Bogazici - Introduction to Computer Vision and Image Processing

Please install PyCharm IDE from here:

https://www.jetbrains.com/pycharm/download

You can download Community Edition it is free. Also Professional but it is pricey, however if you claim that you are reasearcher, it is free also. Community Edition would be enough for now.

Please create an account and begin your trial for Github Copilot from here:

https://github.com/features/copilot

Install Github Copilot plugin in PyCharm so you can use it while writing a code in Pycharm

https://plugins.jetbrains.com/plugin/17718-github-copilot

Open a new project (Python 3.8) in PyCharm. If you don't have python 3.8 please install. As you can see we are creating a new environment with Virtualenv. Because of this many packages will not be there.
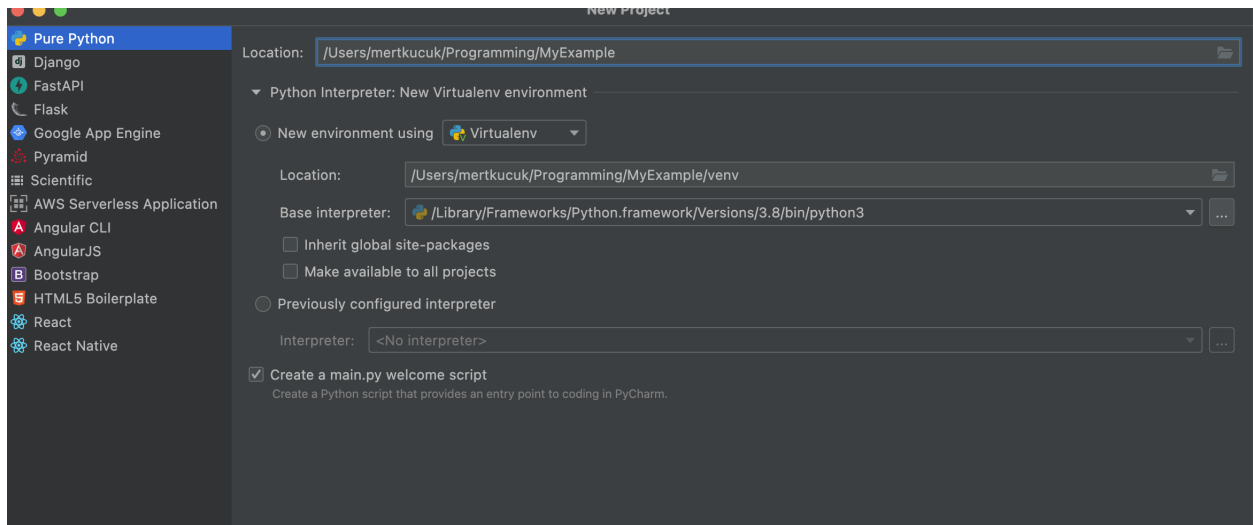
Run main
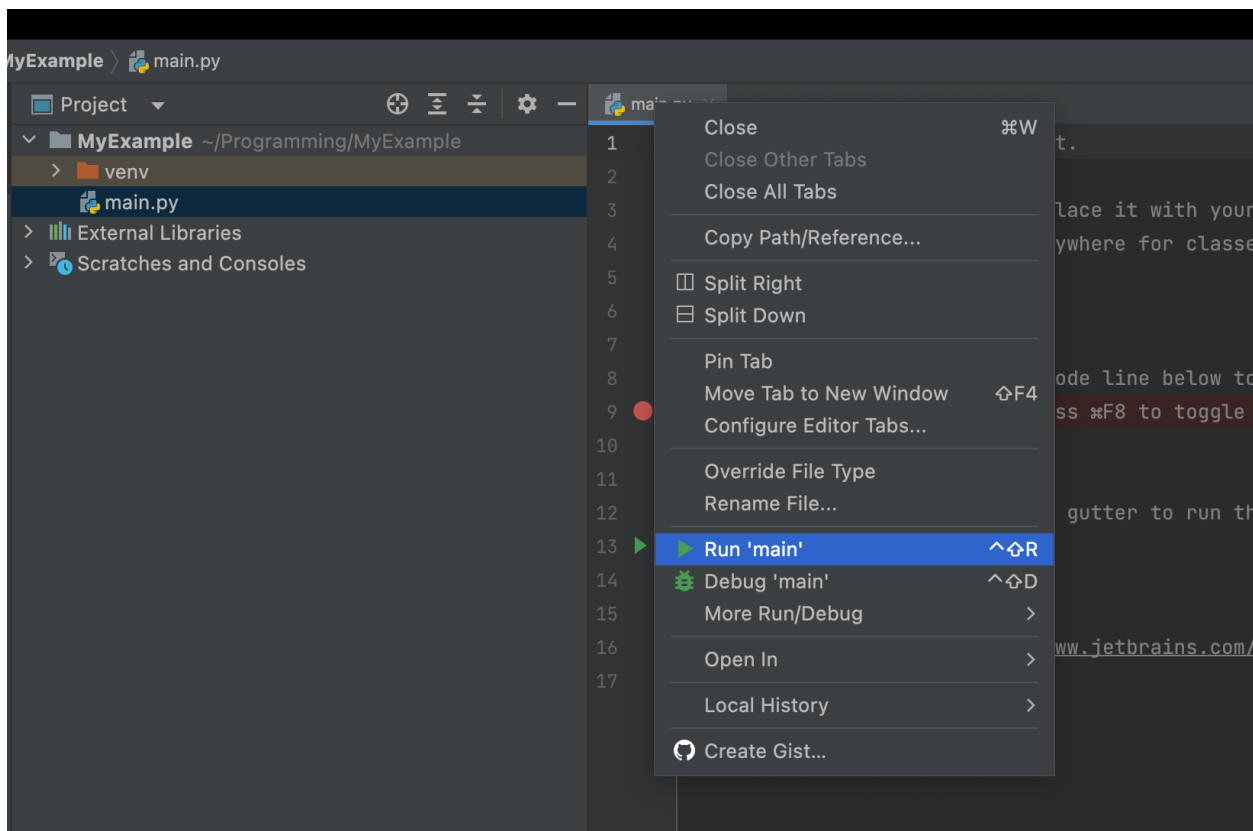
Output will be there.

