



Jupyter Notebook

(Installation Guide)

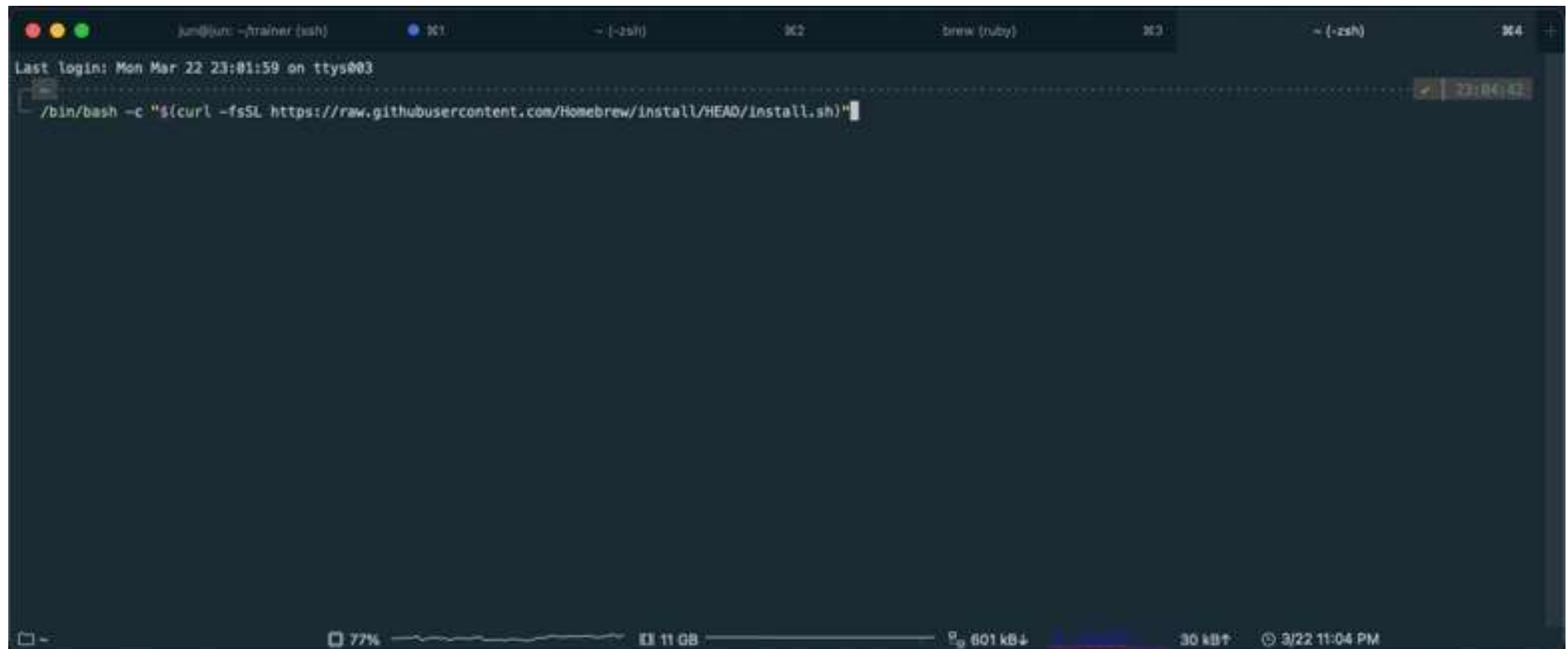
조교 원재승

Office: R-913

Email: jaeswon@sogang.ac.kr

For MacOS

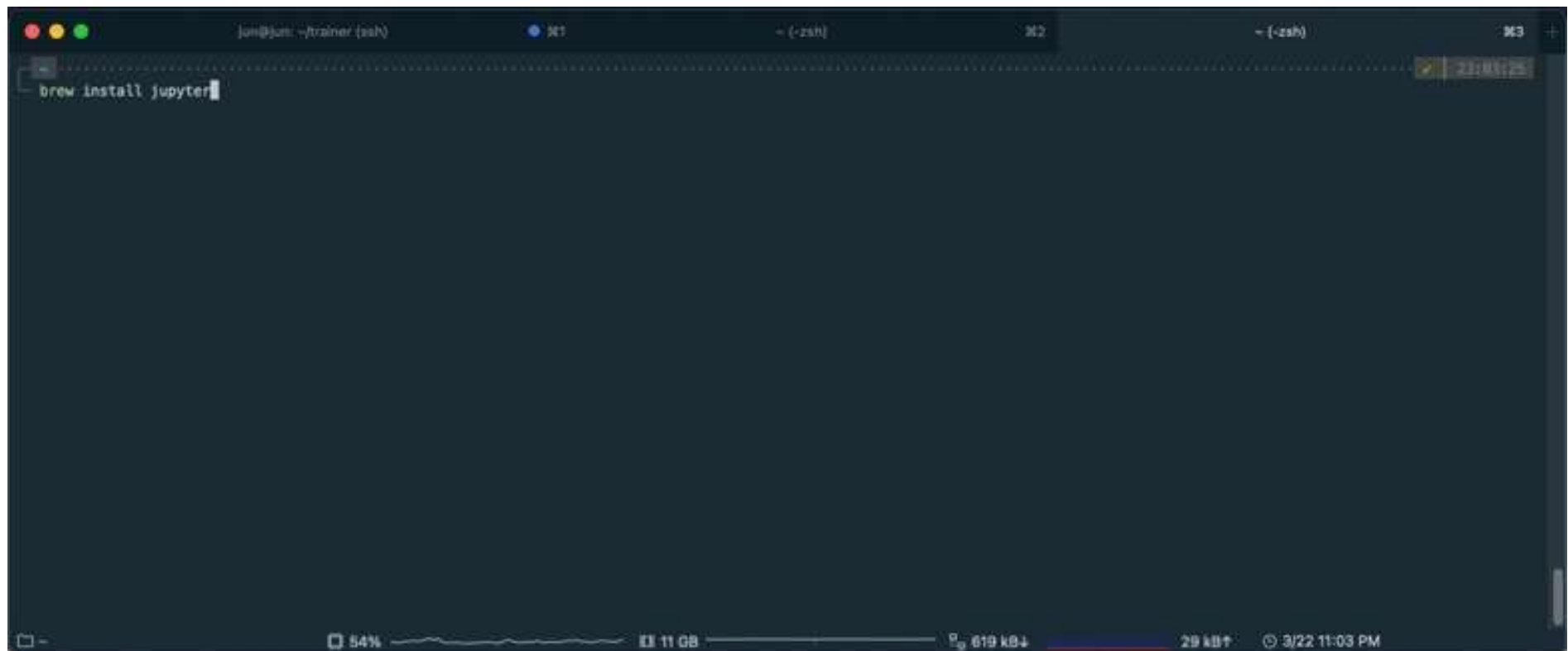
- Terminal 실행
- brew install
/bin/bash -c "\$(curl -fsSL
<https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh>)"



The screenshot shows a macOS terminal window with a dark background. The title bar at the top indicates the user is 'jun@jun: ~/trainer (ssh)' and shows several open tabs. The terminal content includes the last login time 'Mon Mar 22 23:01:59 on ttys003' and the command being executed: `/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"`. The command