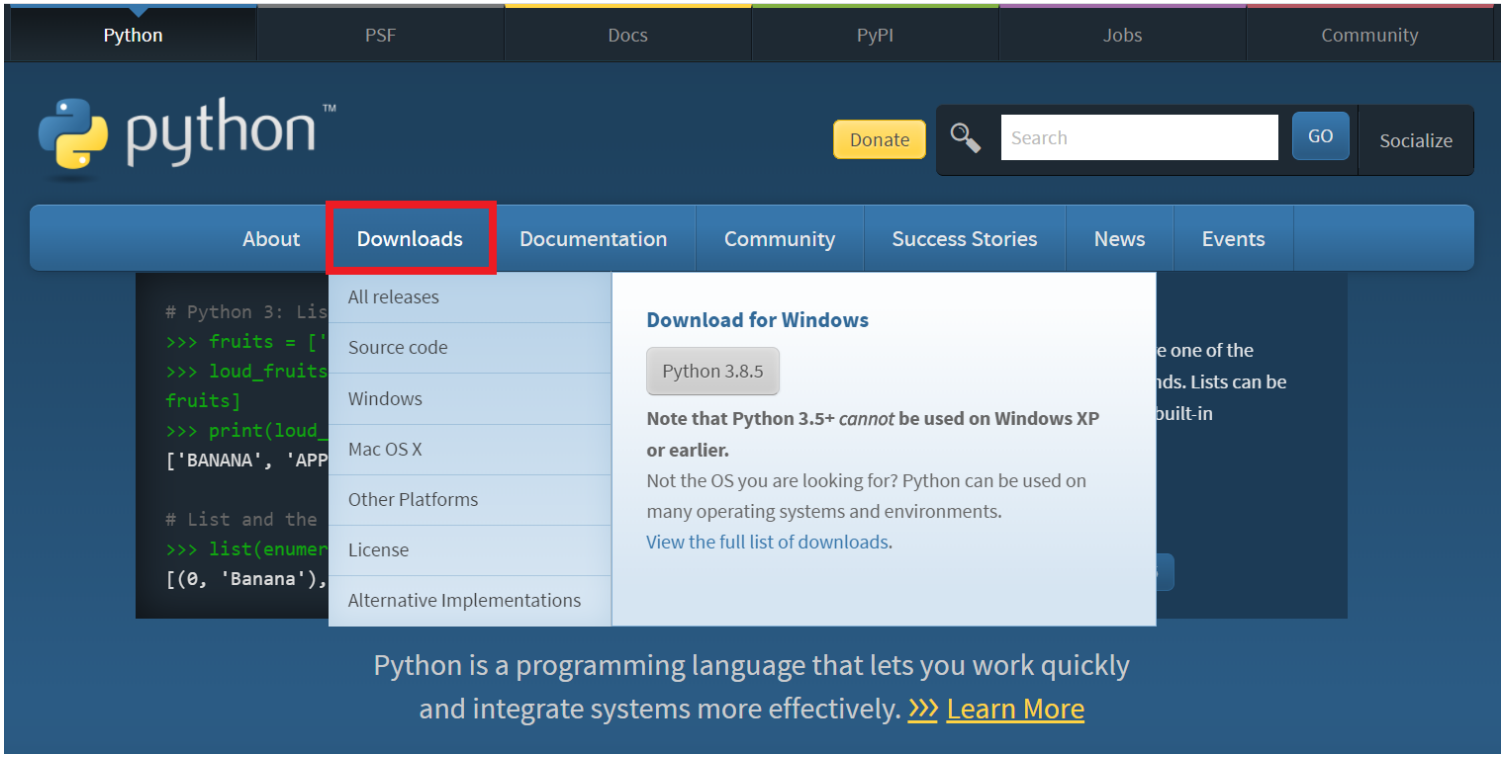
학습목표

학습목표

1. OpenCV를 설치한다.
    1. Python을 설치하고 `pip`로 OpenCV를 설치한다.
    2. Anaconda를 설치하고 `conda`로 OpenCV를 설치한다.
2. Visual Studio Code를 설치한다.
3. Visual Studio Code에서 Python 코드를 실행한다.
4. Visual Studio Code에서 OpenCV 코드를 실행한다.

Python

Download Python



https://www.python.org/

Install Python

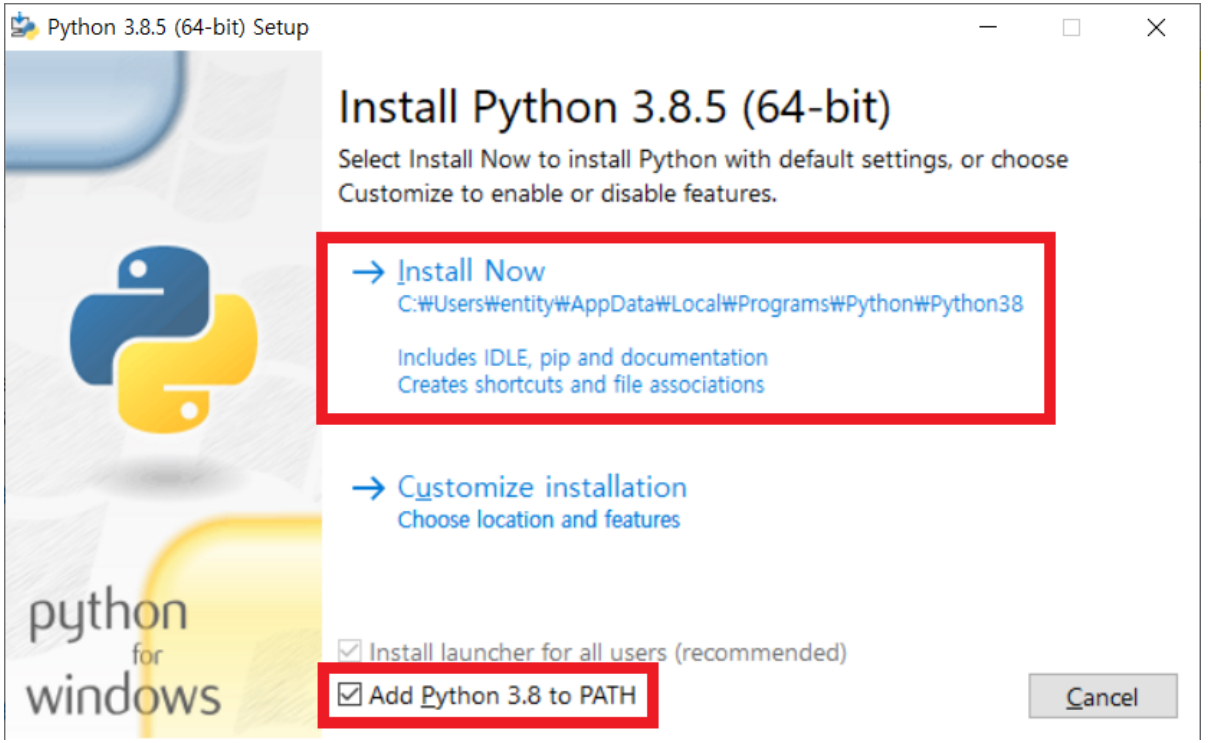
- Python 3.8.5 - July 20, 2020

Note that Python 3.8.5 *cannot* be used on Windows XP or earlier.

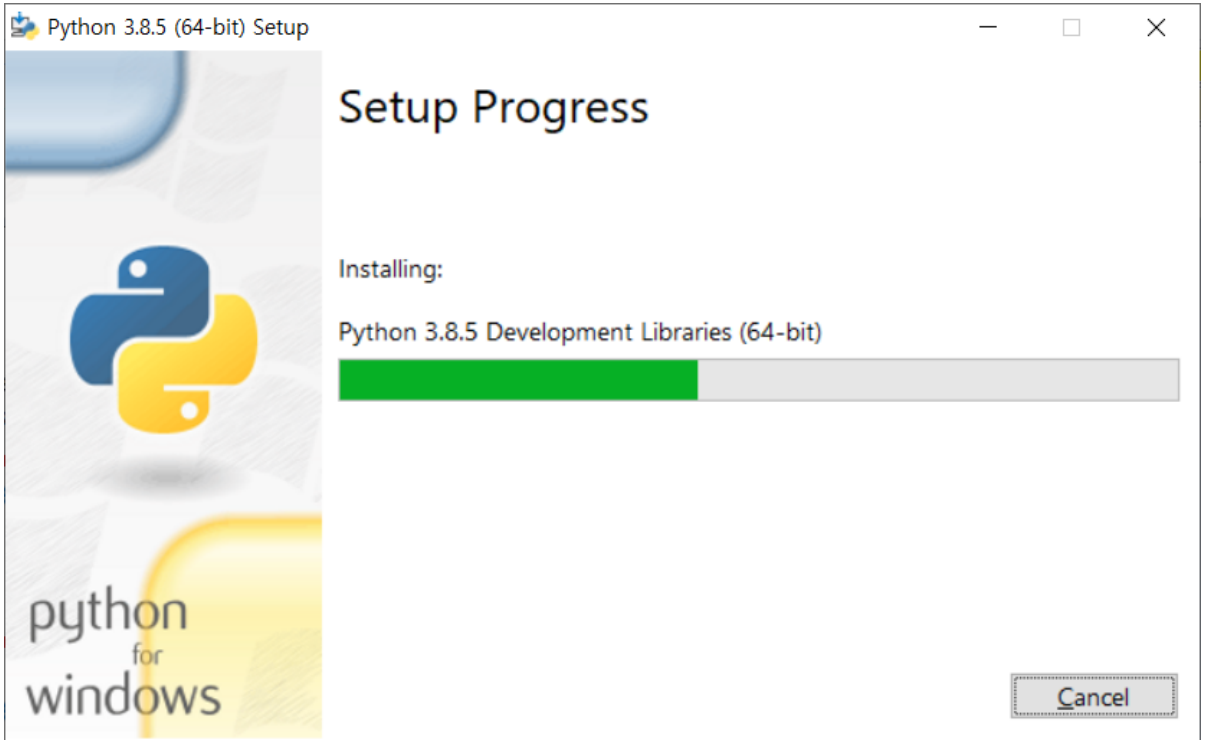
- Download Windows help file
- Download Windows x86-64 embeddable zip file
- Download Windows x86-64 executable installer
- Download Windows x86-64 web-based installer
- Download Windows x86 embeddable zip file
- Download Windows x86 executable installer
- Download Windows x86 web-based installer