I wrote a line "import cv2" (opencv library) and it returns an error, because we don't have.

Click the red icon and it is suggesting a install package. You can click it but we will do it another way.
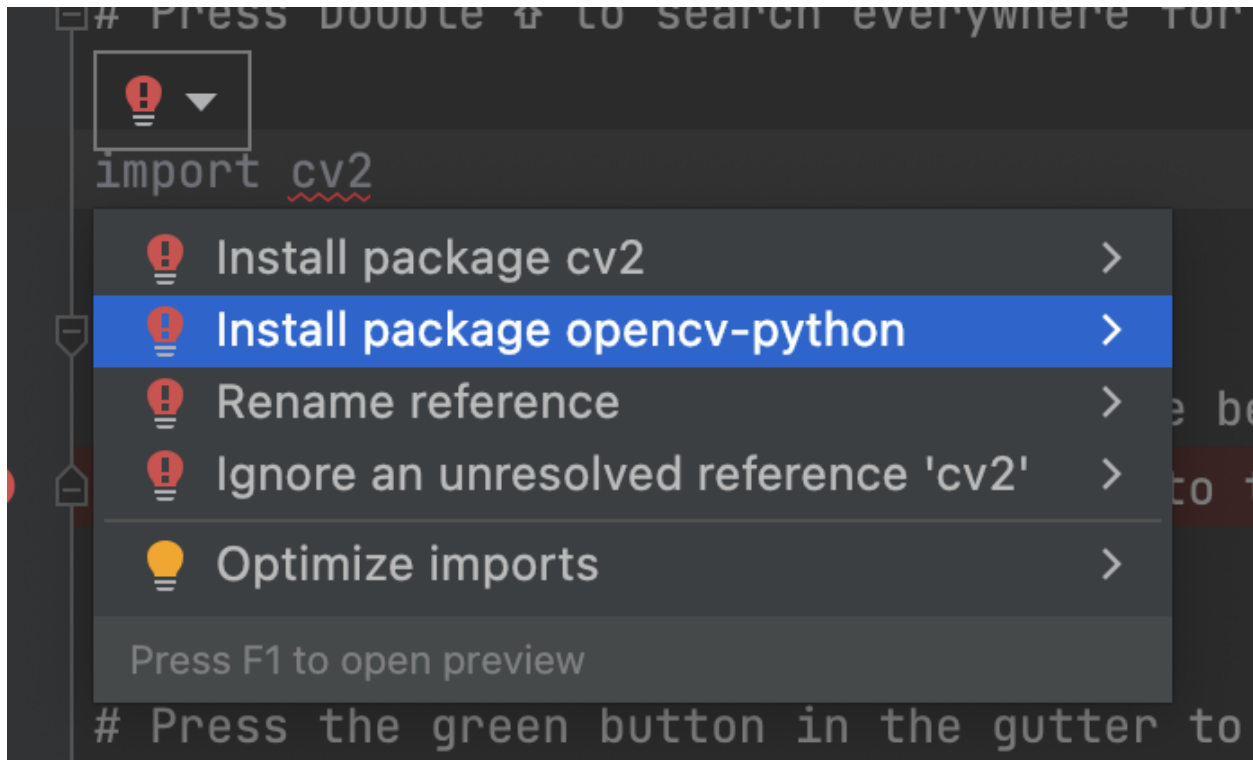
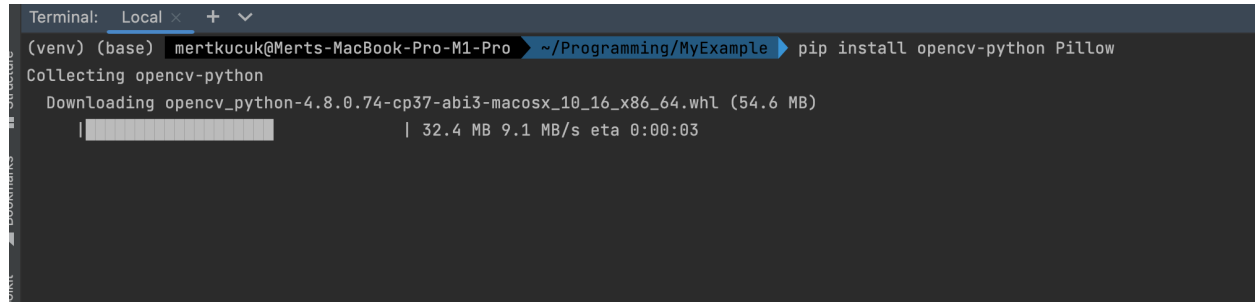Bottom of the window we navigate terminal. As you can see it is console. It starts with (venv) it is our environment's name. Wen we install package here it will not be available for whole computer, just for this project.
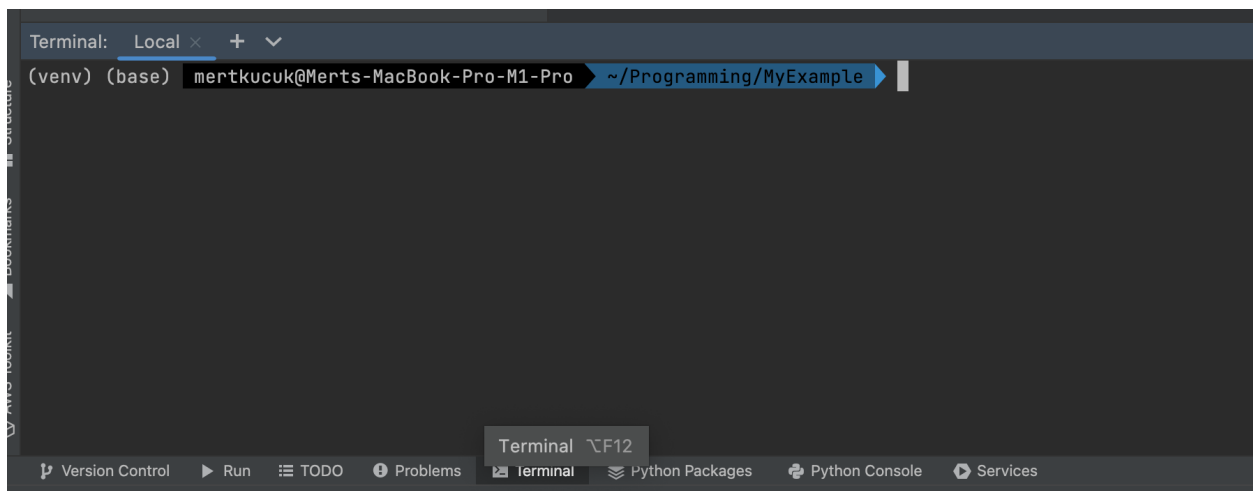
write there:

