2018.09.20

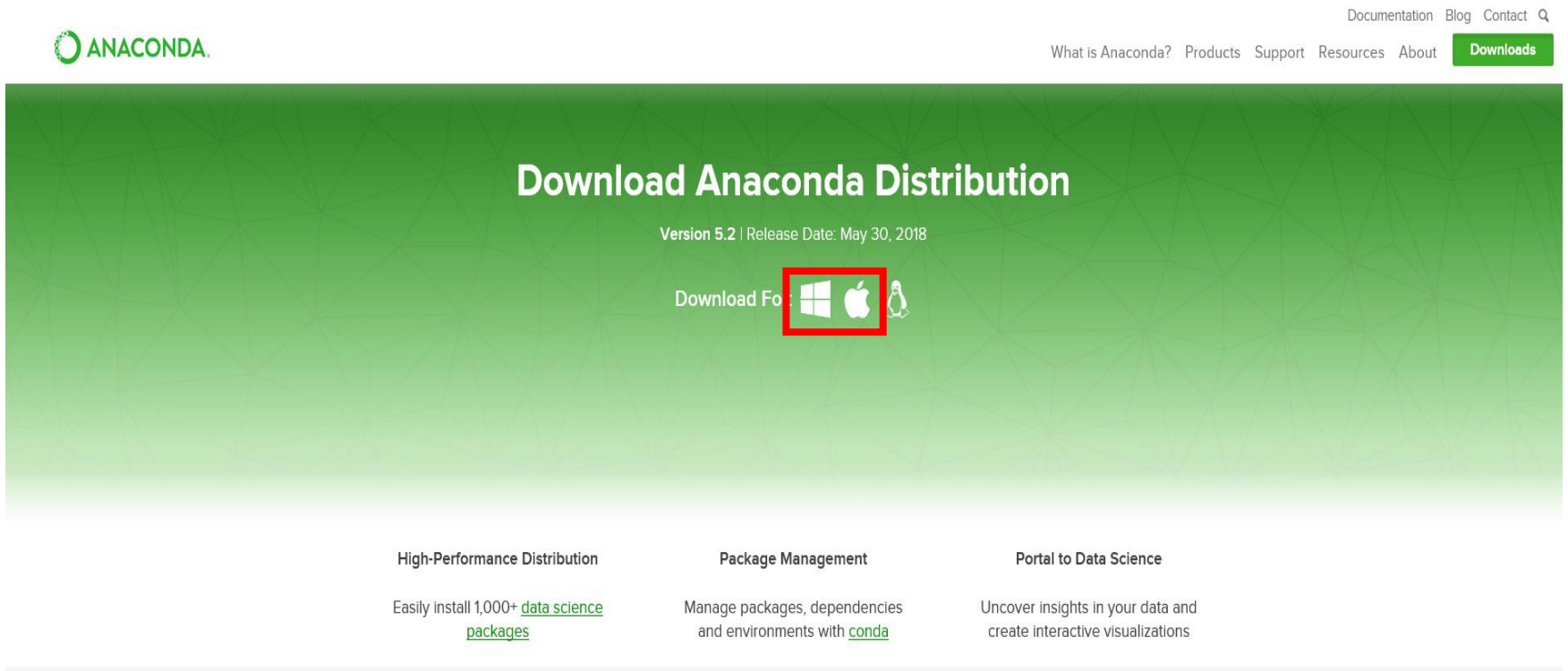
JUPYTER NOTEBOOK

천용희, 최원빈

Growth Hackers

아나콘다 설치

1. 아래 링크로 들어가서 본인 컴퓨터에 맞게 Windows 또는 macOS 클릭



다운로드 링크: https://www.anaconda.com/download/

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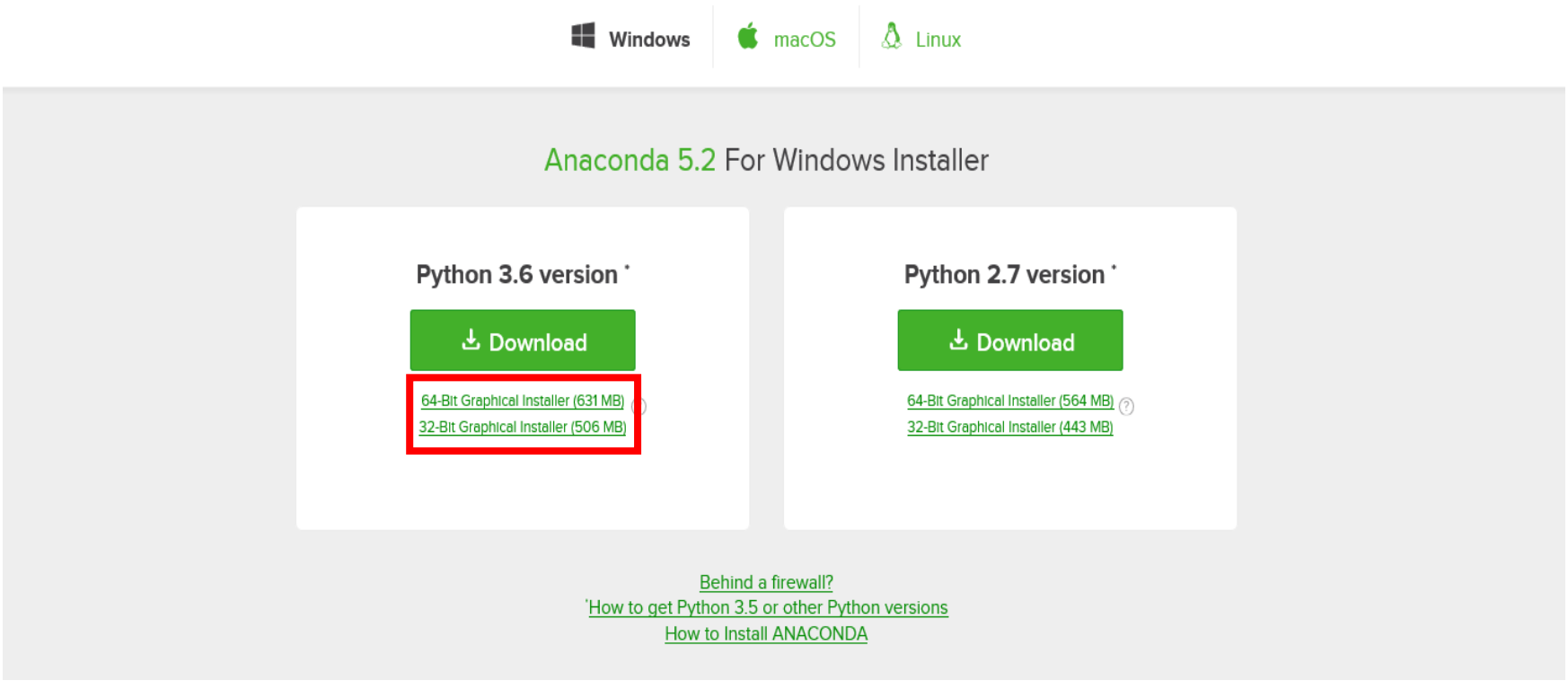
아나콘다 설치

2. 본인의 컴퓨터 운영체제(32bit or 64bit)에 맞는 Python 3.6 version 설치



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아나콘다 설치

Tip. 운영체제 확인 방법(제어판 > 시스템 및 보안 > 시스템)