https://www.python.org/downloads/windows/

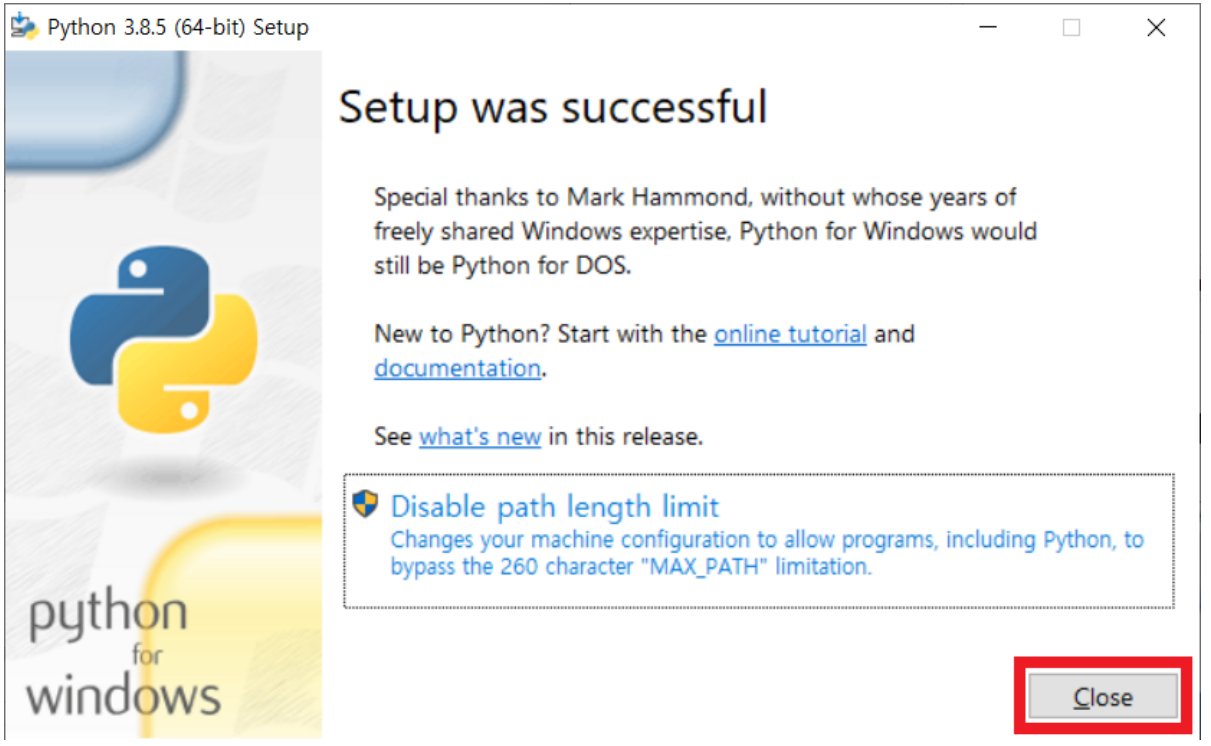
Install Python



Install Python



Install Python



Check Python

```
# Check the Python version
$ python --version
Python 3.8.5

# Check the pip version
$ pip --version
pip 20.1.1 from c:\users\
[username]\appdata\local\programs\python\python38-32\lib\site-
packages\pip (python 3.8)

# Upgrade pip if needed
$ pip install --upgrade pip
```

OpenCV-Python

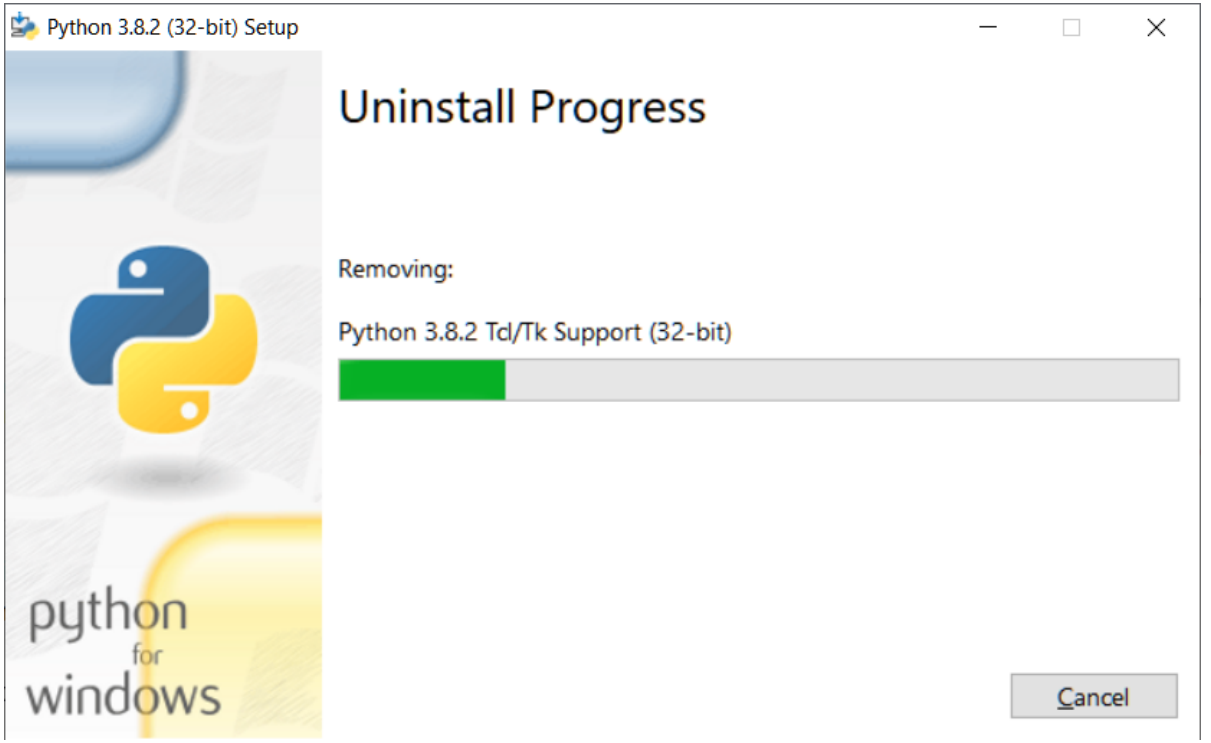
Install OpenCV

```
# Install main modules
$ pip install opencv-python

# Install both main and contrib modules
$ pip install opencv-contrib-python
...
Successfully installed numpy-1.19.1 opencv-contrib-python-4.4.0.42
```

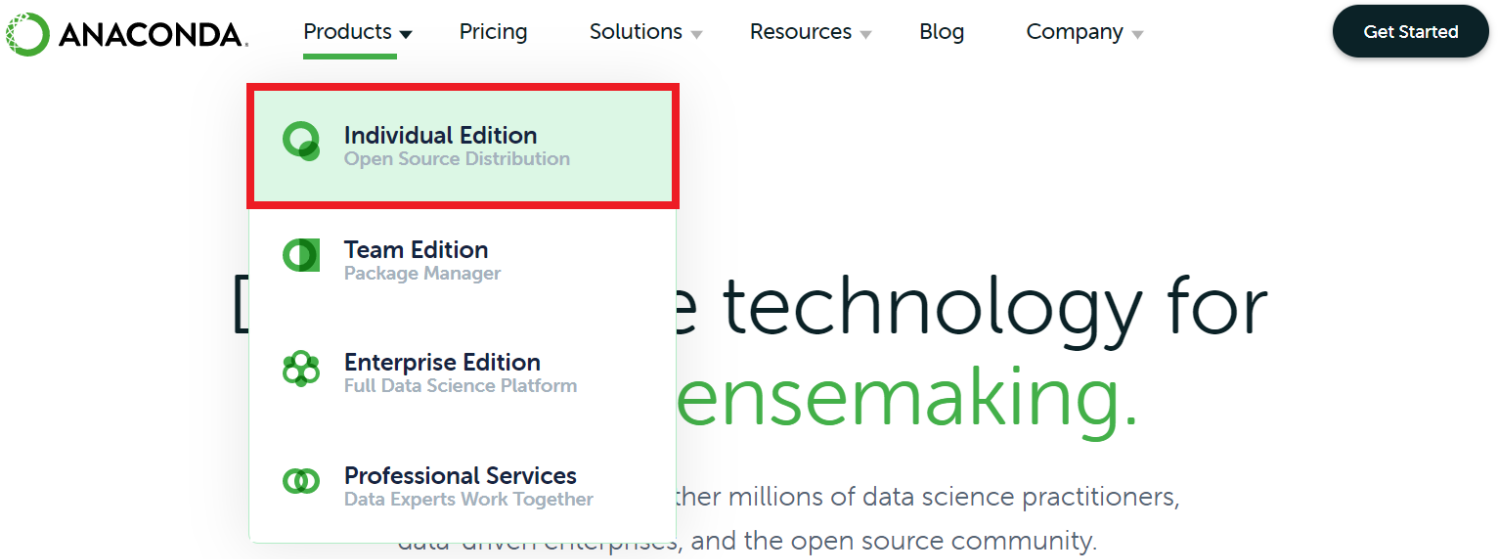
https://pypi.org/project/opencv-python/


Anaconda

① Uninstall Python 3.8



② Download Anaconda



https://www.anaconda.com/

② Download Anaconda

Individual Edition

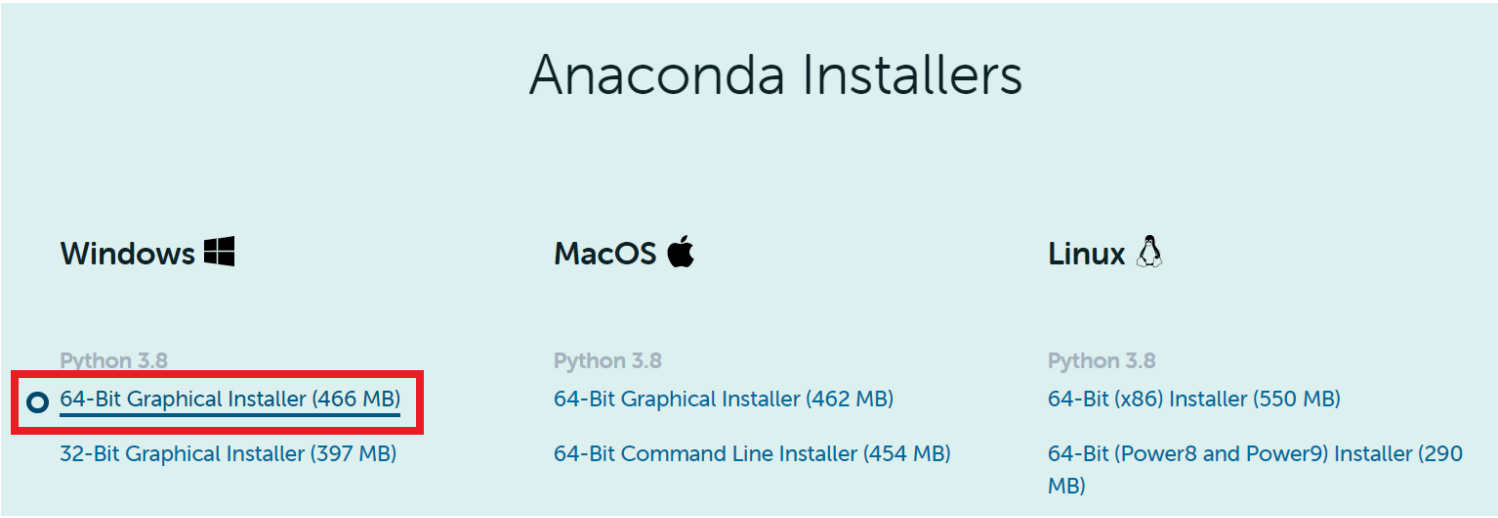
Your data science toolkit

With over 20 million users worldwide, the open-source Individual Edition (Distribution) is the easiest way to perform Python/R data science and machine learning on a single machine. Developed for solo practitioners, it is the toolkit that equips you to work with thousands of open-source packages and libraries.