is currently being typed, with the cursor at the end of the line. The bottom of the window shows system status information: 77% battery, 11 GB of memory used, 601 KB of data downloaded, and the time 3/22 11:04 PM.

For MacOS

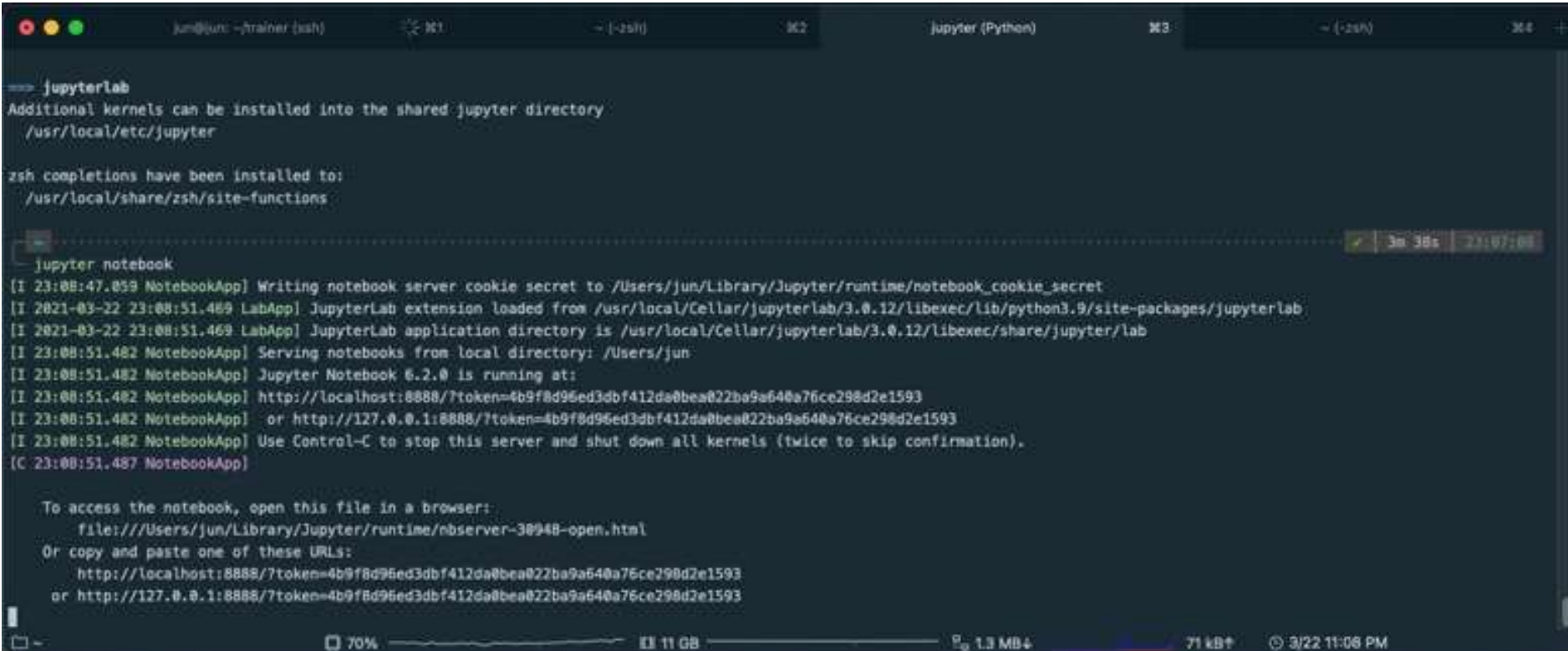
- `brew install jupyter`



A screenshot of a macOS terminal window. The window title bar shows 'Jon@Jon: ~/trainer (ssh)' and three tabs labeled 'set', 'set', and 'set'. The terminal content shows the command `brew install jupyter` entered at the prompt. The status bar at the bottom indicates 54% battery, 11 GB of memory usage, 619 kB/s of network activity, and the date/time '3/22 11:03 PM'.