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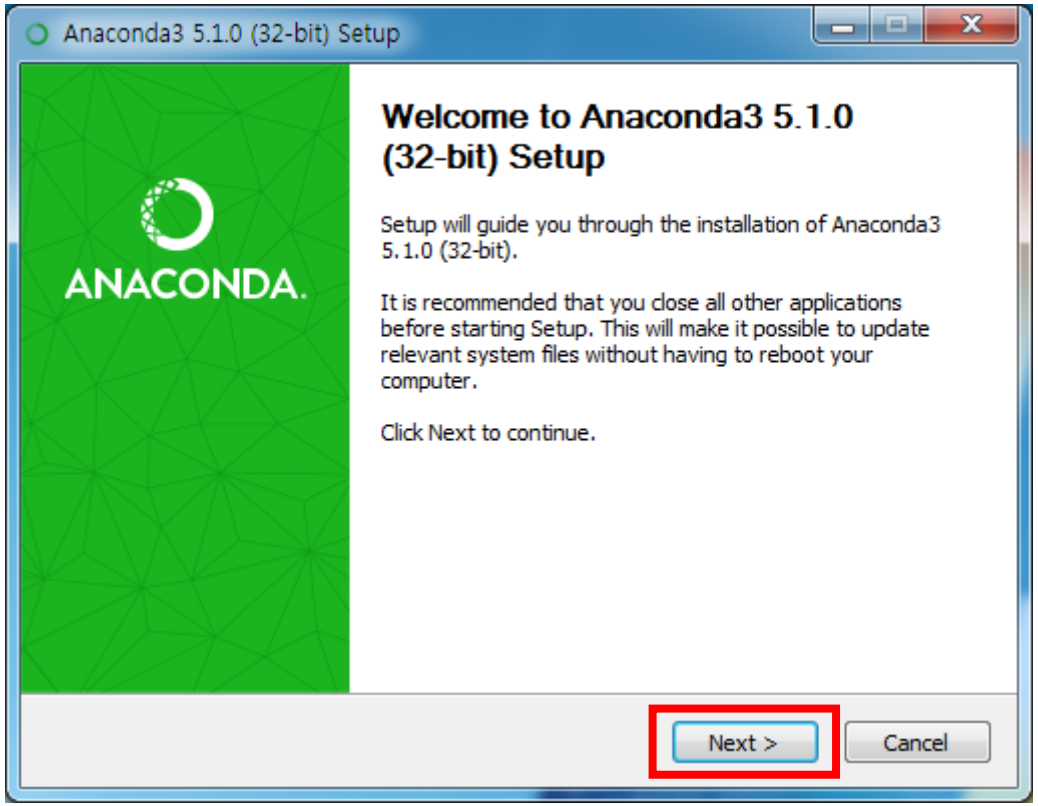
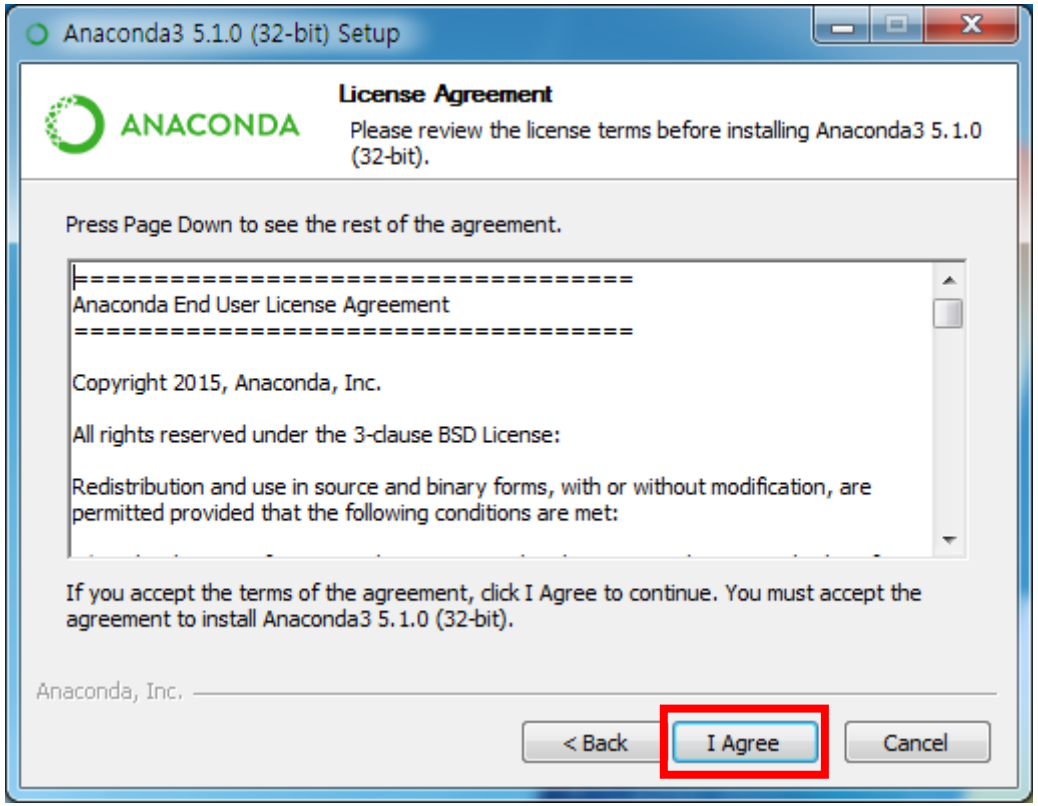
3. Next & I Agree 클릭





출처: https://wikidocs.net/2826

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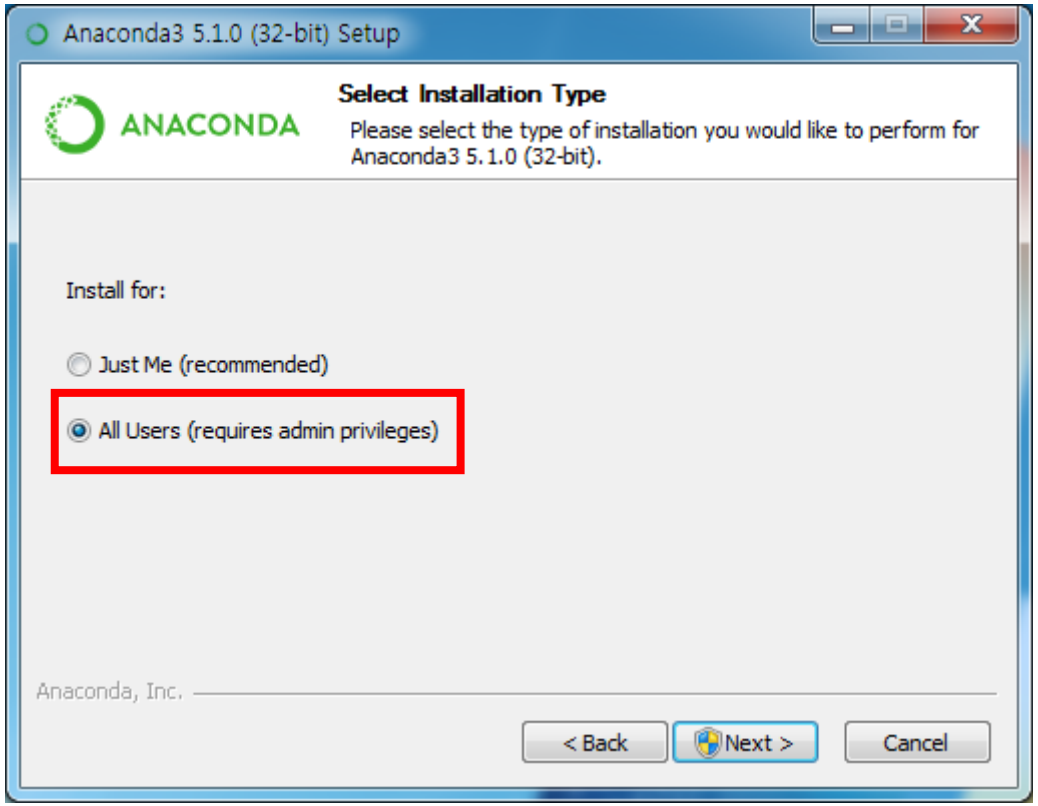
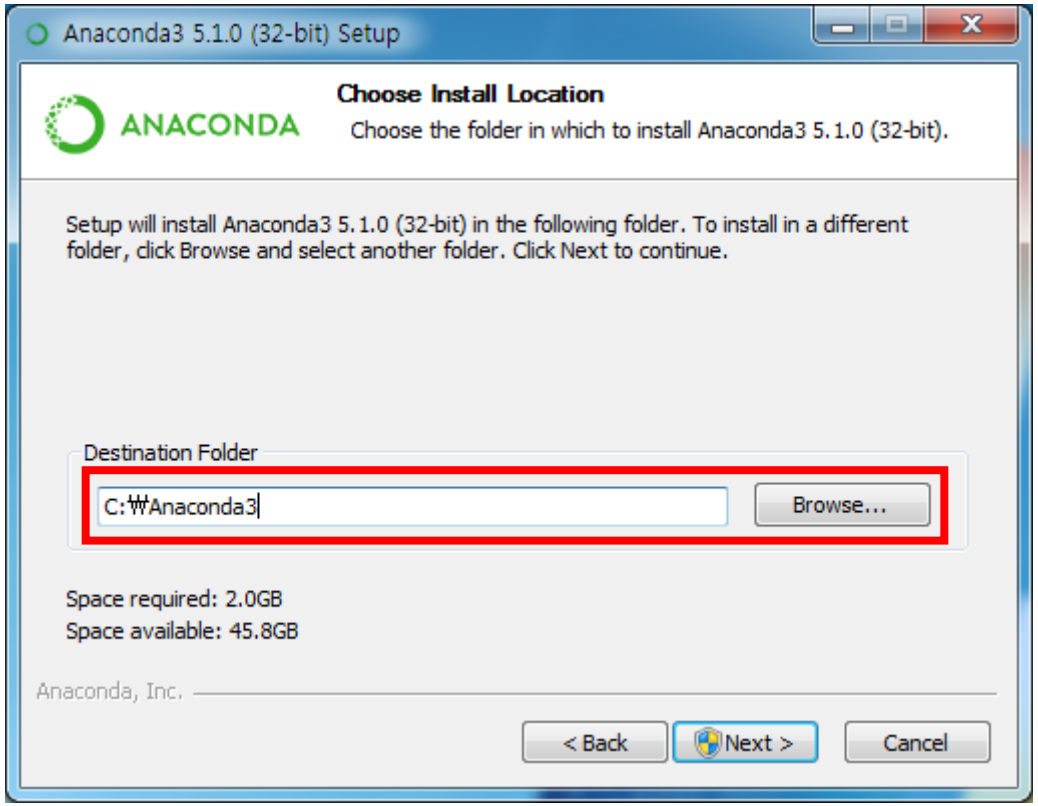
아나콘다 설치