Download

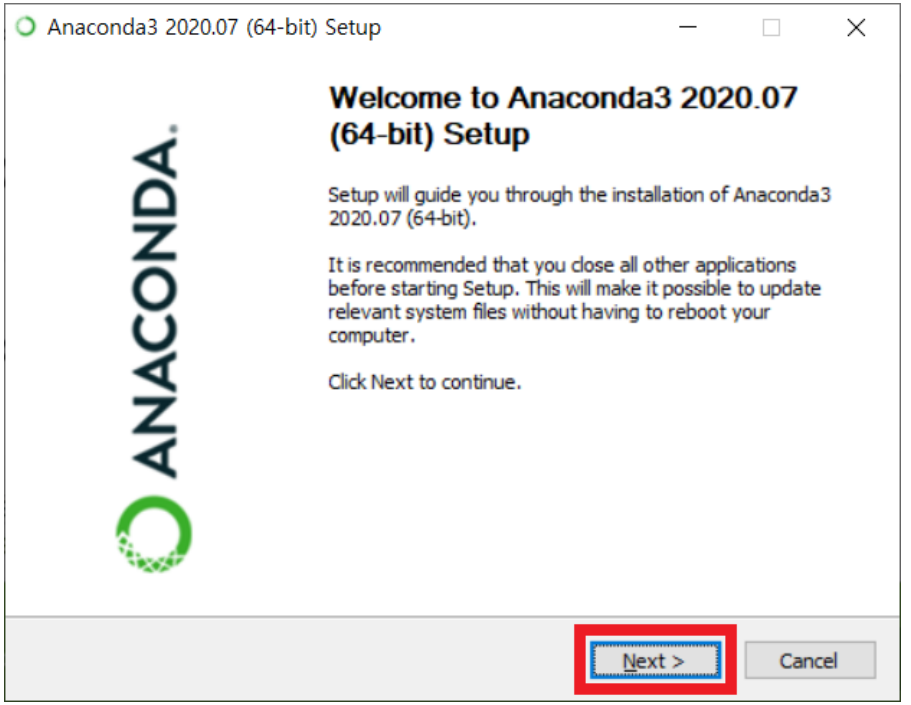
https://www.anaconda.com/products/individual

② Download Anaconda



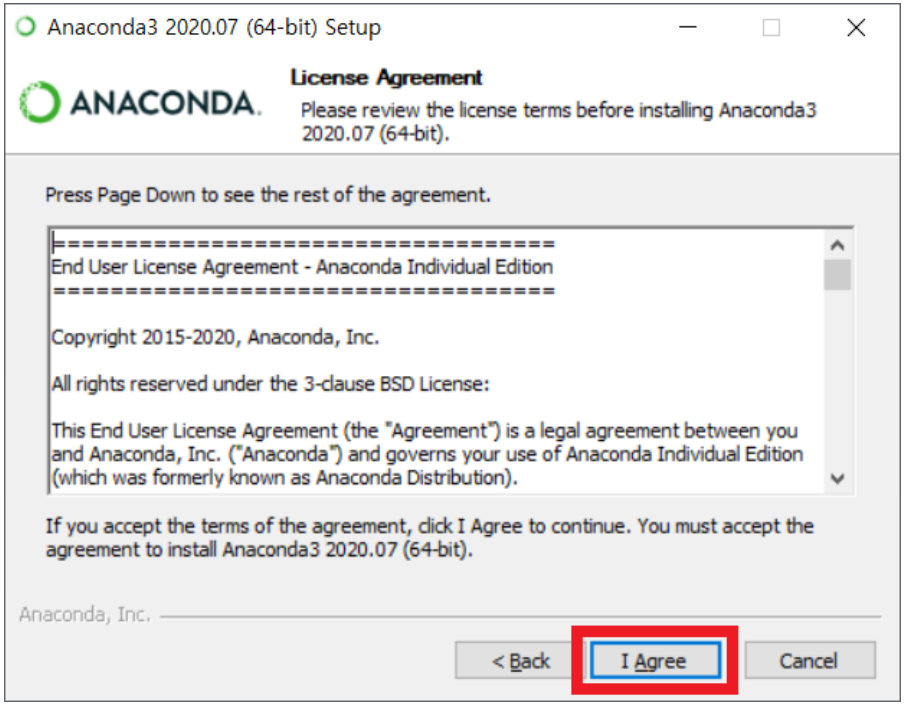
https://www.anaconda.com/products/individual

③ Install Anaconda

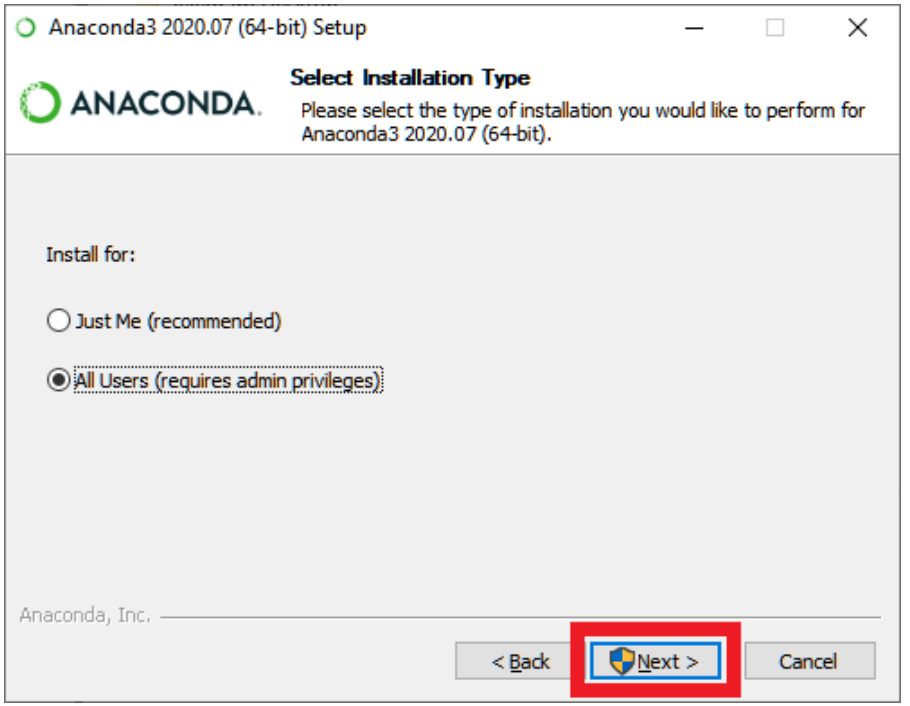


관리자 권한으로 실행 (Run as Administrator)