For MacOS

■ jupyter notebook



```
jun@jun: ~/trainer (ssh) 101 ~ (~25%) 102 jupyter (Python) 103 ~ (~25%) 104 +

==> jupyterlab
Additional kernels can be installed into the shared jupyter directory
/usr/local/etc/jupyter

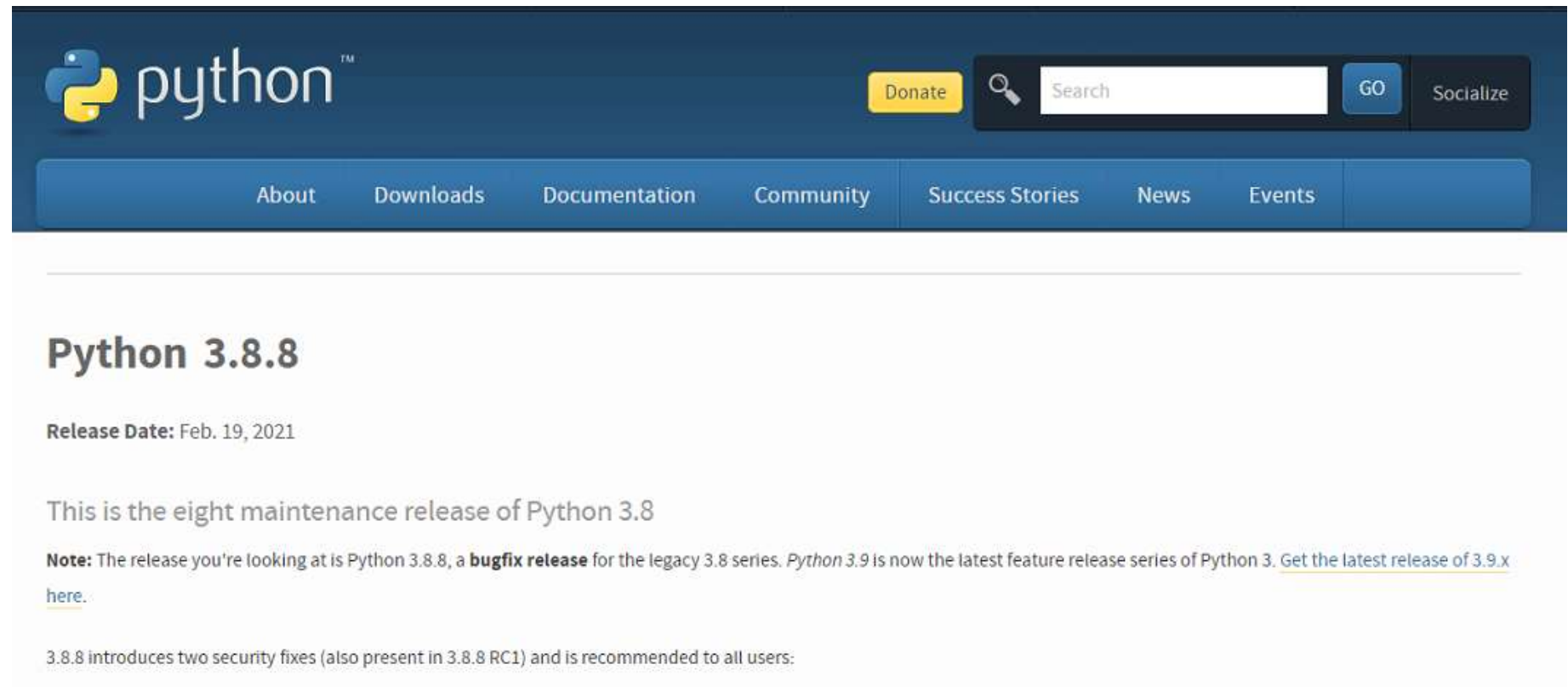
zsh completions have been installed to:
/usr/local/share/zsh/site-functions

jupyter notebook
[I 23:08:47.059 NotebookApp] Writing notebook server cookie secret to /Users/jun/Library/Jupyter/runtime/notebook_cookie_secret
[I 2021-03-22 23:08:51.469 LabApp] JupyterLab extension loaded from /usr/local/Cellar/jupyterlab/3.0.12/libexec/Lib/python3.9/site-packages/jupyterlab
[I 2021-03-22 23:08:51.469 LabApp] JupyterLab application directory is /usr/local/Cellar/jupyterlab/3.0.12/libexec/share/jupyter/lab
[I 23:08:51.482 NotebookApp] Serving notebooks from local directory: /Users/jun
[I 23:08:51.482 NotebookApp] Jupyter Notebook 6.2.0 is running at:
[I 23:08:51.482 NotebookApp] http://localhost:8888/?token=4b9f8d96ed3dbf412da0bea022ba9a640a76ce298d2e1593
[I 23:08:51.482 NotebookApp] or http://127.0.0.1:8888/?token=4b9f8d96ed3dbf412da0bea022ba9a640a76ce298d2e1593
[I 23:08:51.482 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
[C 23:08:51.487 NotebookApp]

To access the notebook, open this file in a browser:
file:///Users/jun/Library/Jupyter/runtime/nbserver-30948-open.html
Or copy and paste one of these URLs:
http://localhost:8888/?token=4b9f8d96ed3dbf412da0bea022ba9a640a76ce298d2e1593
or http://127.0.0.1:8888/?token=4b9f8d96ed3dbf412da0bea022ba9a640a76ce298d2e1593
```