4. All Users 선택 및 설치 폴더 지정(폴더는 본인이 기억할 수 있는 경로로 자유롭게 지정)





출처: https://wikidocs.net/2826

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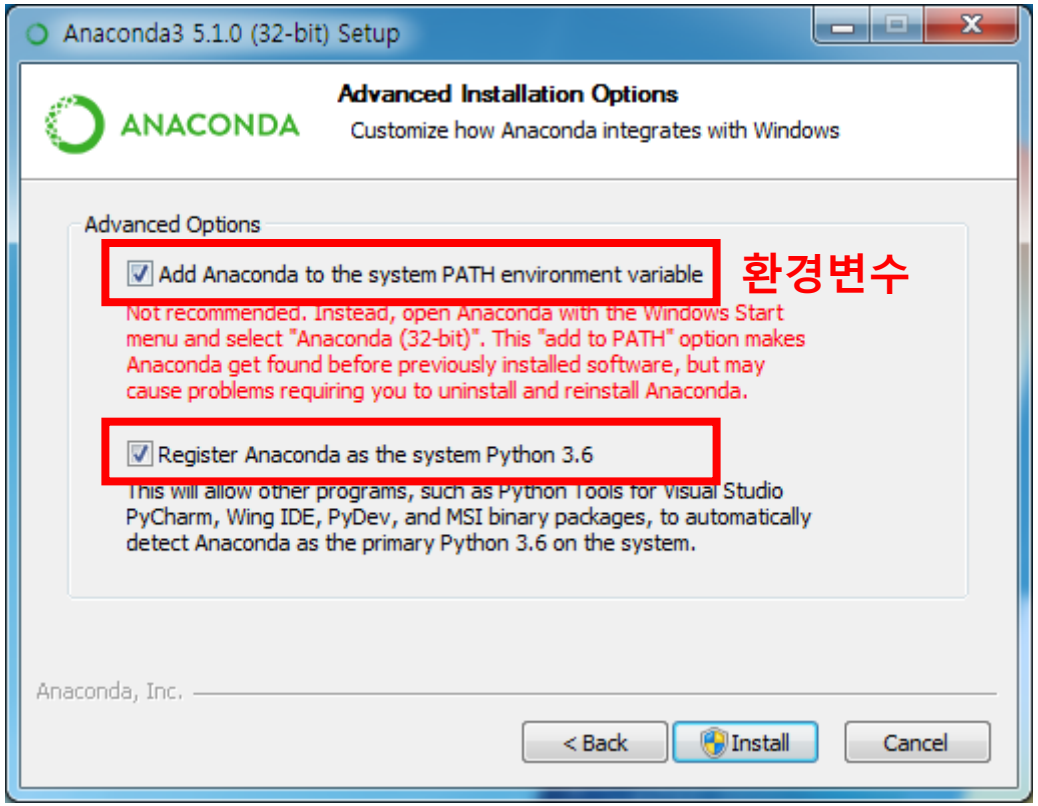
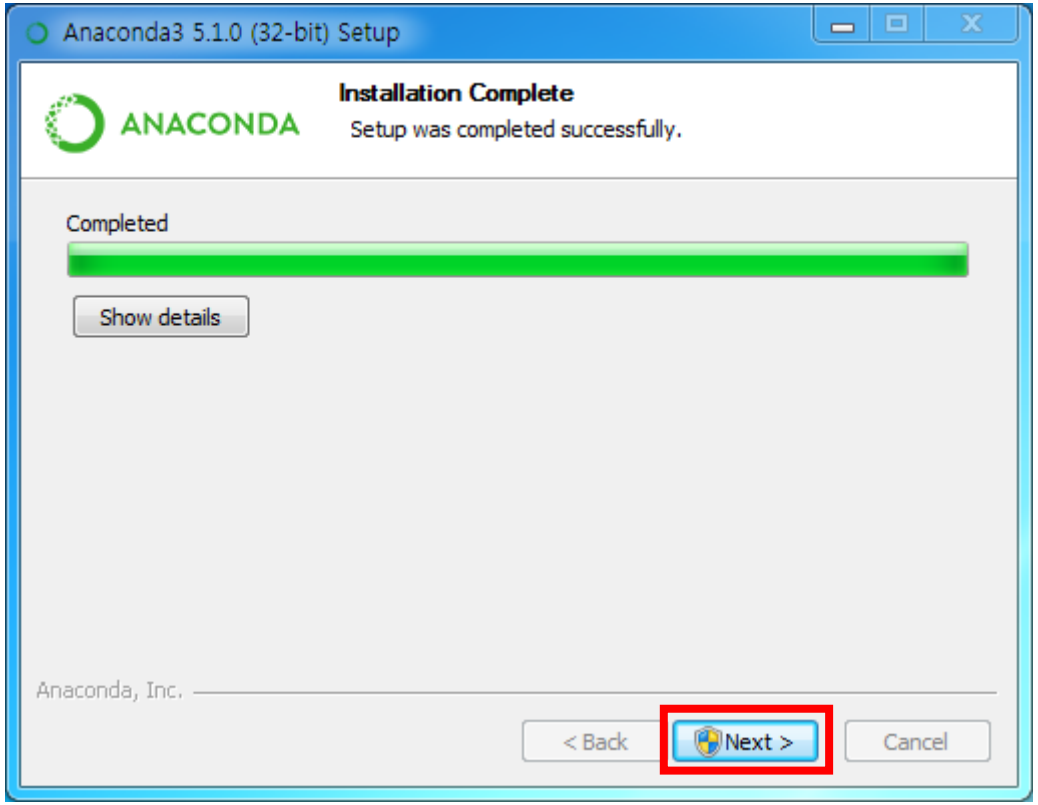
5. 두 가지 Options 모두 선택 및 설치 진행





출처: https://wikidocs.net/2826

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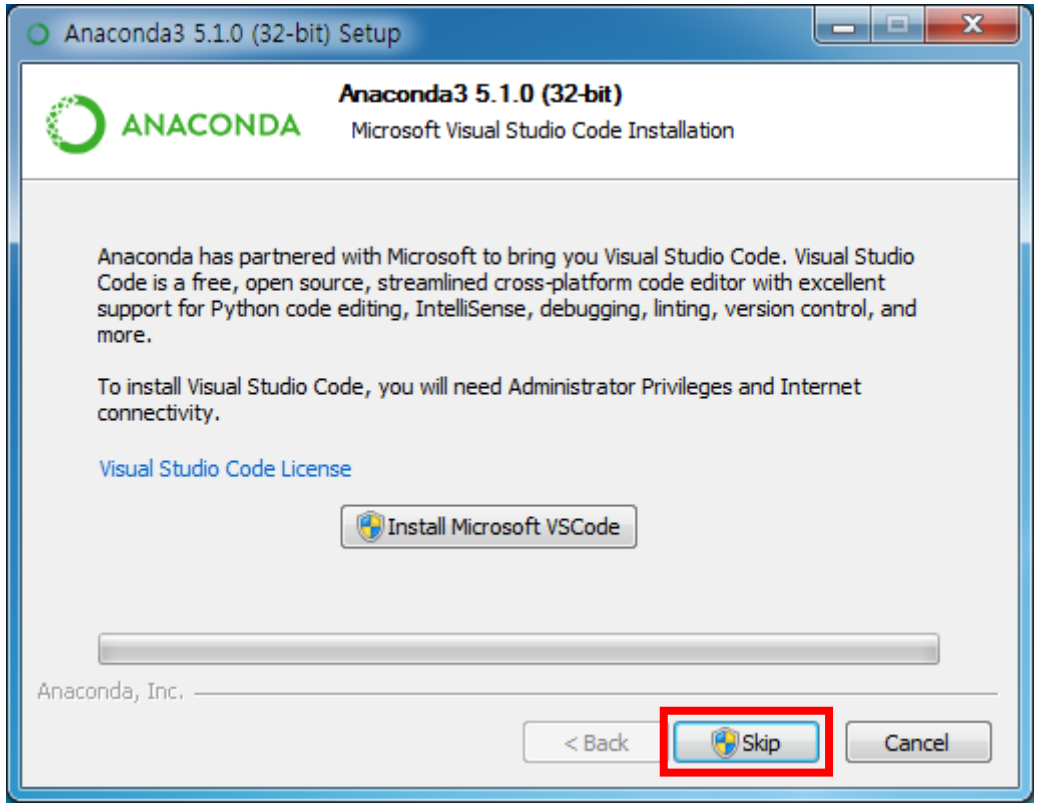
6. Skip 및 설치 완료