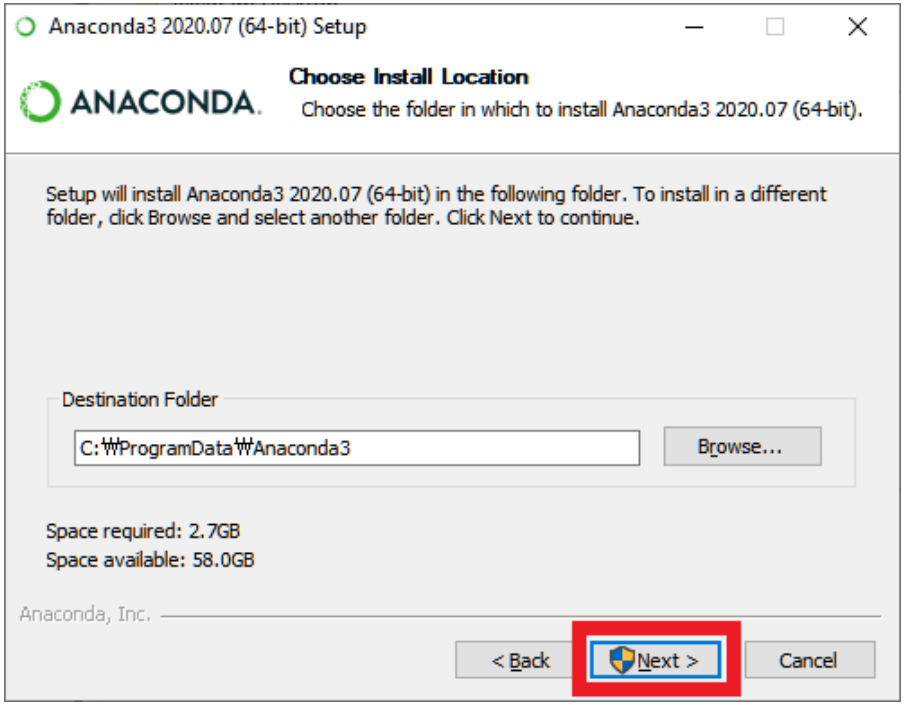
③ Install Anaconda



③ Install Anaconda

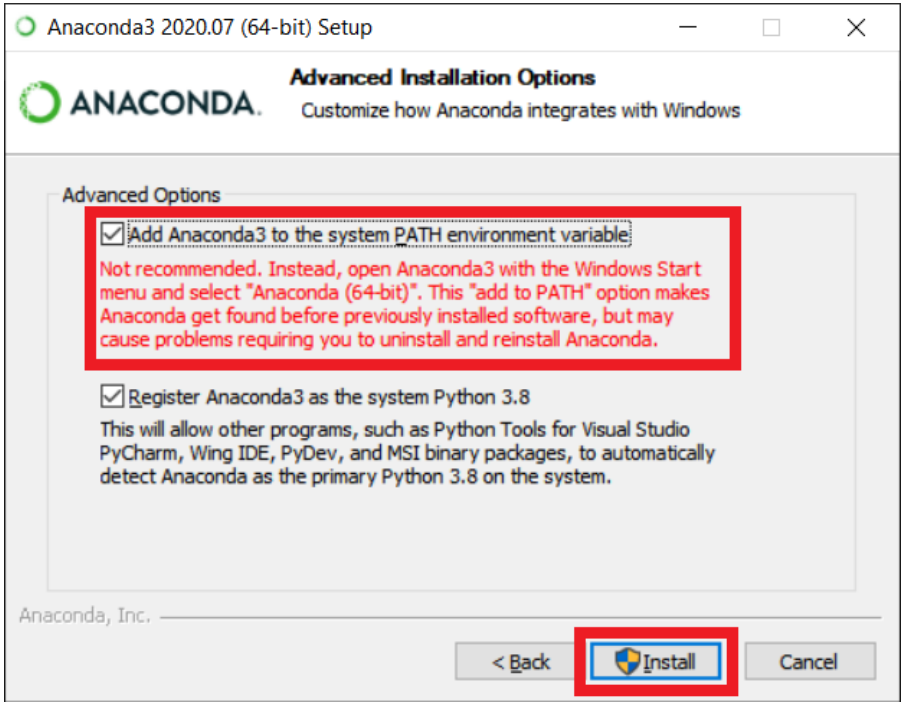


③ Install Anaconda



폴더명에 공백이 있으면 나중에 문제발생의 소지가 있음

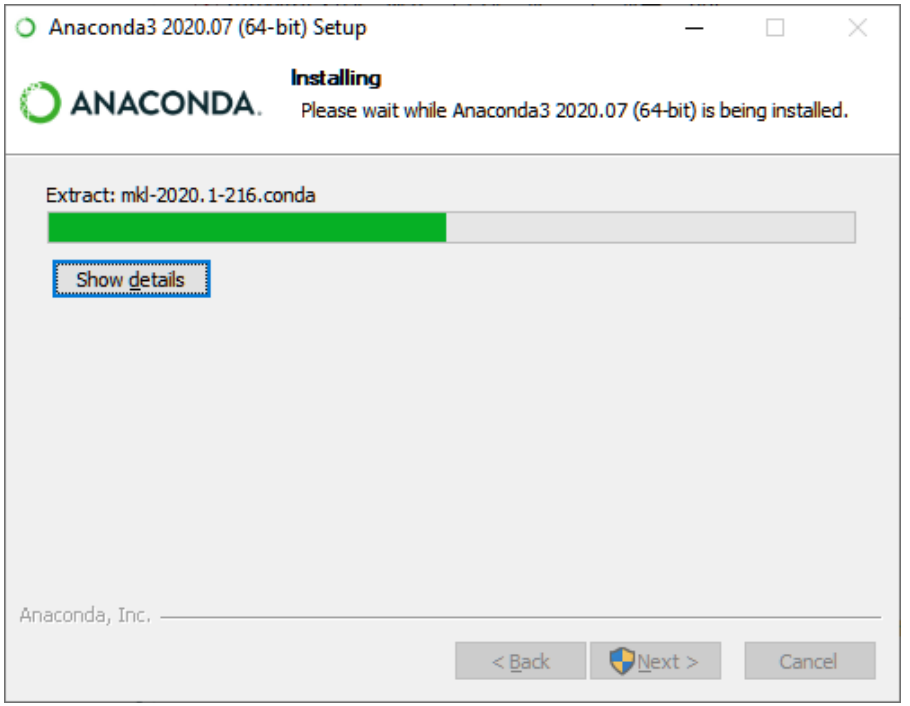
③ Install Anaconda



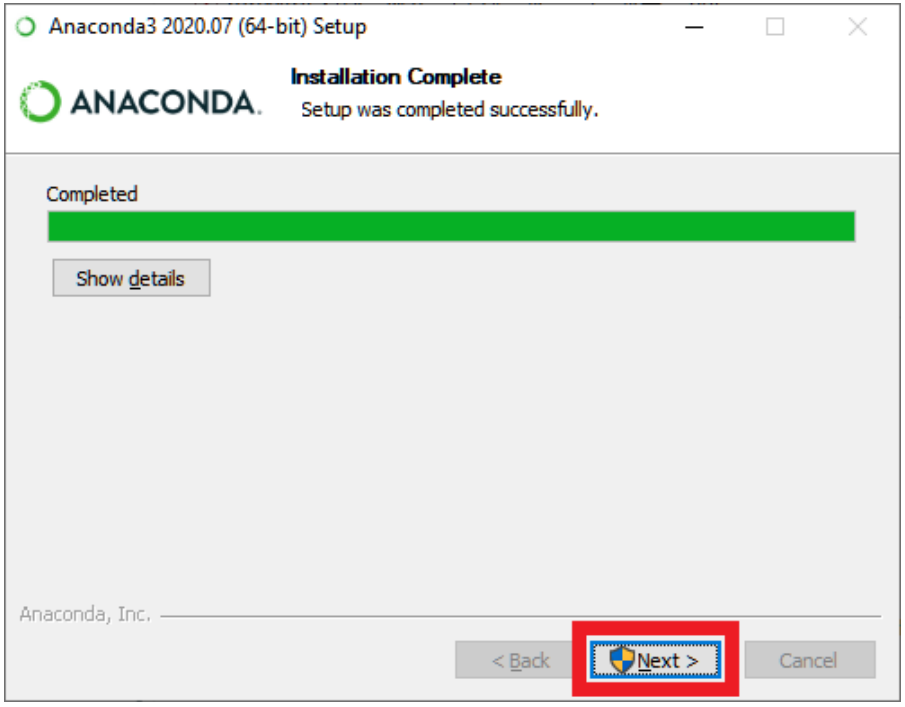
Anaconda를 한 버전만 설치할 경우 선택

https://www.youtube.com/watch?v=dgjEUcccRwM

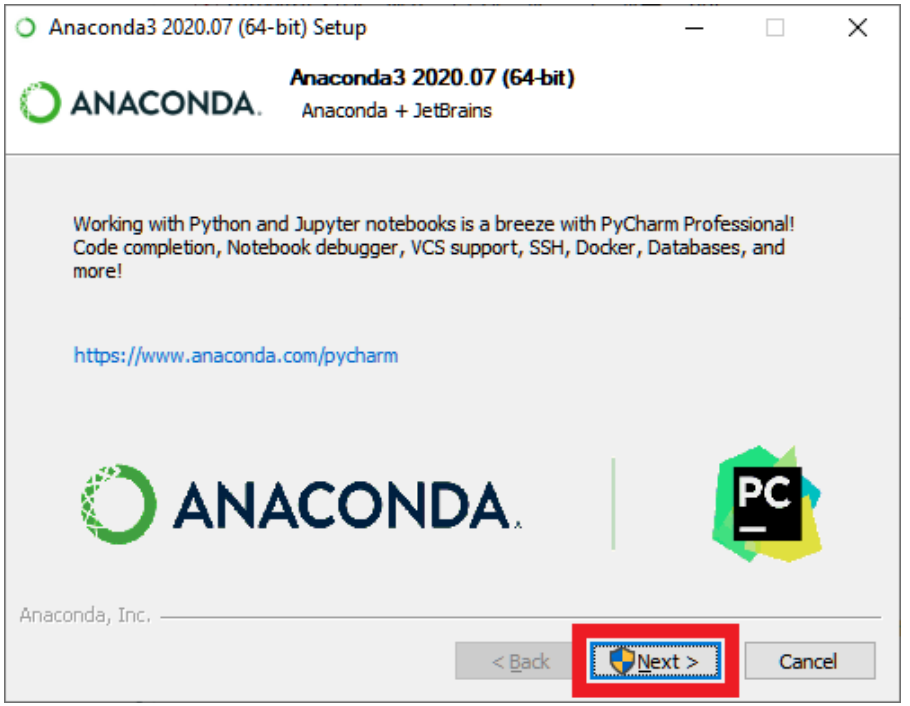
③ Install Anaconda



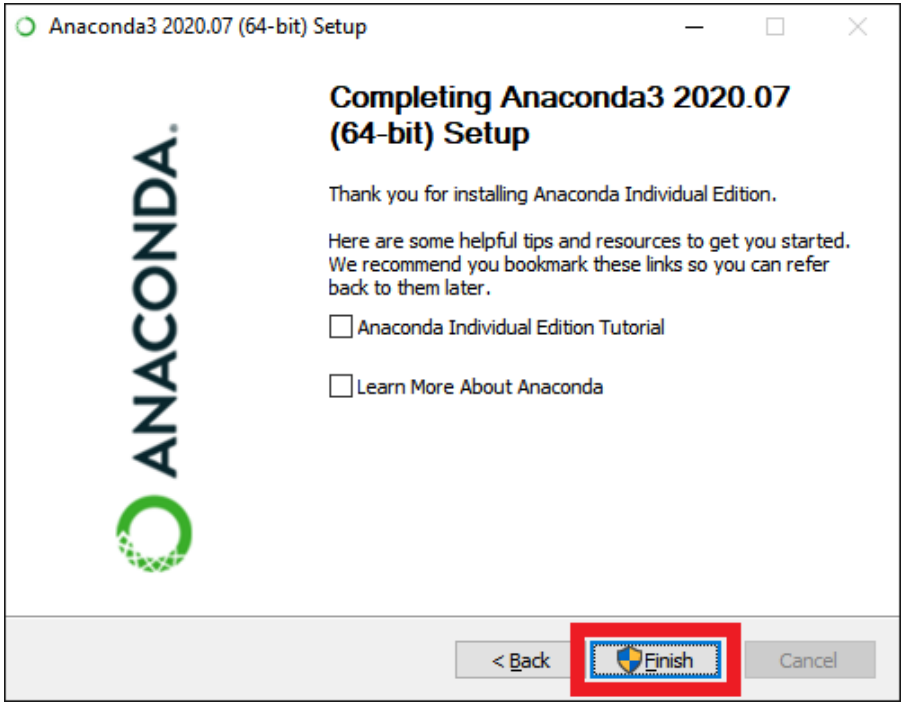
③ Install Anaconda



③ Install Anaconda



③ Install Anaconda



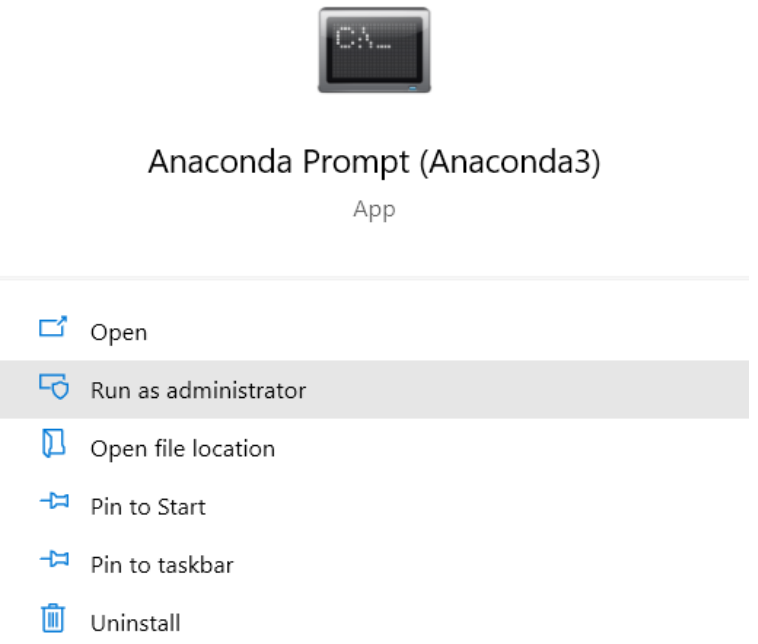
④ Check Anaconda and Python

```
$ where conda
C:\ProgramData\Anaconda3\Library\bin\conda.bat
C:\ProgramData\Anaconda3\Scripts\conda.exe

$ conda --version
conda 4.8.3

$ where python
C:\ProgramData\Anaconda3\python.exe
C:\Users\[username]\AppData\Local\Microsoft\WindowsApps\python.exe

$ python --version
Python 3.8.3
```

https://www.youtube.com/watch?v=dgjEUcccRwM

OpenCV on Anaconda

Run Anaconda Prompt as Administrator



Install OpenCV on Anaconda

1. Install OpenCV directly[1]

```
$ conda install -c conda-forge opencv
py-opencv-4.0.1       | 1.5 MB    |
openssl-1.1.1g        | 5.7 MB    |
opencv-4.0.1          | 22 KB     |
libopencv-4.0.1       | 28.6 MB   |
python_abi-3.8        | 4 KB      |
conda-4.8.4           | 3.1 MB    |
```