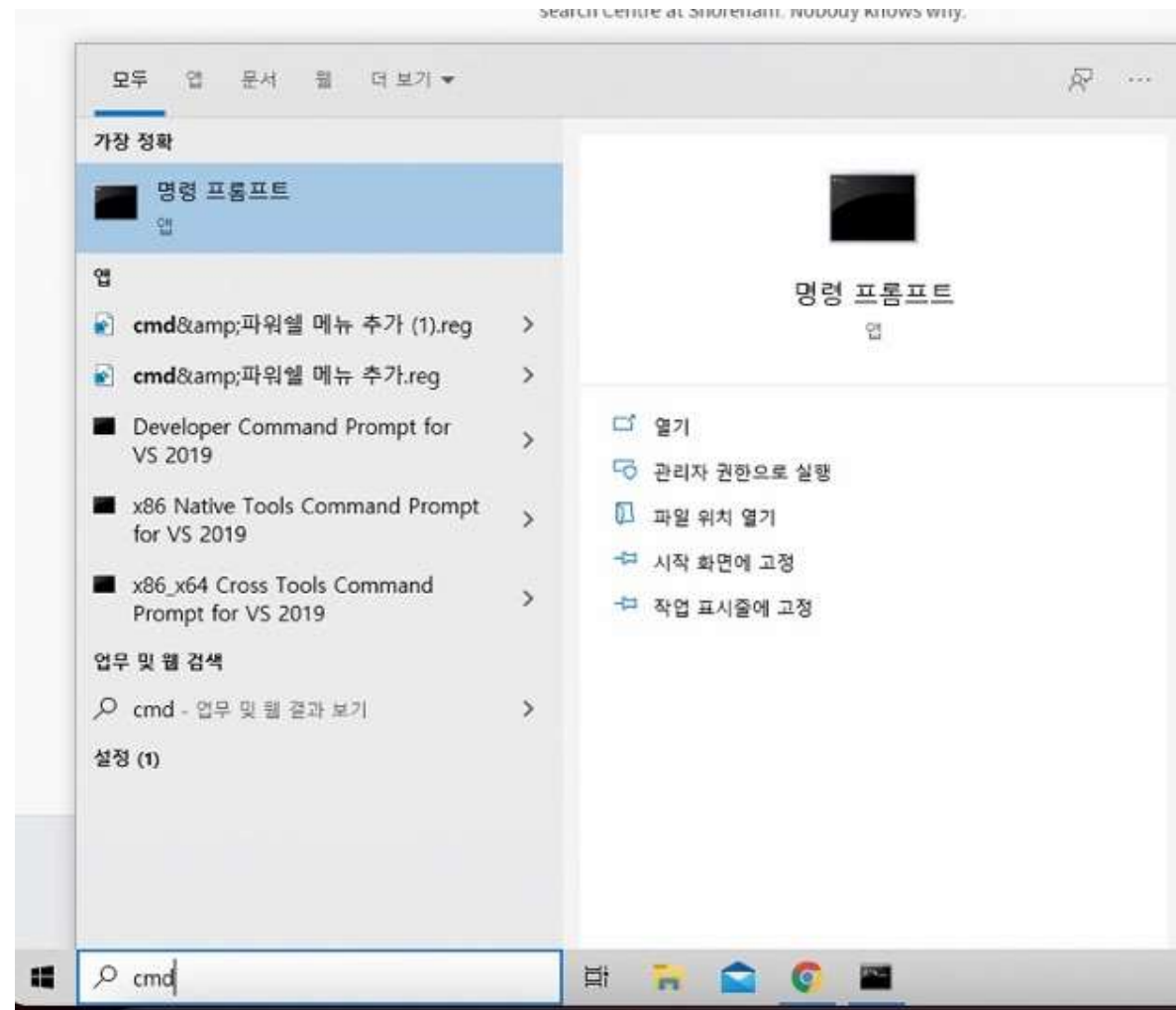
For Windows

- <https://www.python.org/downloads/>



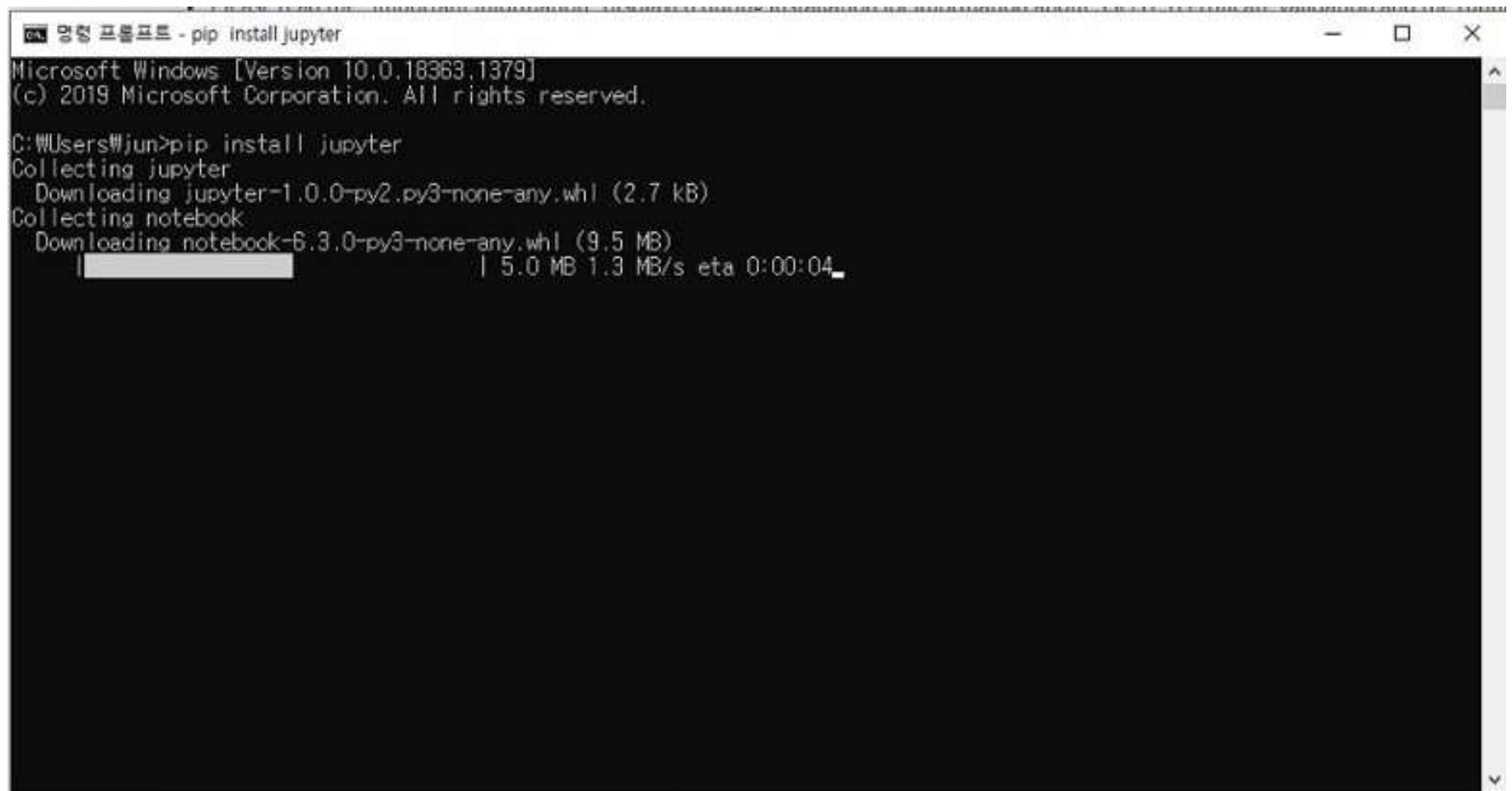
For Windows

■ CMD 창 열기



For Windows

■ pip install jupyter



```
명현 프론트 - pip install jupyter
Microsoft Windows [Version 10.0.18363.1379]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\Wjun>pip install jupyter
Collecting jupyter
  Downloading jupyter-1.0.0-py2.py3-none-any.whl (2.7 kB)
Collecting notebook
  Downloading notebook-6.3.0-py3-none-any.whl (9.5 MB)
    | 5.0 MB 1.3 MB/s eta 0:00:04
```