출처: https://wikidocs.net/2826

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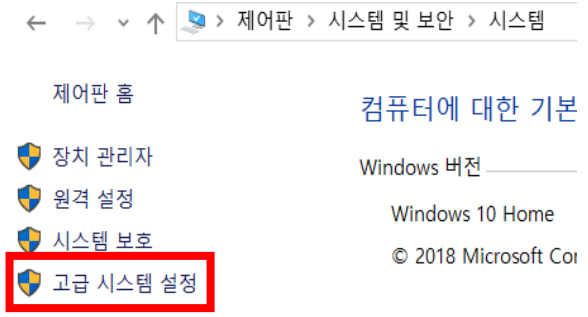
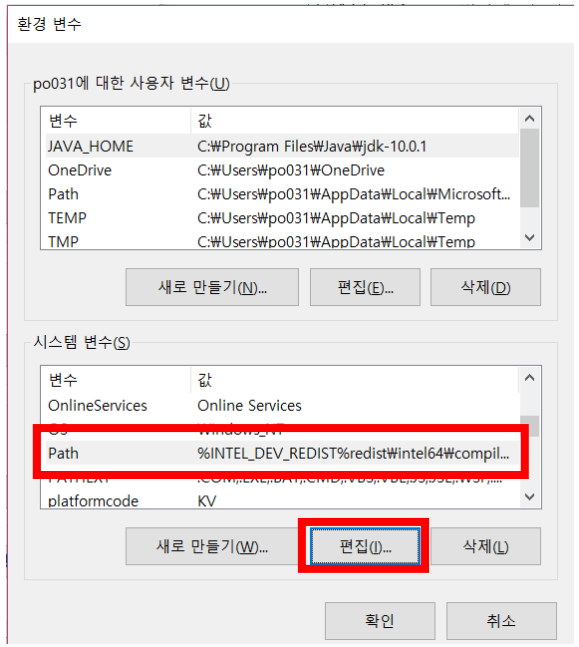
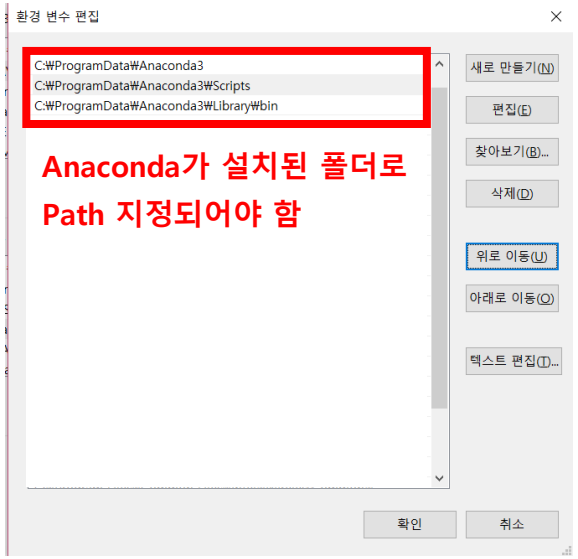
아나콘다 설치

Tip. 환경 변수 확인 방법(제어판 > 시스템 및 보안 > 시스템 >고급 시스템 설정 > 고급 > 환경 변수 > 시스템 변수 > Path > 편집)







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아나콘다 실행

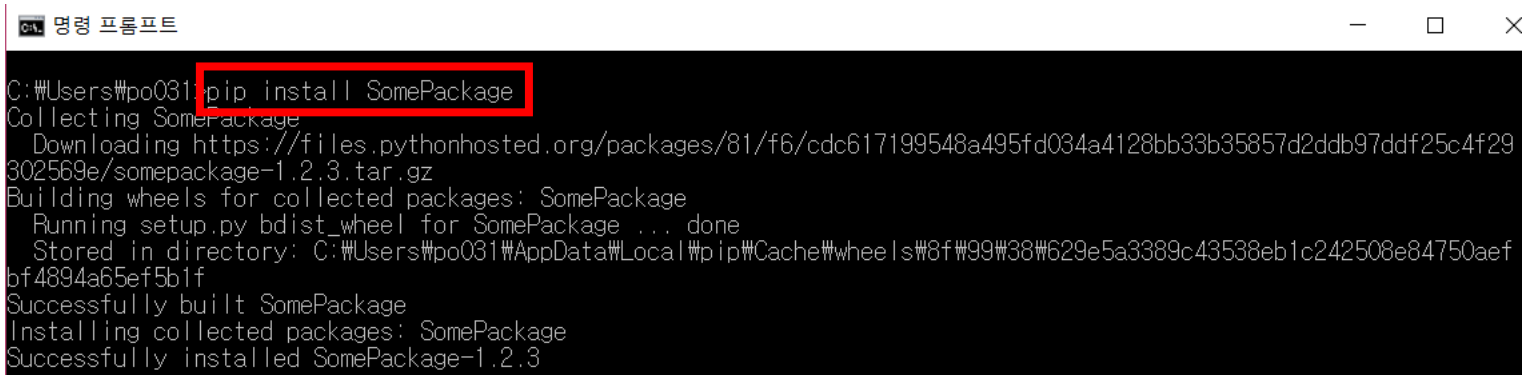
- **cmd VS anaconda prompt**

  - cmd: command의 줄임말로 Windows에 대한 명령 프롬프트
    cmd에서 아나콘다를 사용하려면 환경 변수 설정 필요

  - Anaconda Prompt: Anaconda에 대한 명령 프롬프트
    환경 변수 설정 필요 X

아나콘다 실행

- **pip 사용하기**
  - 파이썬 모듈이나 패키지를 쉽게 설치할 수 있도록 도와주는 도구
  - pip를 이용해서 파이썬 프로그램을 설치하면 의존성 있는 모듈이나 패키지를 함께 설치해주기 때문에 매우 편리함
  - 패키지 설치 (pip install)



  - 패키지 삭제 (pip uninstall)

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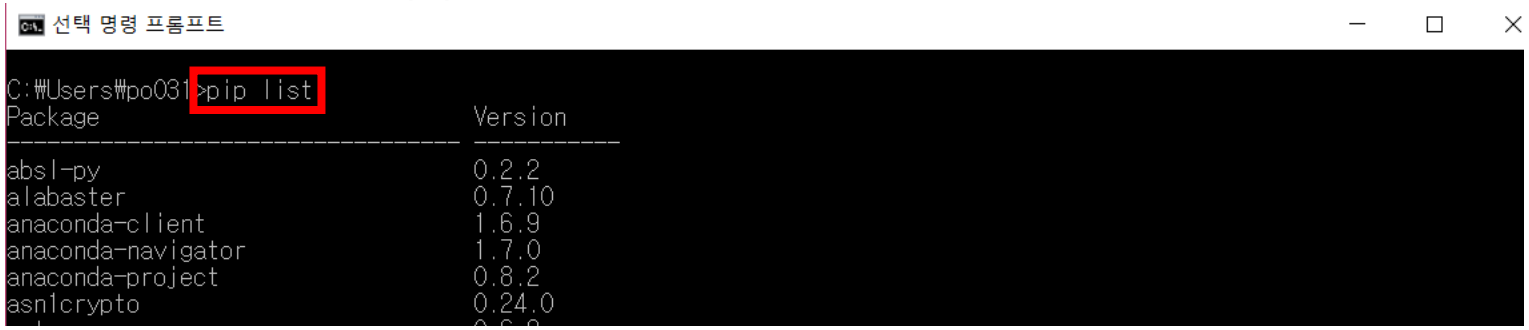
아나콘다 실행

- **pip 사용하기**
  - 특정 버전으로 패키지 설치 (pip install SomePackage==1.2.3)

  - 최신 버전으로 업그레이드 (pip install --upgrade SomePackage)

  - 설치된 패키지 확인 (pip list)