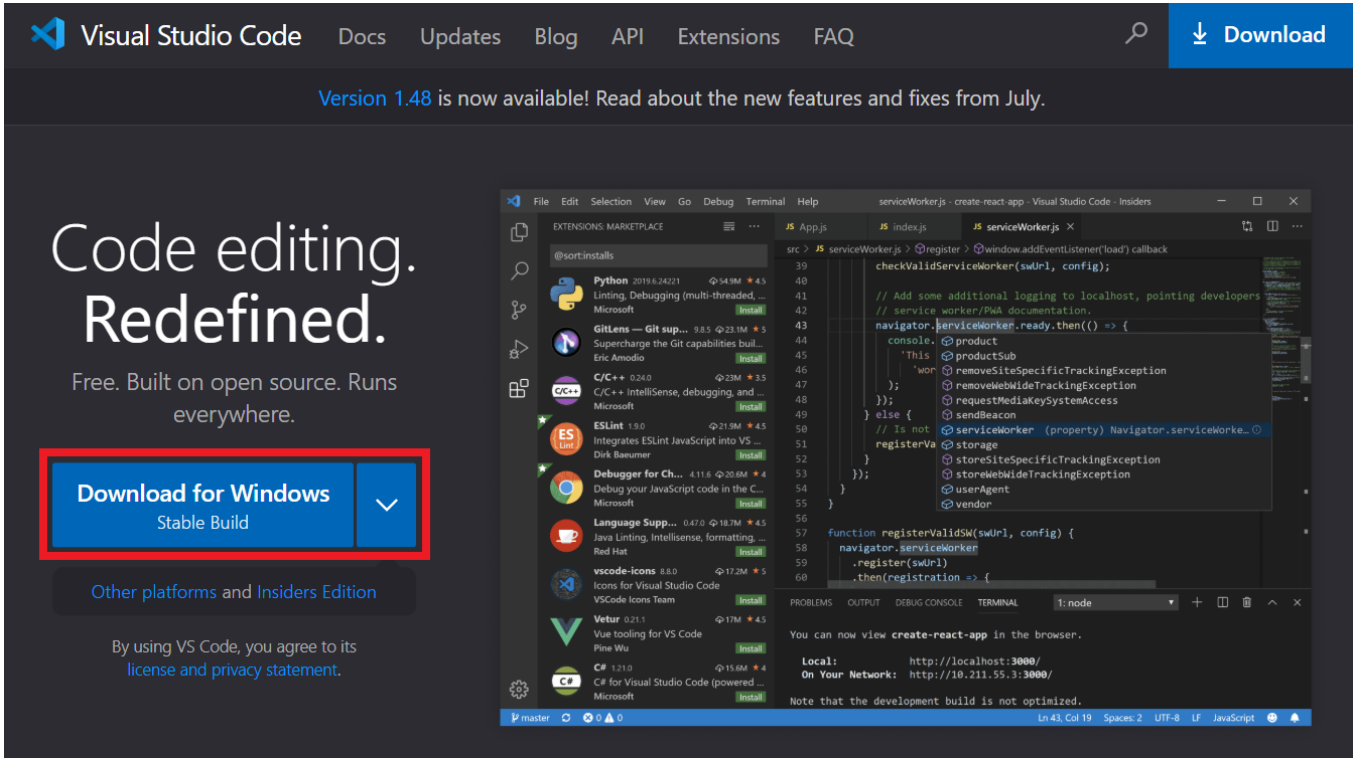
2. Add the `conda-forge` channel and Install OpenCV[2]

```
$ conda config --add channels conda-forge
$ conda install libopencv opencv py-opencv
```

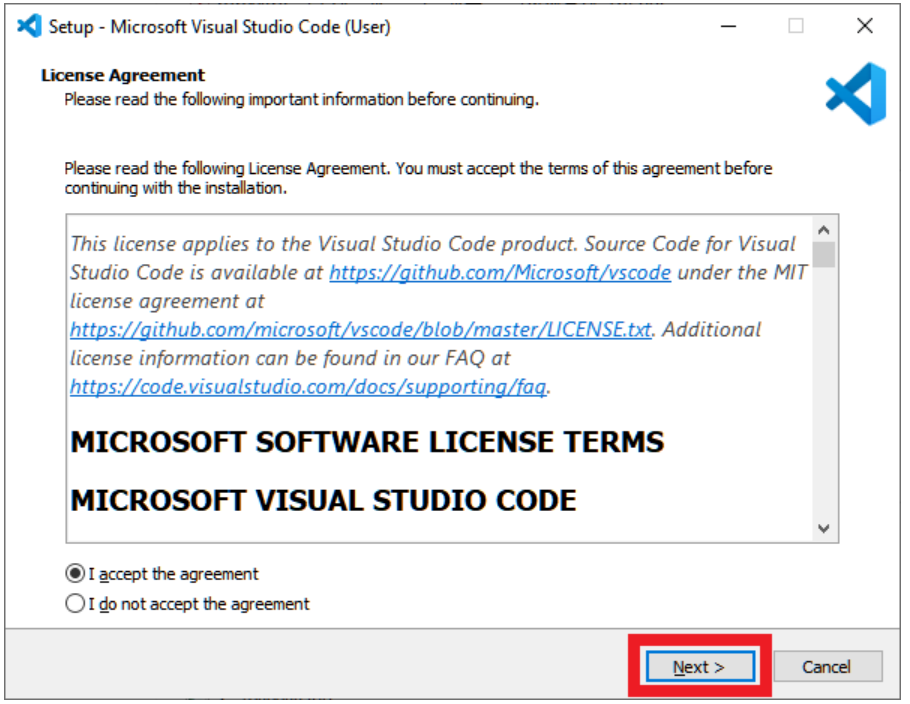
1. https://anaconda.org/conda-forge/opencv
2. https://github.com/conda-forge/opencv-feedstock