For Windows

■ jupyter notebook

```

명령 프롬프트 - jupyter notebook

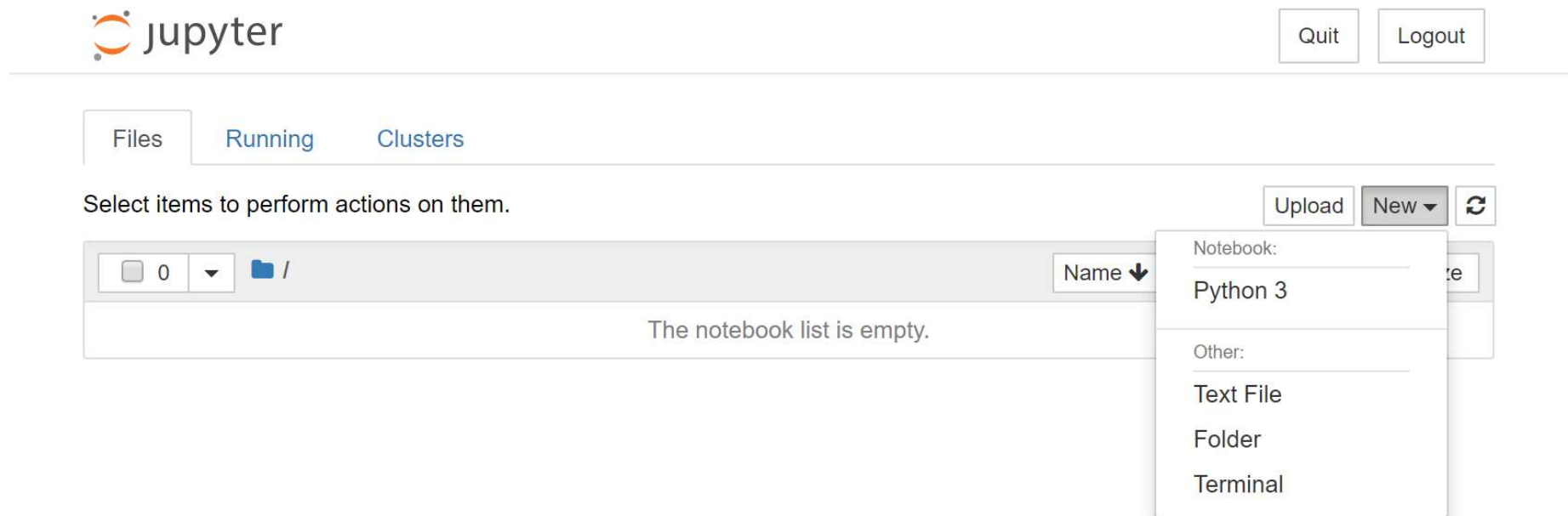
testpath, jupyterlab-pygments, entrypoints, async-generator, nbclient, pyparsing, packaging, webencodings, bleach, nbconv
ert, Send2Trash, prometheus-client, notebook, widgetsnbextension, jupyterlab-widgets, ipywidgets, qtpy, qtconsole, jupyt
er-console, jupyter
Successfully installed MarkupSafe-1.1.1 Send2Trash-1.5.0 async-generator-1.10 backcall-0.2.0 bleach-3.3.0 colorama-0.4.4
decorator-4.4.2 defusedxml-0.7.1 entrypoints-0.3 ipykernel-5.5.0 ipython-7.21.0 ipywidgets-7.6.3 jedi-0.18.0 jinja2-2.1
1.3 jupyter-1.0.0 jupyter-client-6.1.12 jupyter-console-6.3.0 jupyterlab-pygments-0.1.2 jupyterlab-widgets-1.0.0 nbclie
nt-0.5.3 nbconvert-6.0.7 nbformat-5.1.2 notebook-6.3.0 packaging-20.9 parso-0.8.1 pickleshare-0.7.5 prometheus-client-0.9
.0 prompt-toolkit-3.0.18 pygments-2.8.1 pyparsing-2.4.7 python-dateutil-2.8.1 pywinpty-0.5.7 qtconsole-5.0.3 qtpy-1.9.0
terminado-0.9.3 testpath-0.4.4 wcwidth-0.2.5 webencodings-0.5.1 widgetsnbextension-3.5.1
WARNING: You are using pip version 20.2.3; however, version 21.0.1 is available.
You should consider upgrading via the 'c:\Users\jun\AppData\Local\Programs\Python\Python38\python.exe -m pip install --u
pgrade pip' command.

C:\Users\jun>jupyter notebook
[I 12:17:48.284 NotebookApp] Writing notebook server cookie secret to C:\Users\jun\AppData\Roaming\jupyter\runtime\noteb
ook_cookie_secret
[I 12:17:49.075 NotebookApp] Serving notebooks from local directory: C:\Users\jun
[I 12:17:49.076 NotebookApp] Jupyter Notebook 6.3.0 is running at:
[I 12:17:49.076 NotebookApp] http://localhost:8888/?token=dade6b816446bf0f0a4a542d78f71526f2374f35de7eba80
[I 12:17:49.076 NotebookApp] or http://127.0.0.1:8888/?token=dade6b816446bf0f0a4a542d78f71526f2374f35de7eba80
[I 12:17:49.076 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
[C 12:17:49.150 NotebookApp]

To access the notebook, open this file in a browser:
    file:///C:/Users/jun/AppData/Roaming/jupyter/runtime/nbserver-1292-open.html
Or copy and paste one of these URLs:
    http://localhost:8888/?token=dade6b816446bf0f0a4a542d78f71526f2374f35de7eba80
    or http://127.0.0.1:8888/?token=dade6b816446bf0f0a4a542d78f71526f2374f35de7eba80
  