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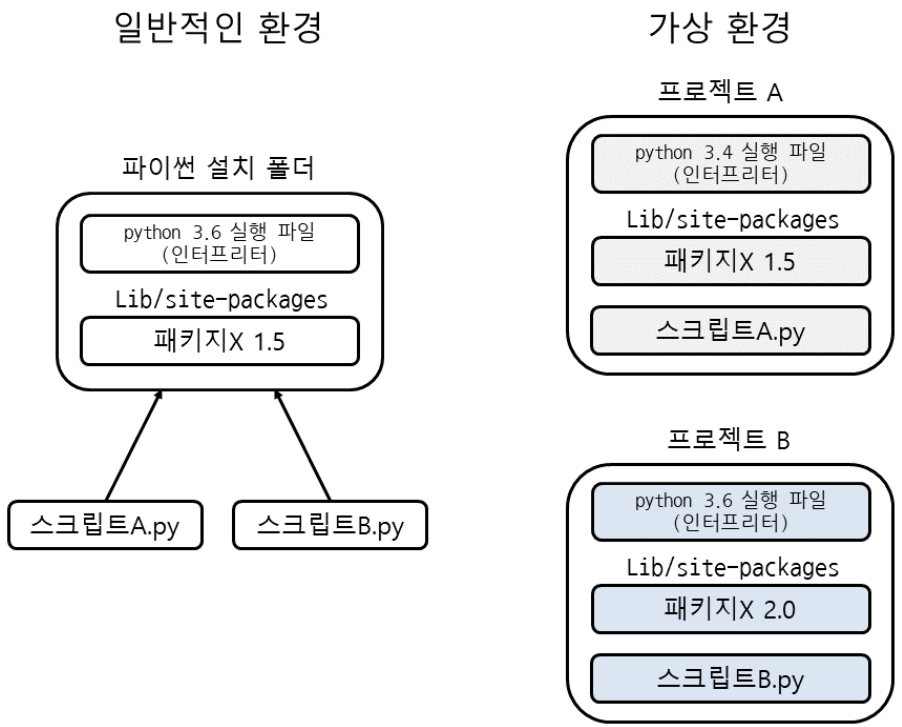
- 가상 환경

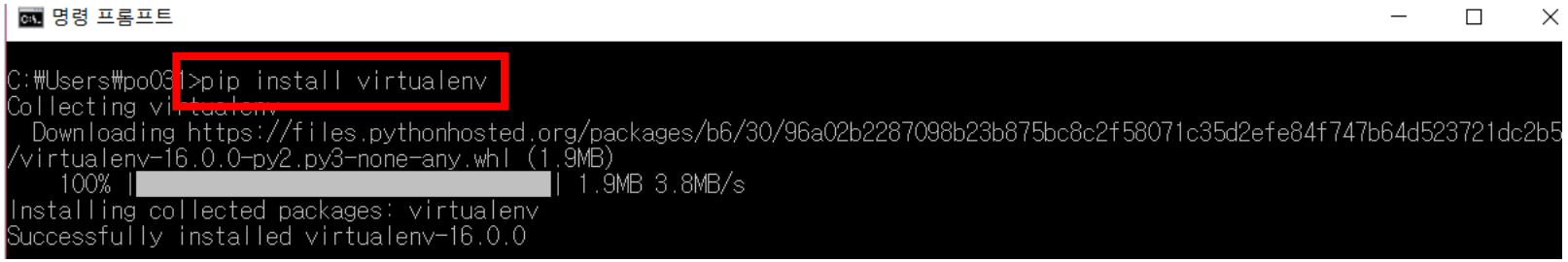


출처: https://dojang.io/mod/page/view.php?id=1168

아나콘다 실행

- **가상 환경**

① Virtualenv 설치 (pip install virtualenv)



② ghstudy 가상환경 설치 (virtualenv ghstudy)

③ ghstudy 가상환경 실행 (call ghstudy₩scripts₩activate)

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아나콘다 실행

- **가상 환경**

④ 설치된 패키지 확인 (pip list)

⑤ ghstudy 가상환경 비활성화 (deactivate)

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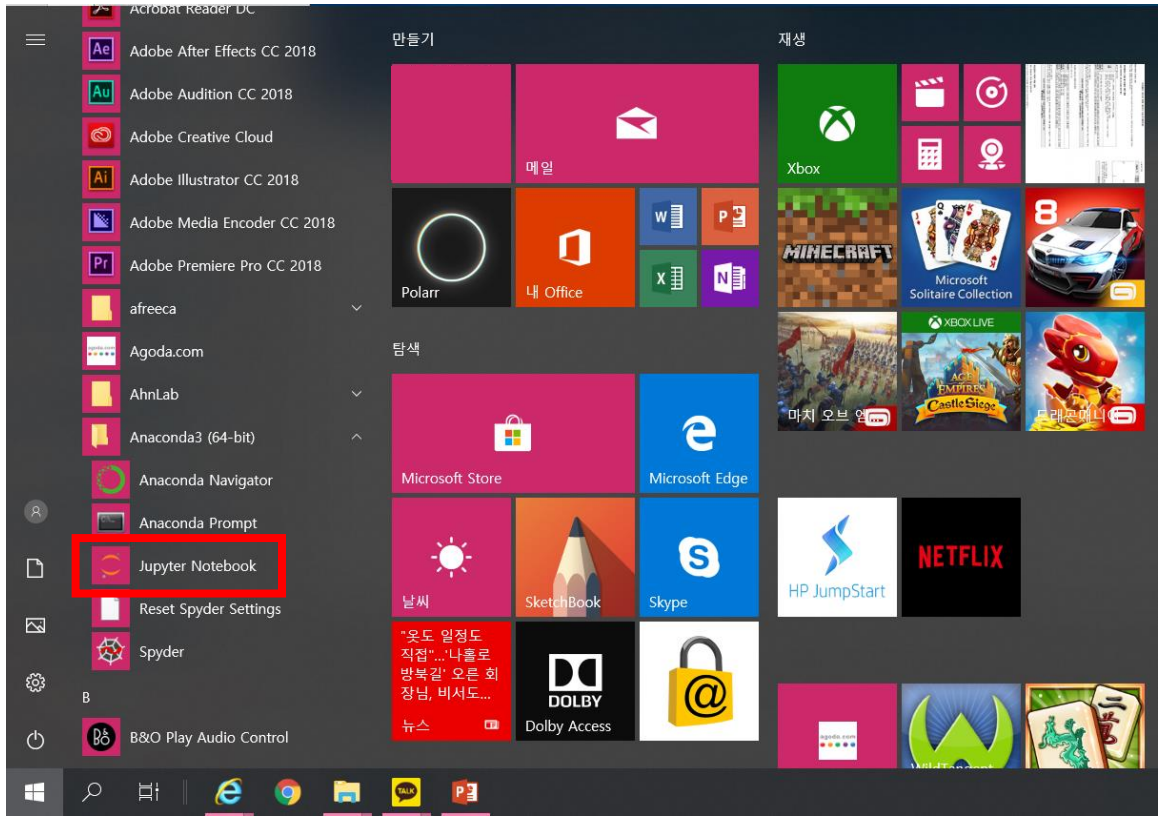
JUPYTER NOTEBOOK 실행