Visual Studio Code

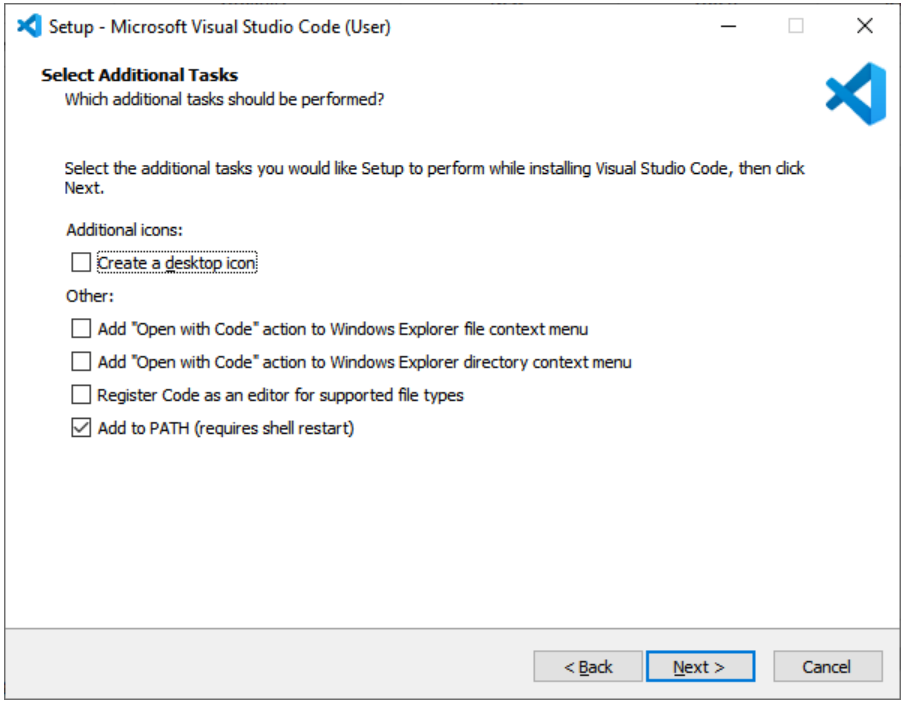
① Download VSCODE



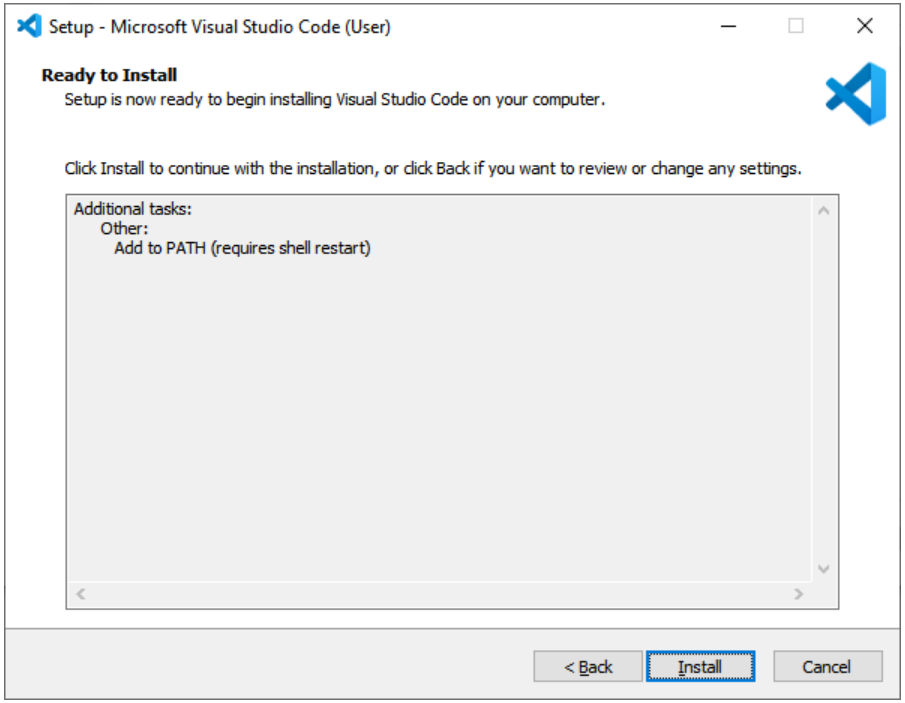
② Install VSCODE



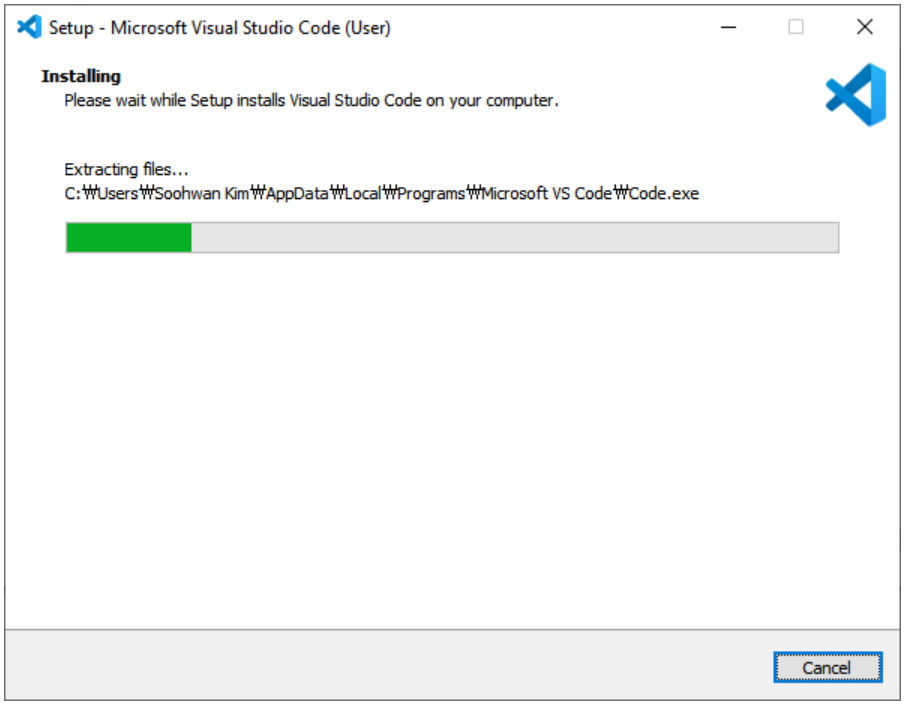
② Install VSCODE



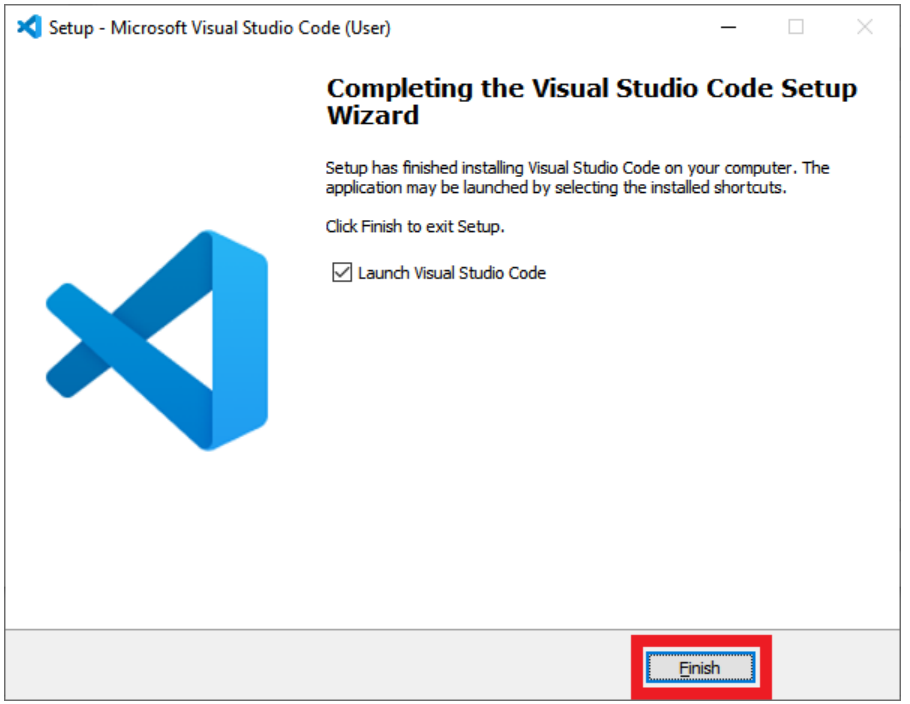
② Install VSCODE



② Install VSCODE

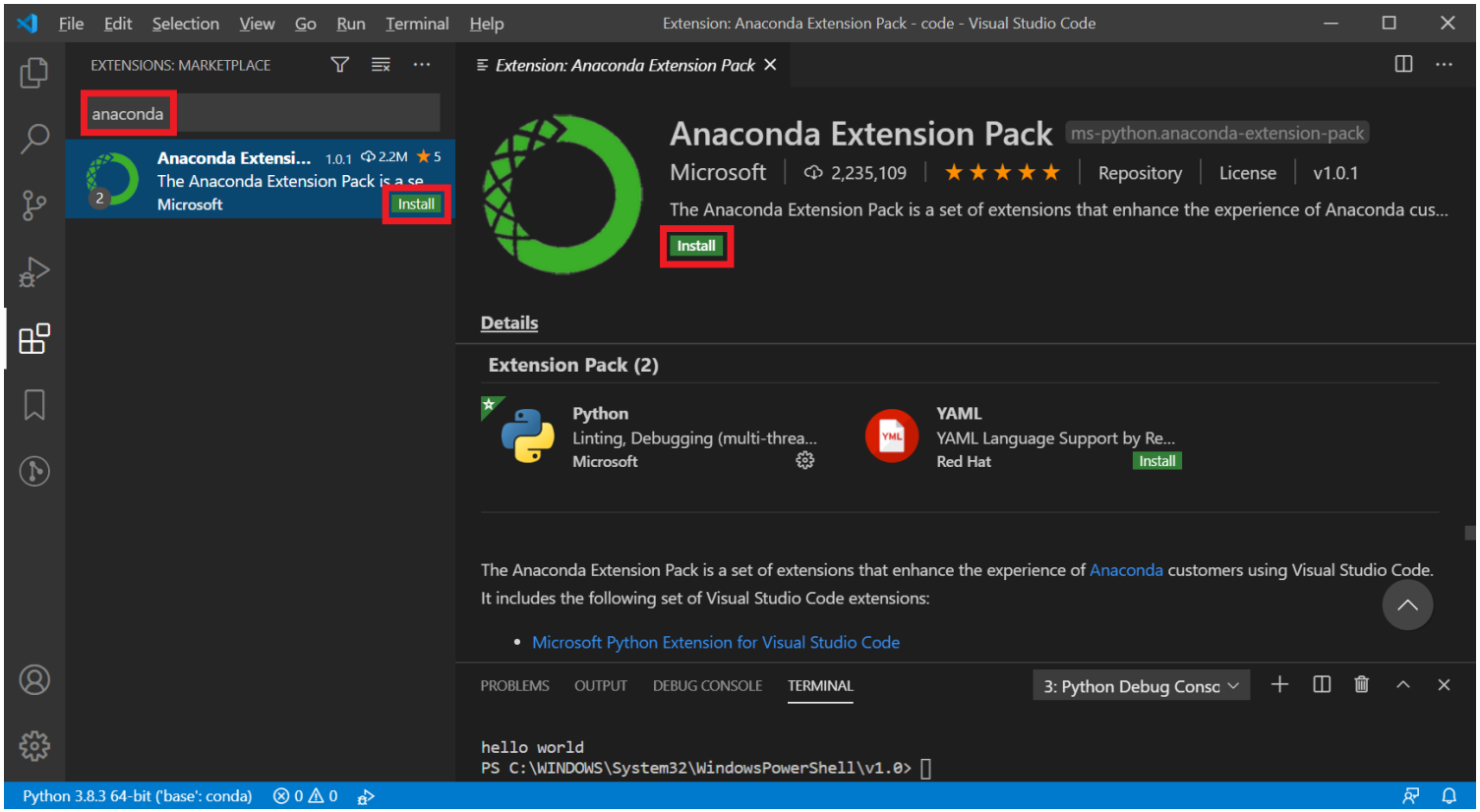