```

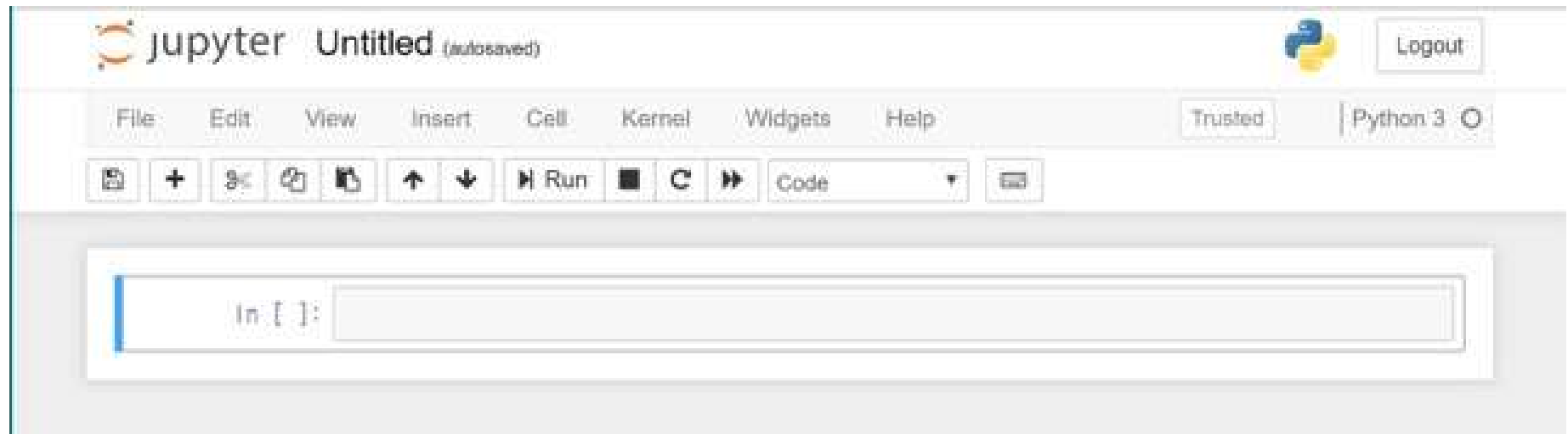

jupyter notebook 사용법

- 새 파일 생성
- 오른쪽 New 토글을 열어 python3 창을 오픈



jupyter notebook 사용법

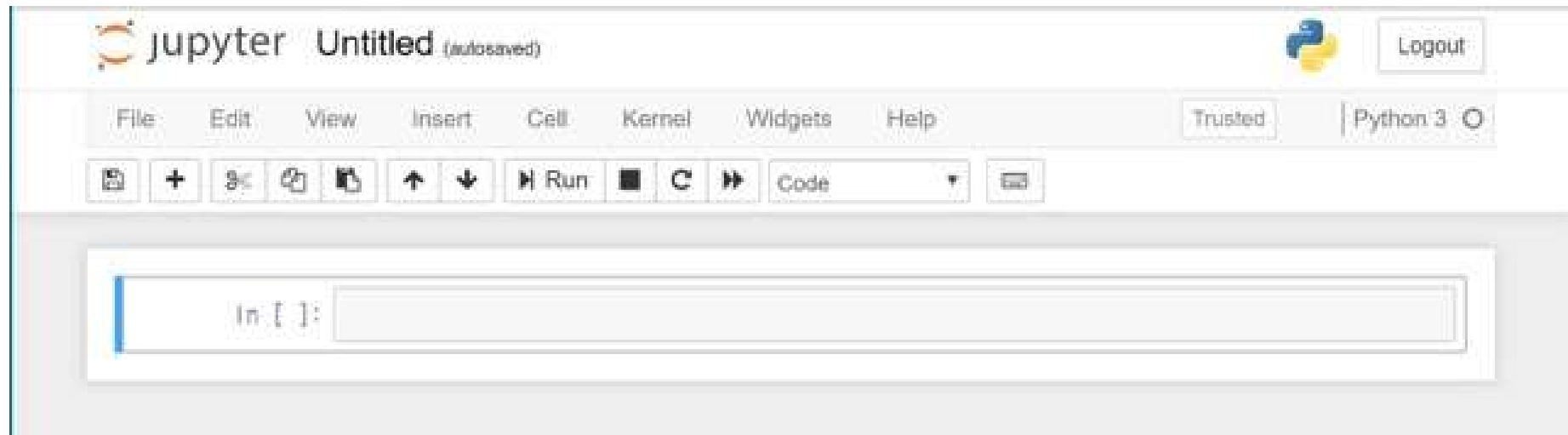
■ Python3 code 입력창의 모습



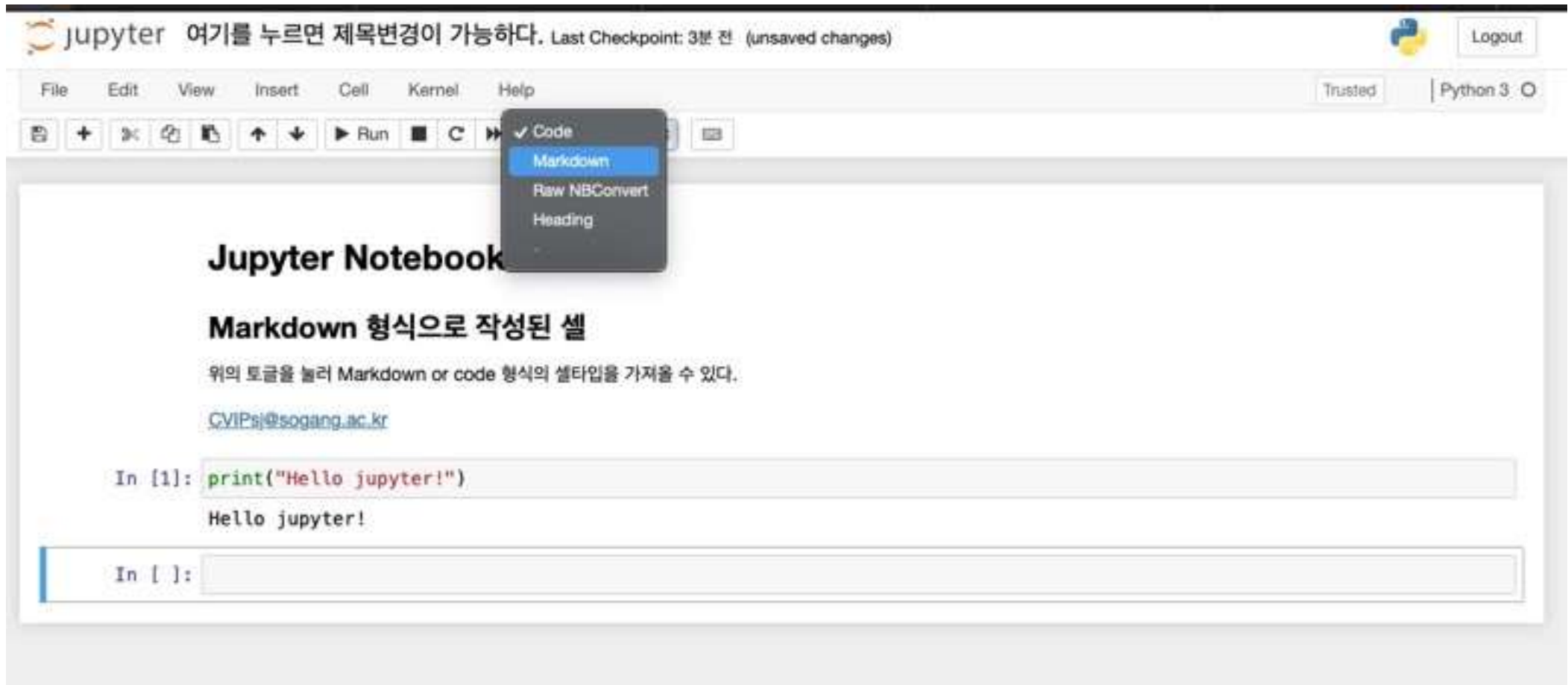
jupyter notebook 사용법

■ 편집/명령 모드

- ◆ 편집 모드에서는 셀의 내용을 편집할 수 있고(셀의 테두리가 초록색), 명령 모드는 편집 중이 아닌 상태로 셀이 실행을 위해 대기 또는 실행 중인 상태(셀의 테두리가 파란색)이다.
- ◆ 명령 모드에서 편집 모드로 들어가려면 **Enter**키를, 반대로는 **Esc** 키를 누르면 된다.



jupyter notebook 사용법



jupyter notebook 사용법

셀 실행

실행하고 싶은 셀을 클릭 후 Shift + Enter 를 같이 누른다. 실행하면 셀 아래쪽에 실행 결과가 표시되고, 셀 좌측의 'In []'과 'Out []'에 몇 번째로 실행시켰는지를 나타내는 숫자가 표시된다.

In [2]: `import numpy as np`

```
ModuleNotFoundError                                Traceback (most recent call last)
<ipython-input-2-0aa0b027fcb6> in <module>
----> 1 import numpy as np

ModuleNotFoundError: No module named 'numpy'
```

셀 상에서 패키지는 설치하고 싶으면 `!pip3 install numpy` 를 하면 된다.

In [4]: `!pip3 install numpy`

```
Collecting numpy