1-1. Windows > Anaconda3 > Jupyter Notebook



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JUPYTER NOTEBOOK 실행

1-2. Anaconda Prompt > ‘jupyter notebook’ 입력

Anaconda Prompt - jupyter notebook

```
(base) C:₩Users₩po031>jupyter notebook
[I 21:02:58.496 NotebookApp] JupyterLab beta preview extension loaded from C:₩ProgramData₩Anaconda3₩lib₩site-packages₩jupyterlab
[I 21:02:58.496 NotebookApp] JupyterLab application directory is C:₩ProgramData₩Anaconda3₩share₩jupyter₩lab
[W 21:02:58.539 NotebookApp] Error loading server extension jupyterlab
    Traceback (most recent call last):
      File "C:₩ProgramData₩Anaconda3₩lib₩site-packages₩jupyterlab₩commands.py", line 321, in __init__
        self._run(['node', 'node-version-check.js'], cwd=HERE, quiet=True)
      File "C:₩ProgramData₩Anaconda3₩lib₩site-packages₩jupyterlab₩commands.py", line 1165, in _run
        proc = Process(cmd, **kwargs)
      File "C:₩ProgramData₩Anaconda3₩lib₩site-packages₩jupyterlab₩process.py", line 73, in __init__
        self.proc = self._create_process(cwd=cwd, env=env)
      File "C:₩ProgramData₩Anaconda3₩lib₩site-packages₩jupyterlab₩process.py", line 131, in _create_process
        cmd[0] = which(cmd[0], kwargs.get('env'))
      File "C:₩ProgramData₩Anaconda3₩lib₩site-packages₩jupyterlab₩jlpmapp.py", line 59, in which
        raise ValueError(msg)
    ValueError: Please install nodejs 5+ and npm before continuing installation. nodejs may be installed using conda or directly from the nodejs website.

    During handling of the above exception, another exception occurred:

    Traceback (most recent call last):
      File "C:₩ProgramData₩Anaconda3₩lib₩site-packages₩notebook₩notebookapp.py", line 1454, in init_server_extensions
        func(self)
      File "C:₩ProgramData₩Anaconda3₩lib₩site-packages₩jupyterlab₩extension.py", line 111, in load_jupyter_server_extension
        info = get_app_info(app_dir)
      File "C:₩ProgramData₩Anaconda3₩lib₩site-packages₩jupyterlab₩commands.py", line 244, in get_app_info
        handler = _AppHandler(app_dir, logger)
      File "C:₩ProgramData₩Anaconda3₩lib₩site-packages₩jupyterlab₩commands.py", line 324, in __init__
        raise ValueError(msg)
    ValueError: Please install nodejs 5+ and npm before continuing installation. nodejs may be installed using conda or directly from the nodejs website.
[I 21:02:59.324 NotebookApp] Serving notebooks from local directory: C:₩Users₩po031
[I 21:02:59.325 NotebookApp] 0 active kernels
[I 21:02:59.326 NotebookApp] The Jupyter Notebook is running at:
[I 21:02:59.329 NotebookApp] http://localhost:8888/?token=8cebe525b622230149bba5eea9c43c48a2b7779154a0ddbc
[I 21:02:59.330 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
[C 21:02:59.333 NotebookApp]

    Copy/paste this URL into your browser when you connect for the first time,
    to login with a token:
        http://localhost:8888/?token=8cebe525b622230149bba5eea9c43c48a2b7779154a0ddbc
[I 21:03:00.018 NotebookApp] Accepting one-time-token-authenticated connection from ::1
```


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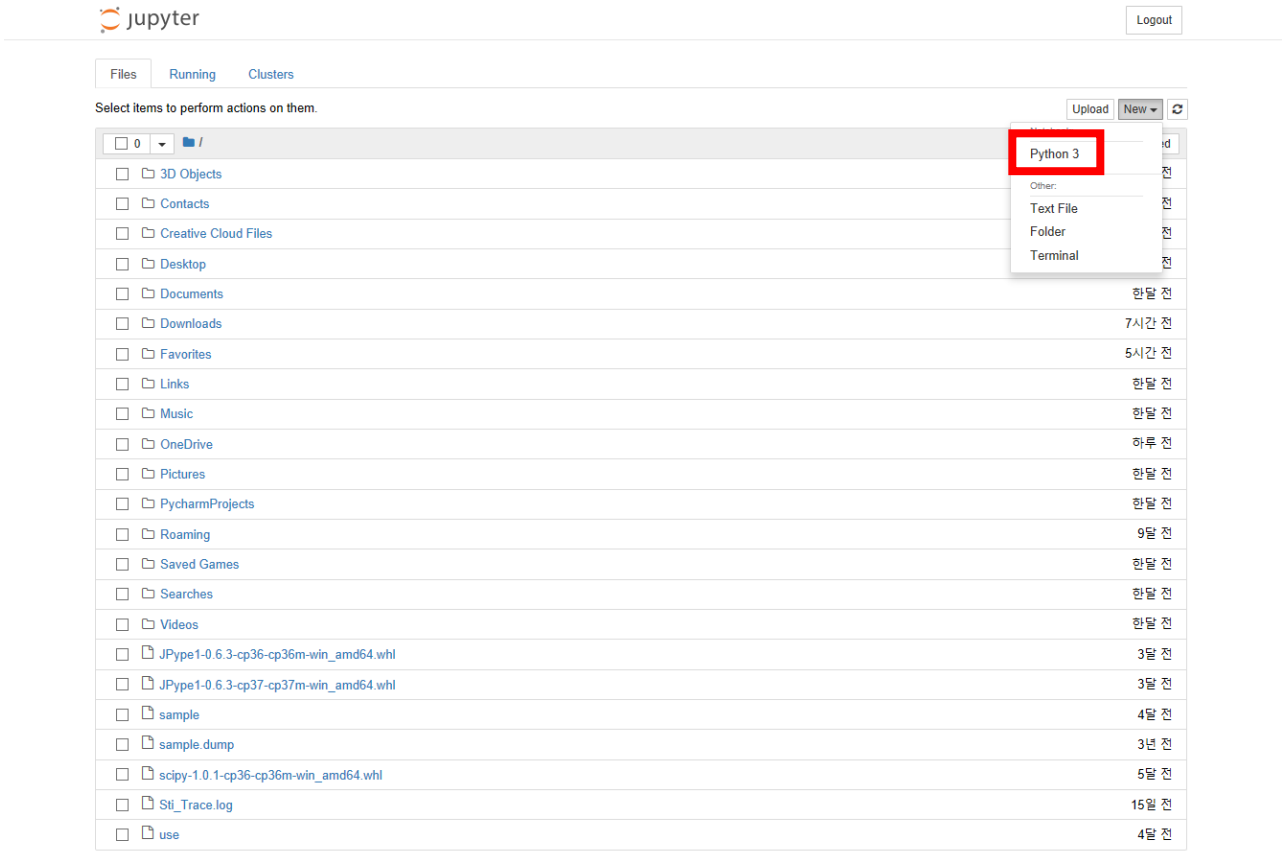
JUPYTER NOTEBOOK 실행

2. 오른쪽 상단의 New > Python 3



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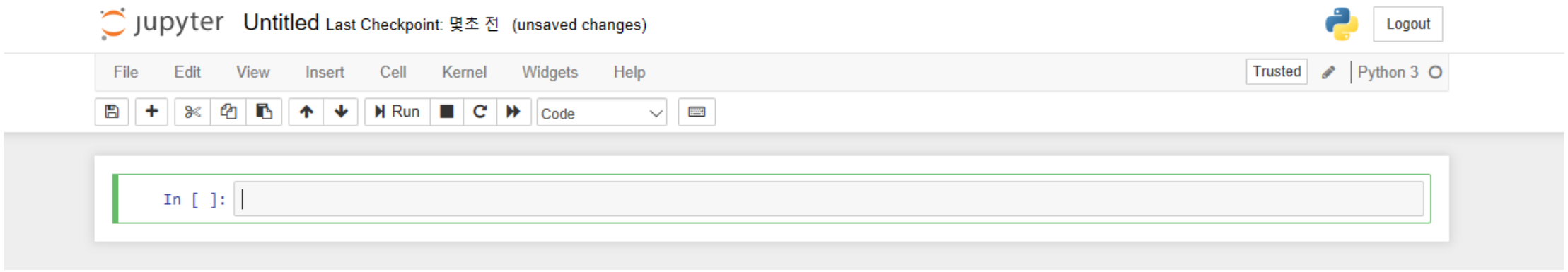
JUPYTER NOTEBOOK 실행

3. Jupyter Notebook 실행 완료



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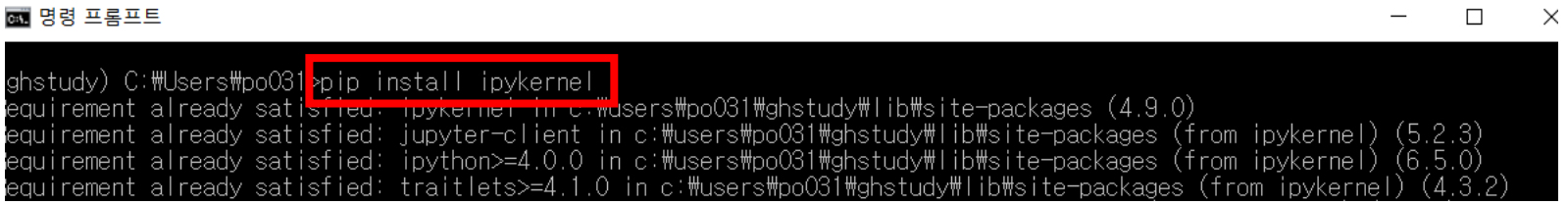
가상환경에서 JUPYTER NOTEBOOK 실행

1. 가상환경 활성화 (call ghstudy₩scripts₩activate)

2. ipykernel 설치 (pip install ipykernel)