② Install VSCODE

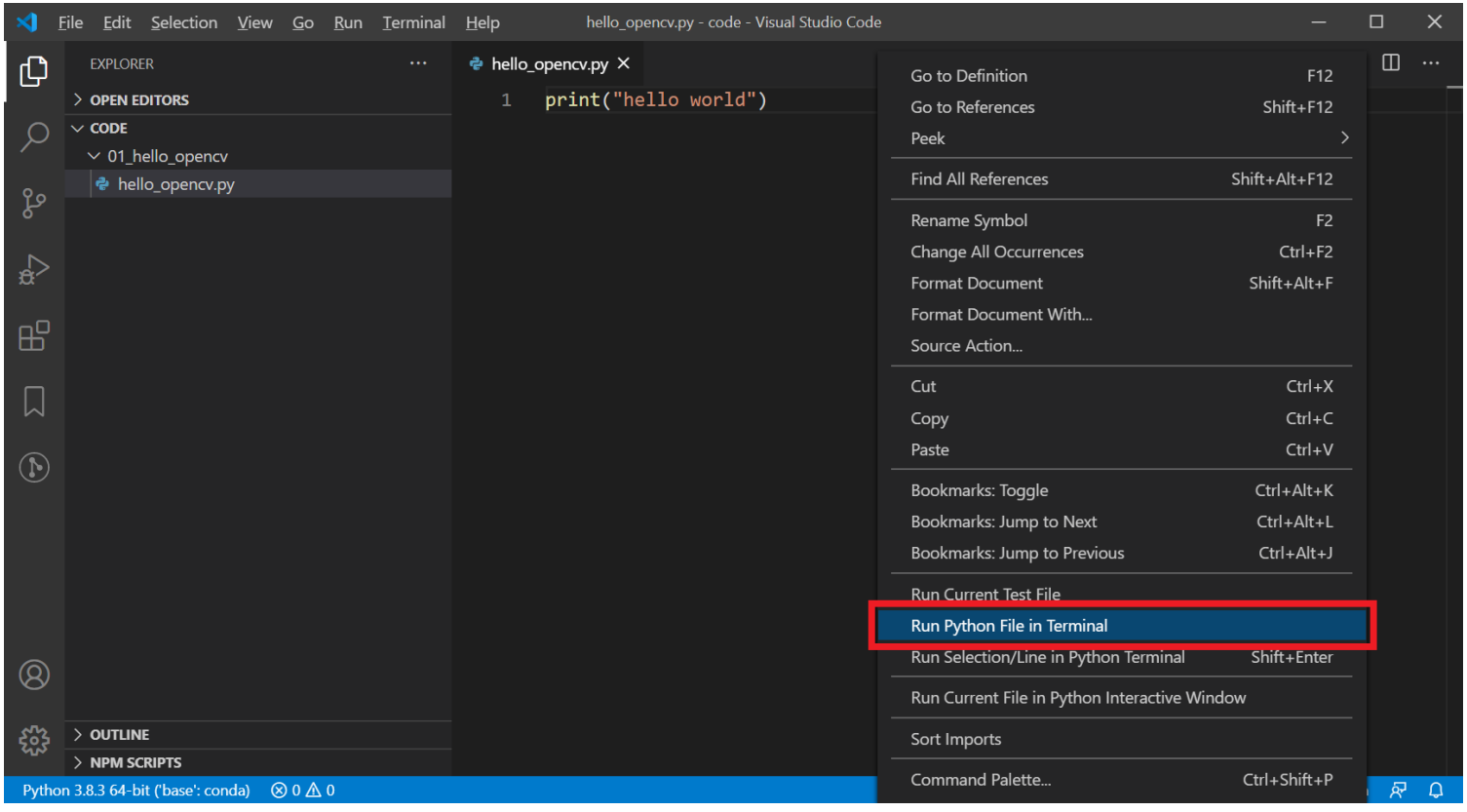


③ Install Python Extension on VSCODE

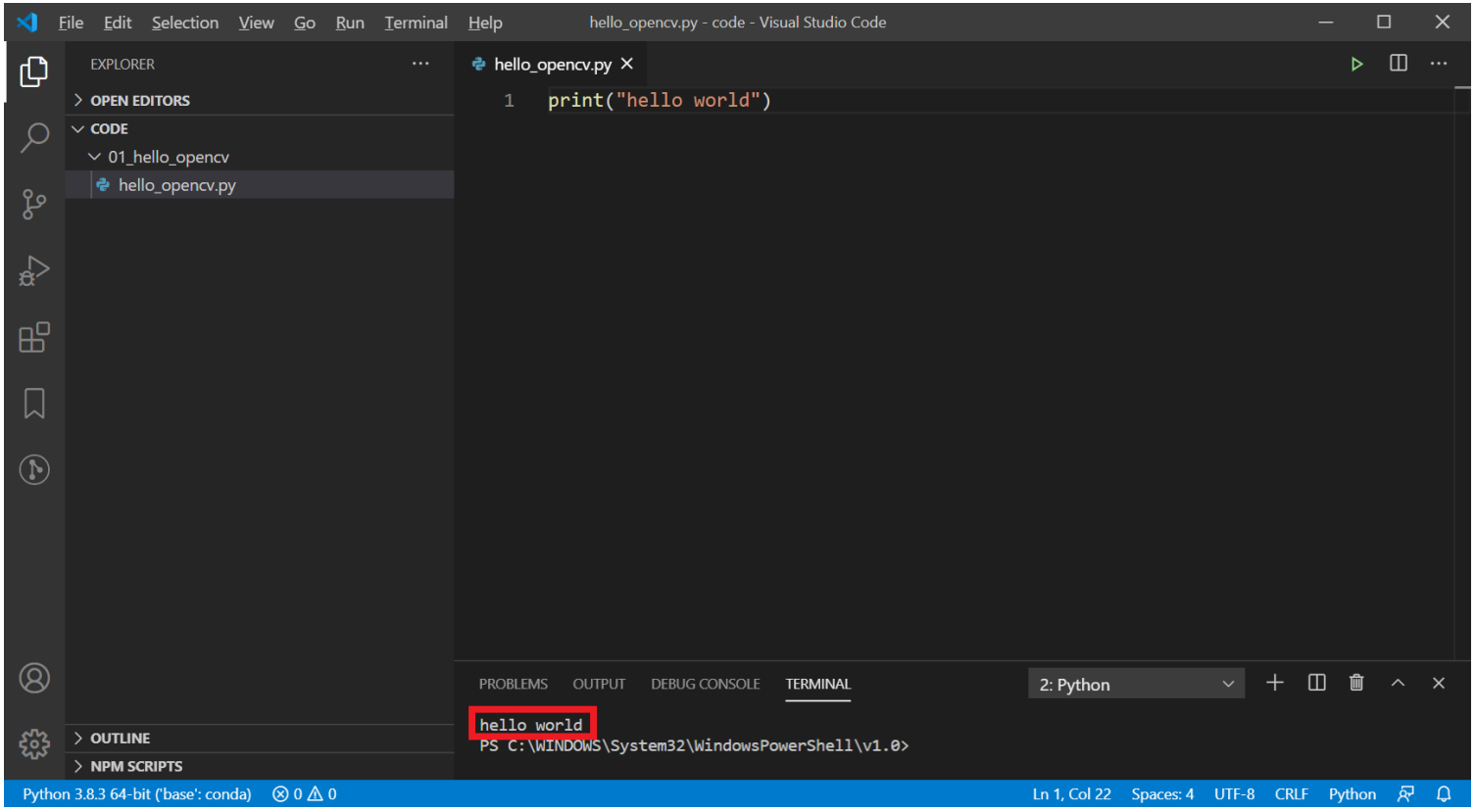
③ Install Anaconda Extension on VSCODE



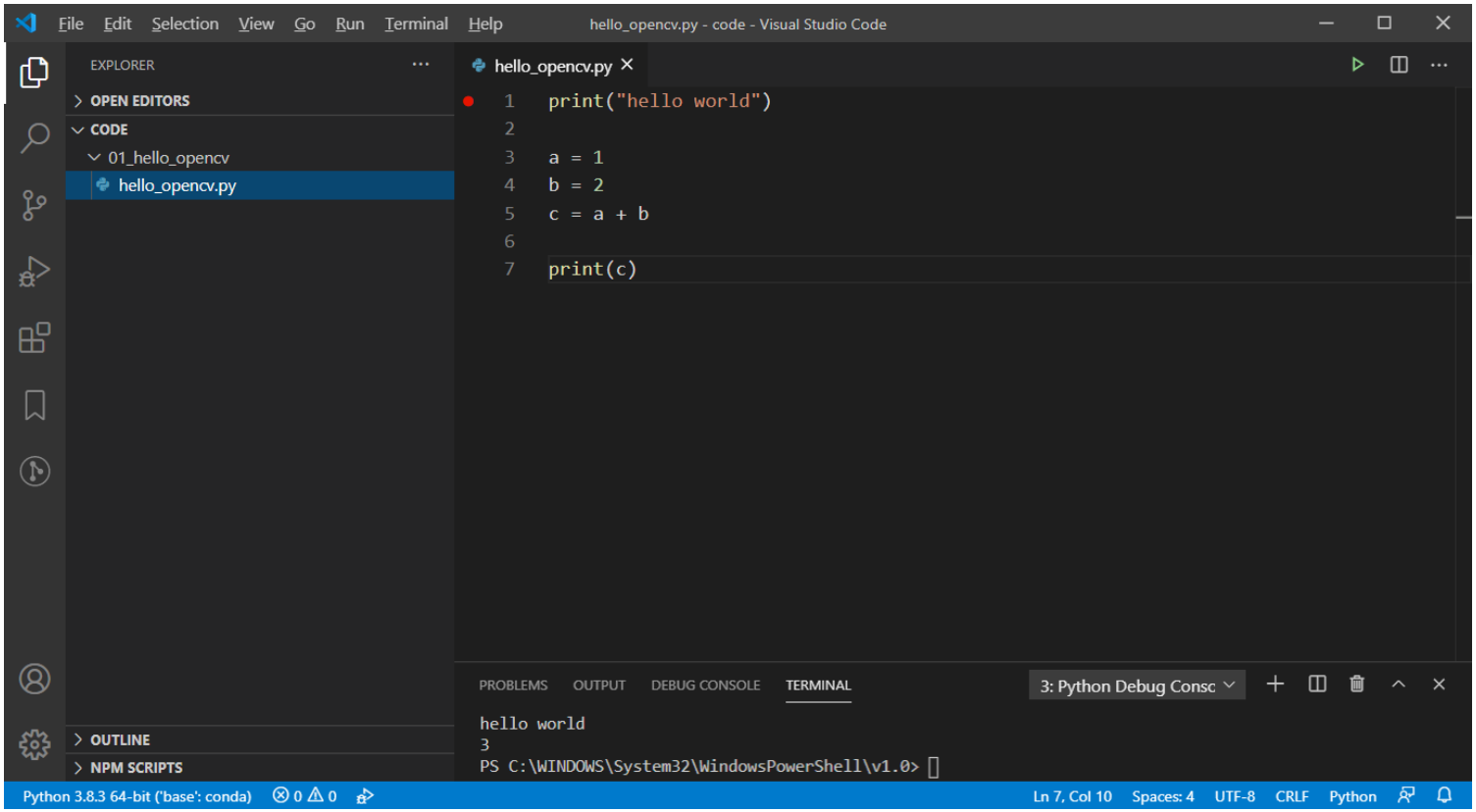
⑤ Run Python Code



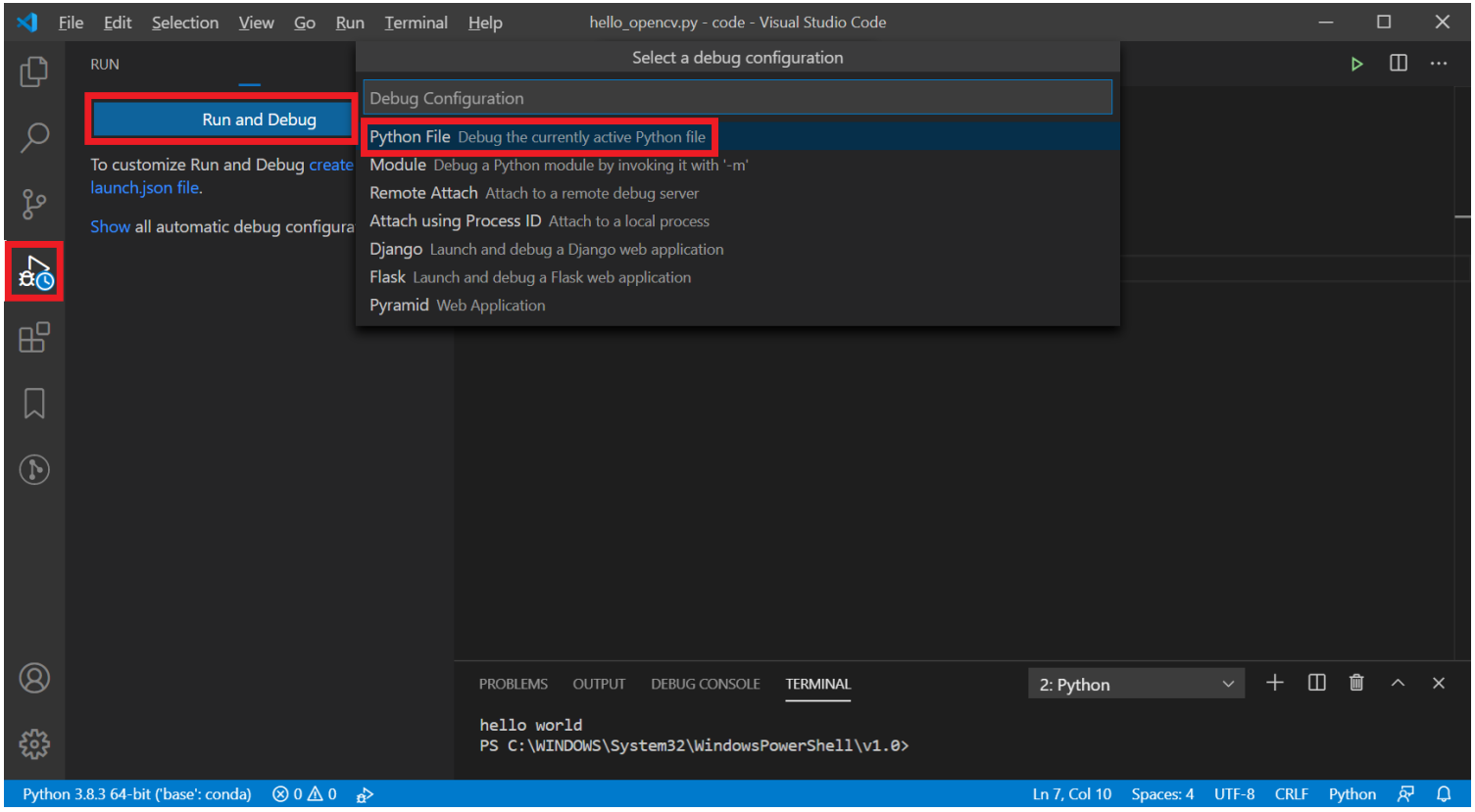
⑤ Run Python Code