  Downloading numpy-1.20.1-cp39-cp39-macosx_10_9_x86_64.whl (16.1 MB)
    | 16.1 MB 11.8 MB/s eta 0:00:01
Installing collected packages: numpy
Successfully installed numpy-1.20.1
```

In []:

jupyter notebook 사용법

강제 중단 / 재실행

IPython 을 관리하는 커널이 죽을 수 있다. 이 경우 커널을 재실행을 해줘야한다.

- Interrupt: 실행 중인 코드를 강제 중지한다. 중지하면 아래 그림과 같은 예러가 뜨며 실행이 중지된다.
- Restart: 실행 중인 코드가 중지되며 재시작된다. 코드나 실행 결과는 삭제되지 않는다.
- Restart & Clear Output: 코드는 중지되며 실행 결과도 삭제한다.
- Restart & Run All: 재시작 후 모든 셀의 코드를 위에서부터 순차적으로 한 번씩 실행한다.
- Reconnect: 인터넷 연결이 끊어졌을 때 연결을 재시도한다.
- Shutdown: 커널을 종료한다. 이 버튼을 누르면 실행 결과는 삭제되지 않으나 완전 종료된 상태로 더 이상 메모리를 잡아먹지 않는다.

```
In [7]: from time import sleep
        for i in range(2019):
            sleep(1)
            print(i)
```

```
0
1
2
3
4
5
6
7
8
9
10
11
```

```
KeyboardInterrupt                                Traceback (most recent call last)
<ipython-input-7-240d41624bca> in <module>
      1 from time import sleep
      2 for i in range(2019):
-->   3     sleep(1)
      4     print(i)

KeyboardInterrupt:
```