3. JUPYTER NOTEBOOK에 가상환경 설치 (python –m ipykernel install --user --name=ghstudy)

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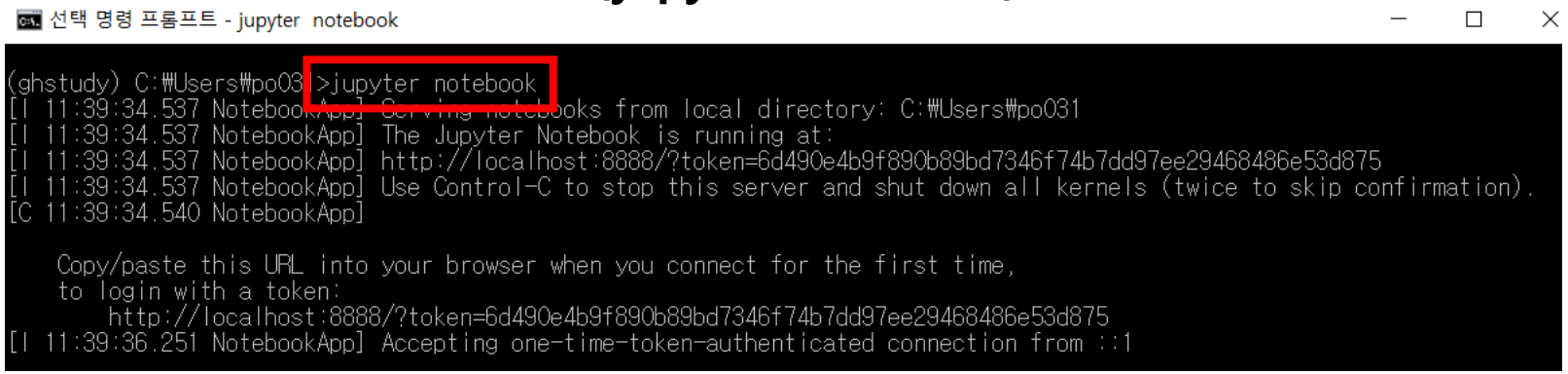
가상환경에서 JUPYTER NOTEBOOK 실행

4. JUPYTER NOTEBOOK 실행 (jupyter notebook)



5. 완료 (New > ghstudy)

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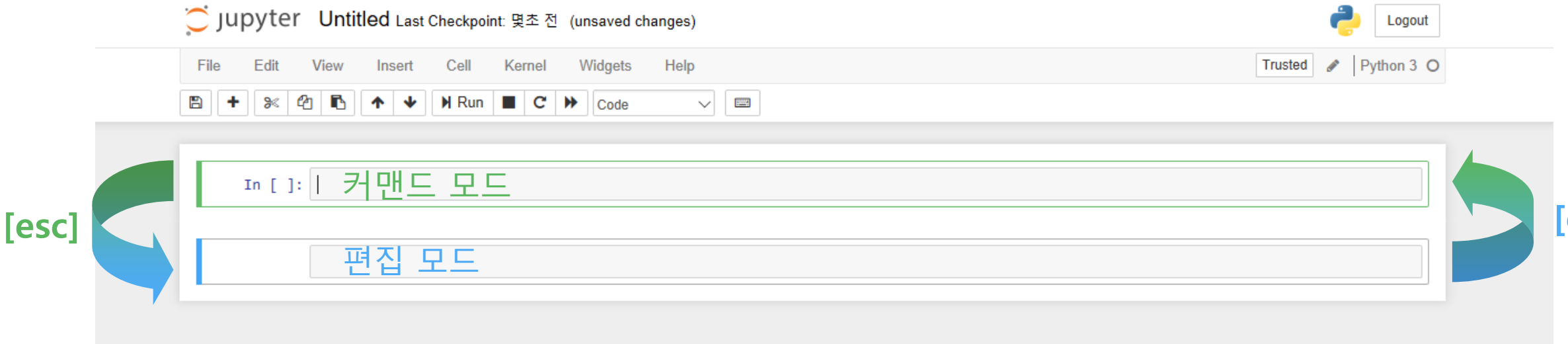
JUPYTER NOTEBOOK 사용법



Save: 저장 [S]

Add: 새로운 셀 추가 [A], [B]

Cut: 잘라내기 [X]

Copy: 복사 [C]

Paste: 붙여넣기 [V]

위의 셀로 이동 [Up], [K]

아래의 셀로 이동 [Down], [J]

Run: 입력한 코드 실행 [Shift] + [Enter]

Code [Y], Markdown [M] 등 모드 변경

Command Palette: 다양한 명령을 검색할 수 있는 검색창 패널 [P]

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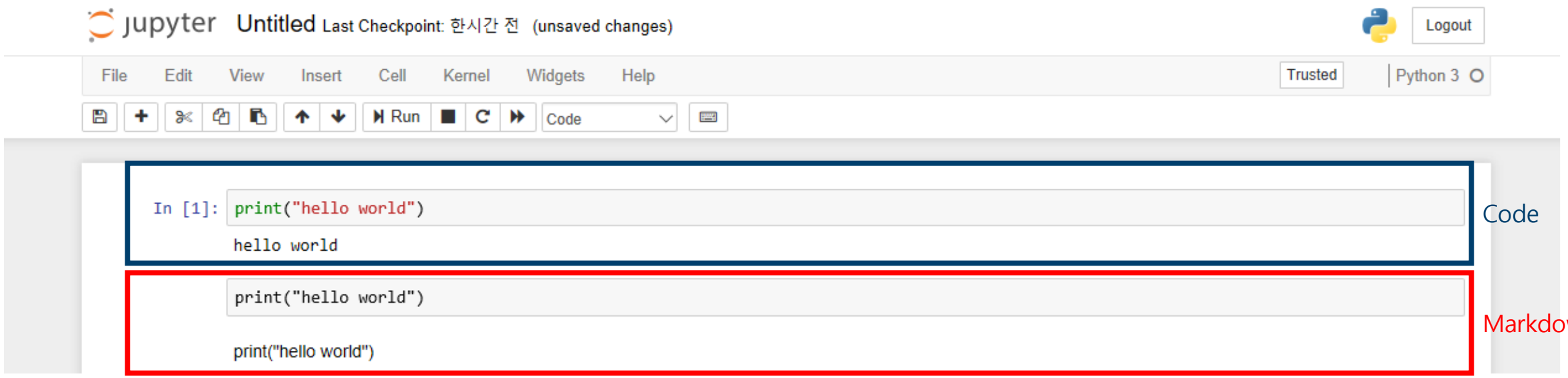
JUPYTER NOTEBOOK 사용법

- **Code & Markdown**



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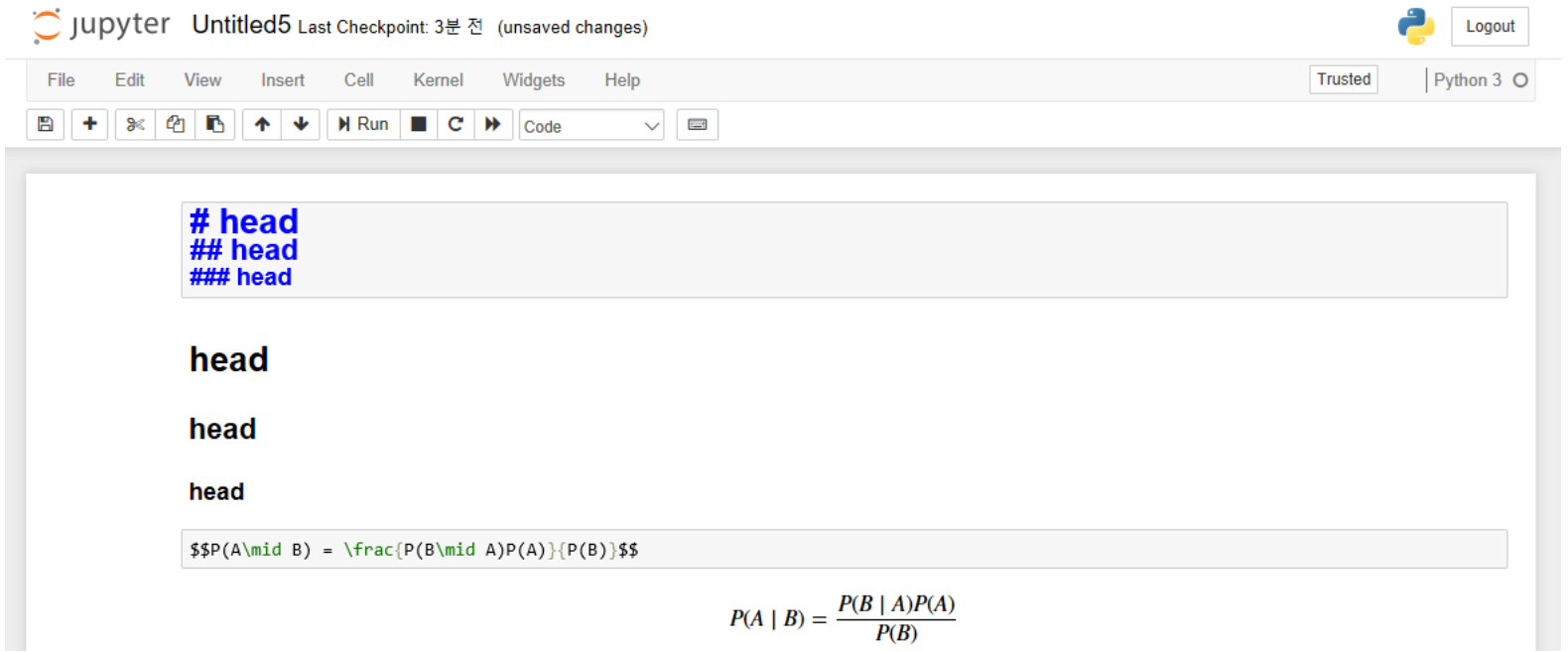
JUPYTER NOTEBOOK 사용법