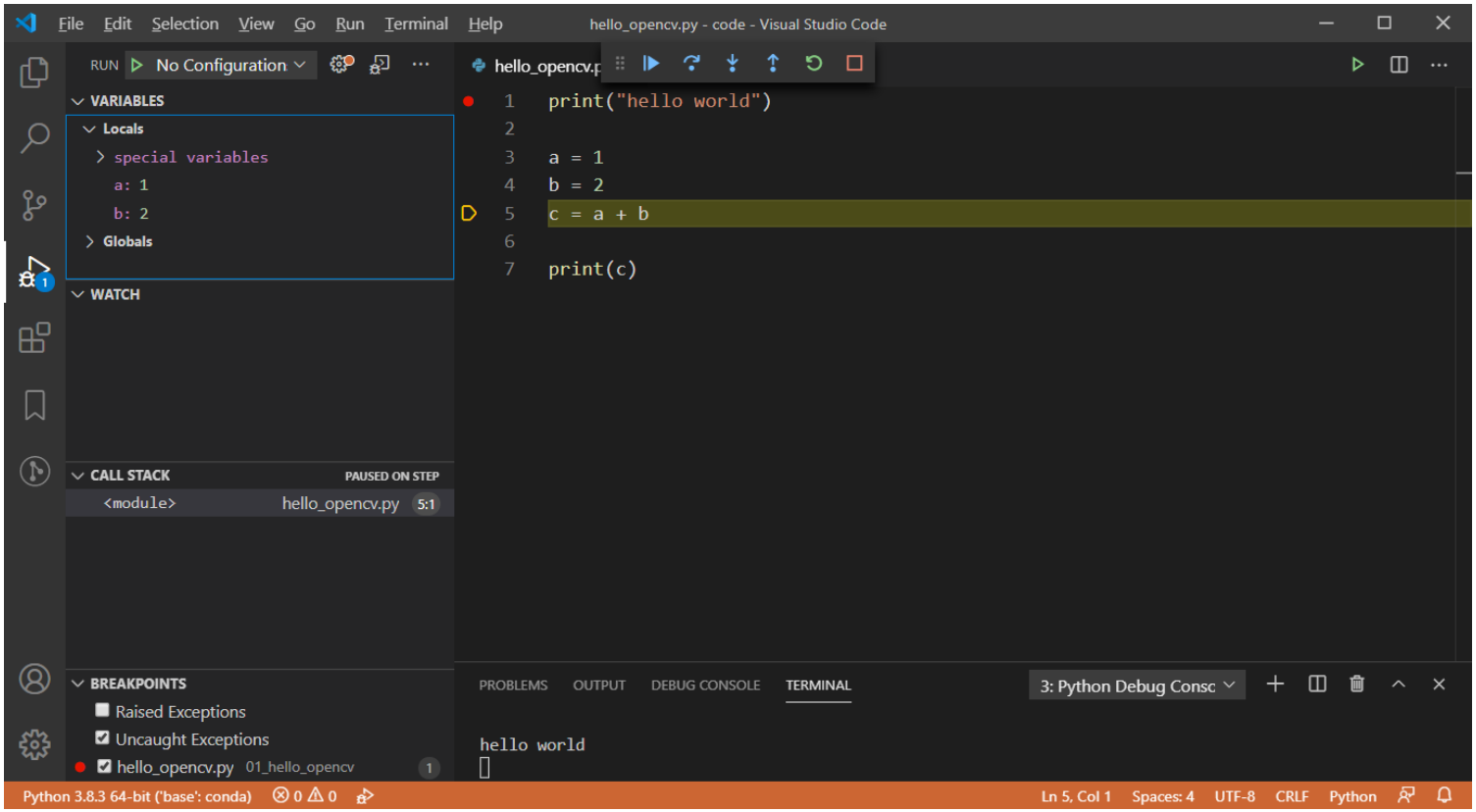
⑥ Debug Python Code



⑥ Debug Python Code

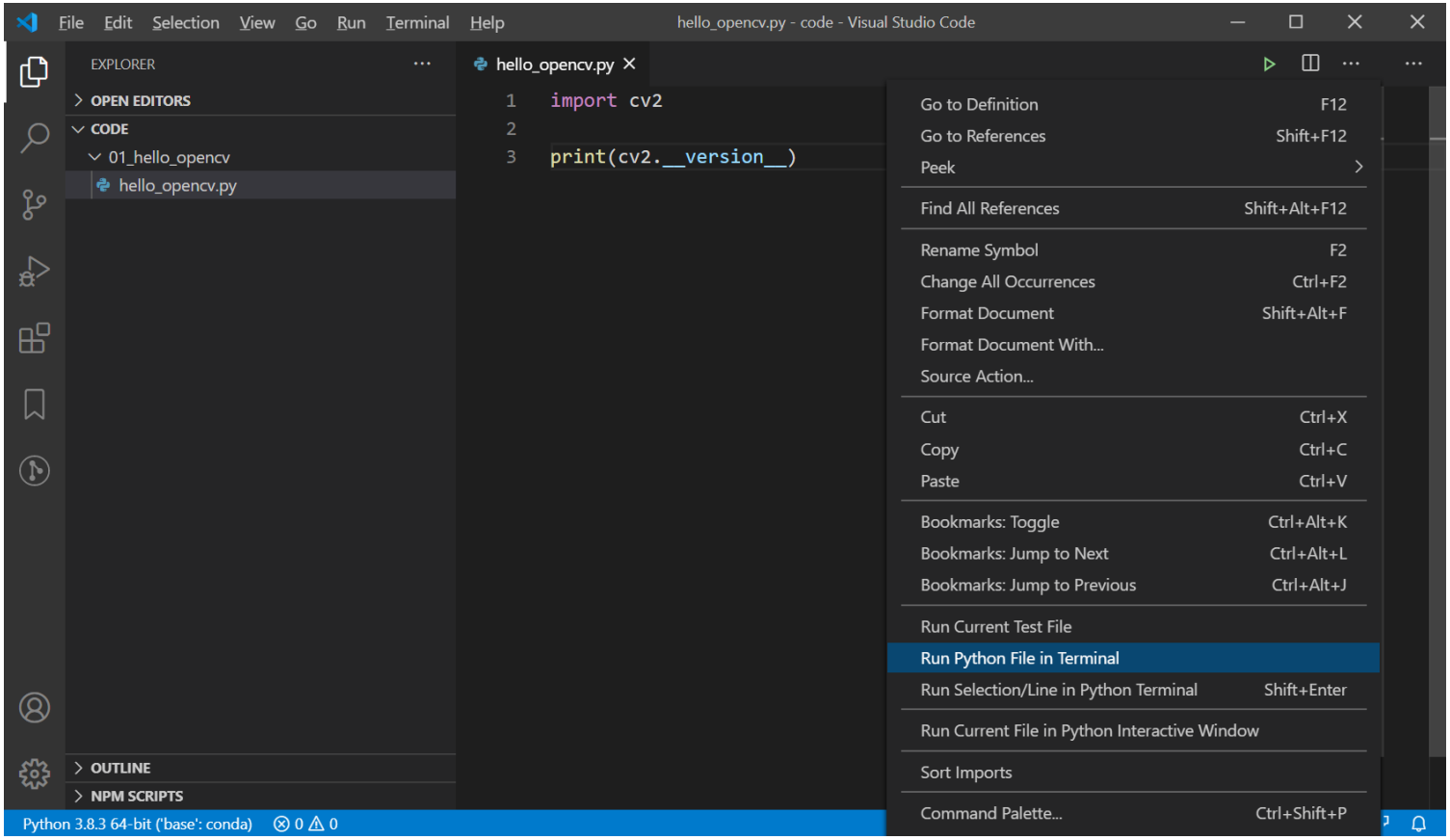


⑥ Debug Python Code

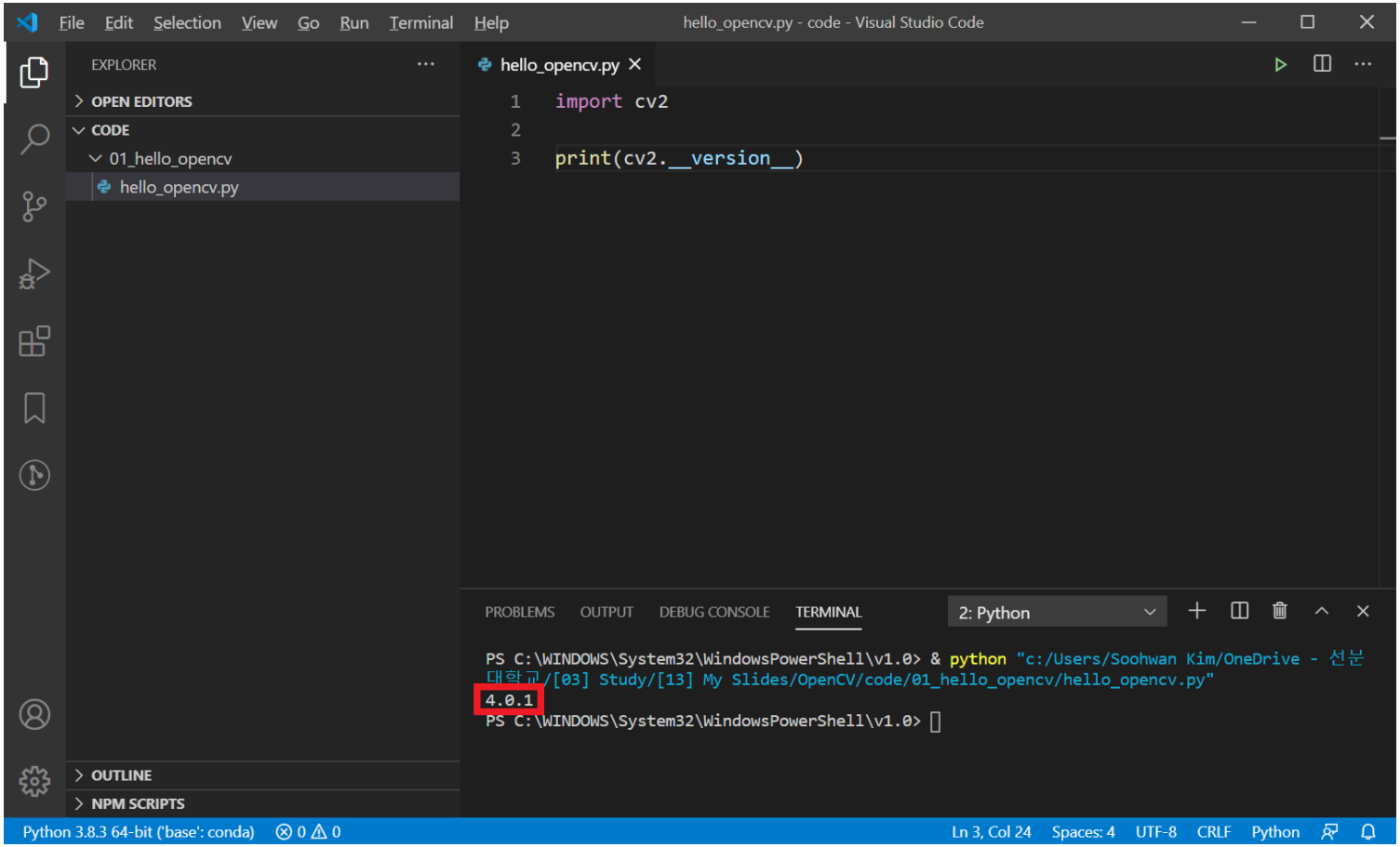


F5: Continue / F10: Step Over / F11: Step Into / F12: Step Out / Shift+F5: Stop

⑦ Hello OpenCV



⑦ Hello OpenCV



Push Code to GitHub