pip install opencv-python Pillow

press enter:

So these are two fundamental libraries we will use out session.

As you can see no more errors for cv2.

```python
1    # This is a sample Python script.
2
3    # Press ^R to execute it or replace it with your code.
4    # Press Double ⇧ to search everywhere for classes, files, tool window
5
6    import cv2
7    |
8    def print_hi(name):
9        # Use a breakpoint in the code line below to debug your script.
10       print(f'Hi, {name}')  # Press ⌘F8 to toggle the breakpoint.
11
12
13   # Press the green button in the gutter to run the script.
14 ▶ if __name__ == '__main__':
15       print_hi('PyCharm')
16
17   # See PyCharm help at https://www.jetbrains.com/help/pycharm/
18
```

Here is another package we will use later: CLIP

pip install ftfy regex tqdm

ENTER

pip install git+https://github.com/openai/CLIP.git

ENTER

please wait all installation process. After all done, test this:

```python
import clip
import numpy as np
```

```
print(clip.available_models())

model, preprocess = clip.load("ViT-B/32")
model.eval()
input_resolution = model.visual.input_resolution
context_length = model.context_length
vocab_size = model.vocab_size

print("Model parameters:", f"{np.sum([int(np.prod(p.shape)) for p in model.parameters()]):,}")
print("Input resolution:", input_resolution)
print("Context length:", context_length)
print("Vocab size:", vocab_size)
```

You will see this kind of output:

Thats all, see you in session.

PS: please send email to mertkucuk@gmail.com if you have any trouble.