- **Code & Markdown**



Markdown에 대해 더 알고 싶다면: http://kevinthegrey.tistory.com/74?category=793117
https://medium.com/ibm-data-science-experience/markdown-for-jupyter-notebooks-cheatsheet-386c05aeebed

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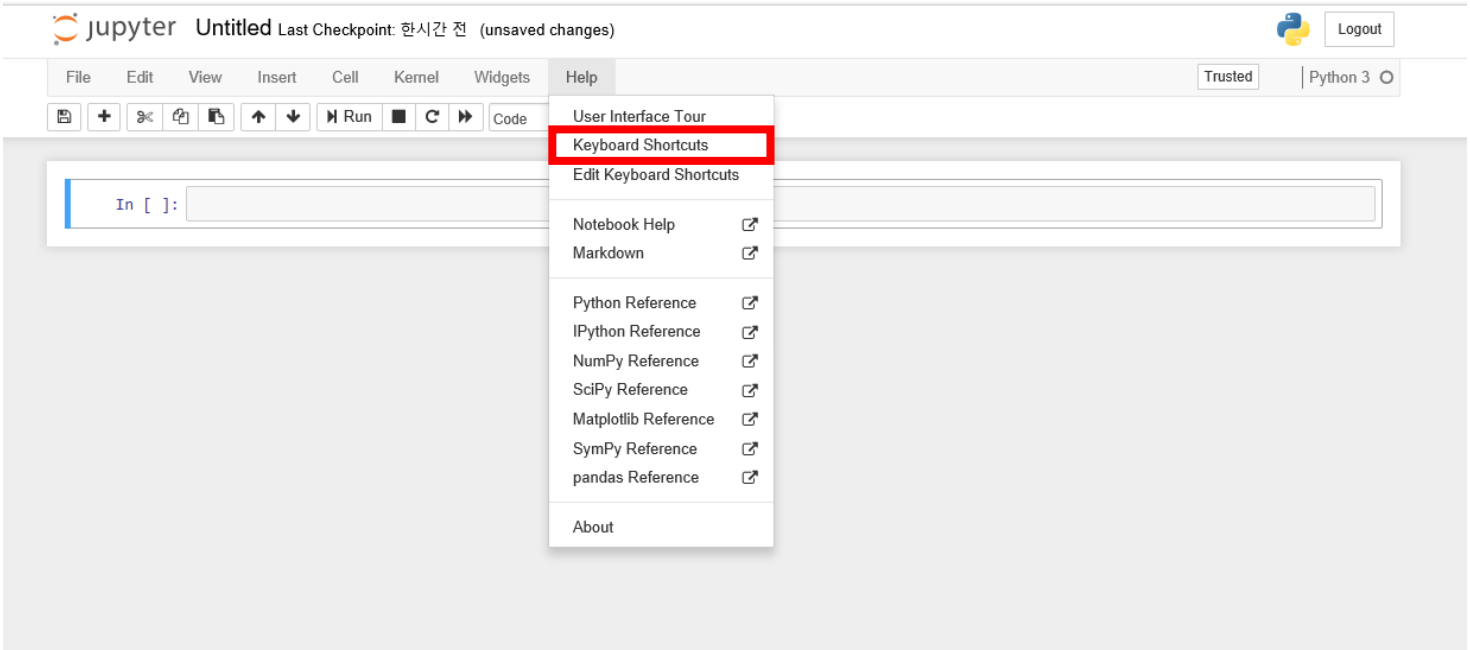
JUPYTER NOTEBOOK 사용법

- **단축키 (Help > Keyboard Shortcuts)**



단축키에 대해 더 알고 싶다면: https://www.dataquest.io/blog/jupyter-notebook-tips-tricks-shortcuts/

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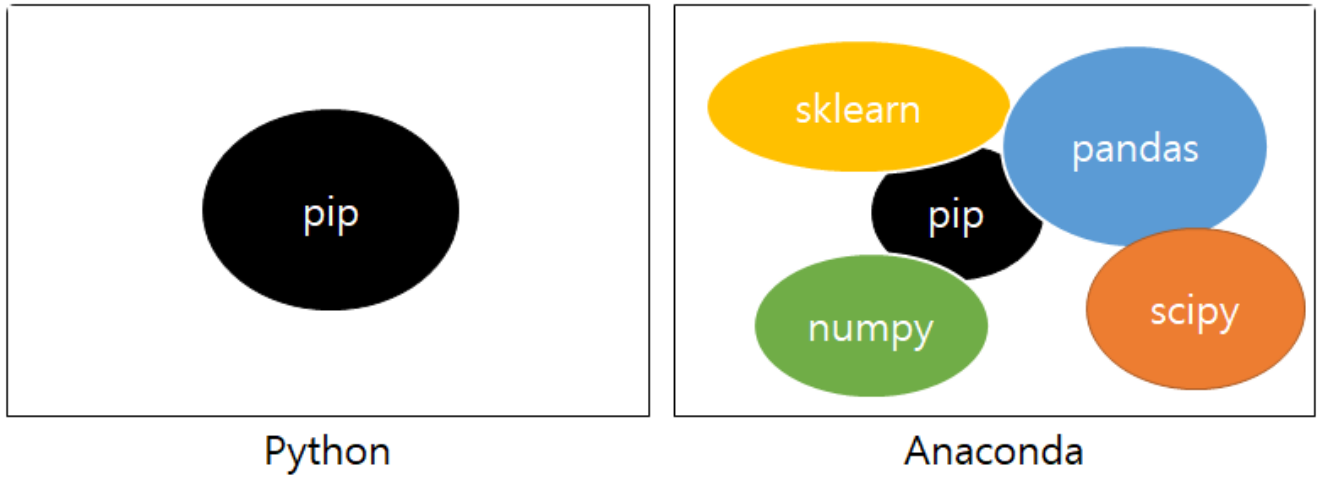
Wrap-up

- **아나콘다를 사용하는 이유**
  - Python 기반의 데이터 분석에 필요한 오픈 소스를 모아 놓은 개발 플랫폼
  - 가상환경 및 패키지 관리자 제공



출처: http://snowdeer.github.io/python/2017/11/07/python-vs-anaconda/

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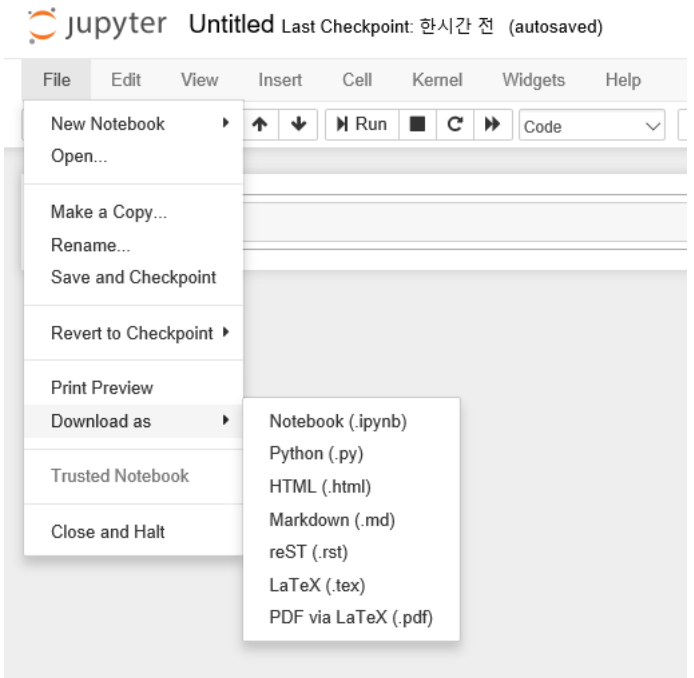
Wrap-up

- **주피터 노트북을 사용하는 이유**
  - IDE(Integrated Development Environment): 효율적으로 소프트웨어를 개발하기 위한 통합개발환경 어플리케이션 인터페이스
  - 셀 단위의 순차적인 실행 가능
  - Html이나 pdf로 변환해서 공유하기 쉬움 (File > Download as >)
  - Github과 연동 가능



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감사합니다

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