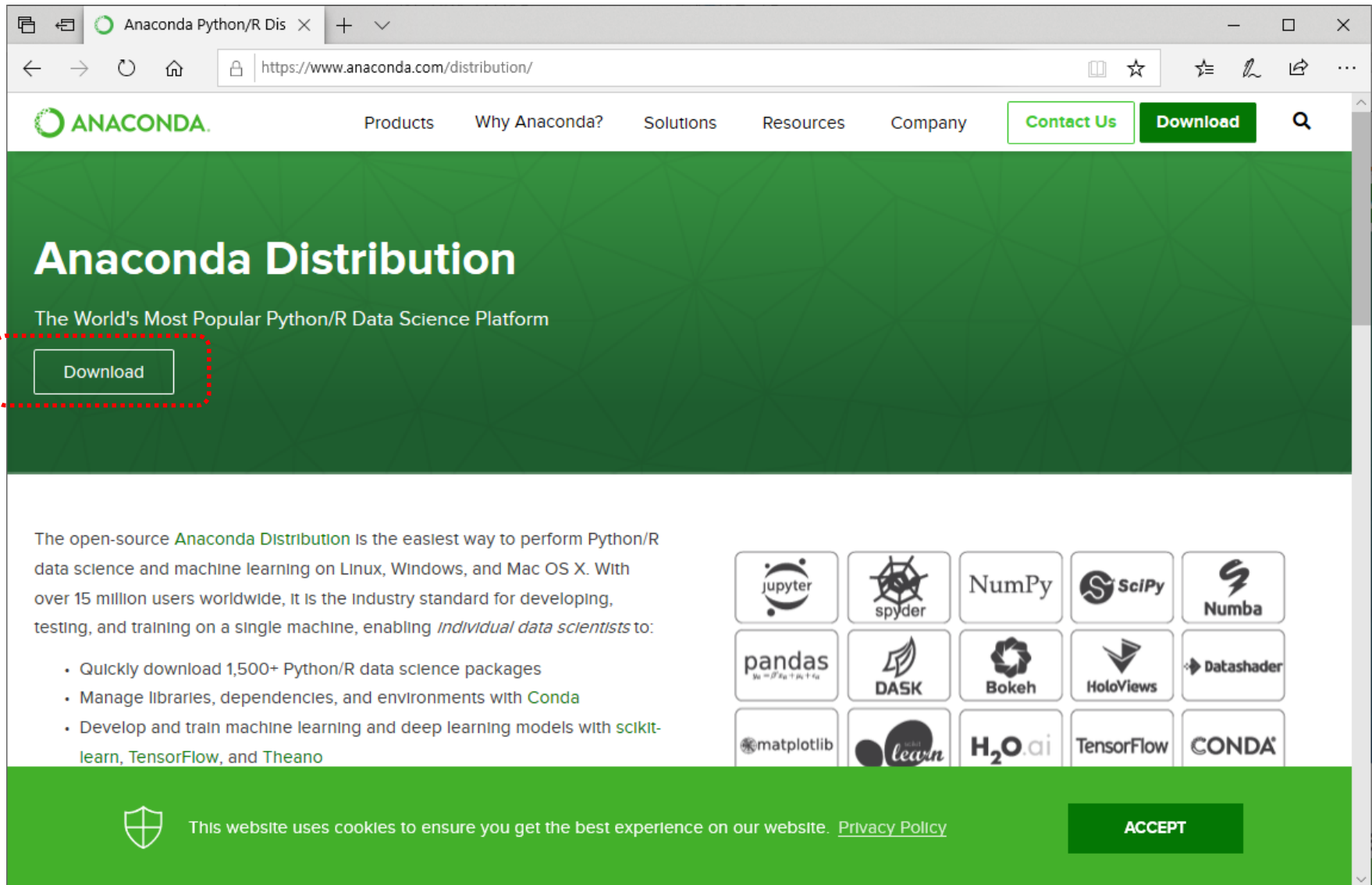

Python

파이썬 설치

김선녕 (sykim.lecture@gmail.com)

- Python이란?
 - 1991년 귀도 반 로섬(Guido Van Rossum, 1956년, 네덜란드, 히도 판 로섬)이 발표
 - 1989년 크리스마스 주에 연구실이 닫혀 있어서 심심한 김에...
 - 기술자들은 심심할 때 항상 걸작이 나온다??
 - 다양한 플랫폼에서 쓸 수 있고, 라이브러리(모듈)가 풍부하여, 대학을 비롯한 여러 교육 기관, 연구 기관 및 산업계에서 이용이 증가
 - Interpreter 언어(컴파일 과정이 필요 없다).
 - 들여쓰기를 사용해서 블록을 구분하는 독특한 문법을 채용
 - 사전적 의미는 '피톤'이라는 이름으로 알려진 고대 그리스신화에 나오는 거대한 뱀의 이름
- 버전
 - 2.x(2000년)와 3.x(2008년) 두 가지 버전이 공존.
 - 위 두 가지는 서로 호환되지 않음.
- 커뮤니티(Community)
 - 파이콘 코리아(Pycon Korea)
 - <https://www.facebook.com/groups/pythonkorea>
- <https://www.tiobe.com/tiobe-index/>

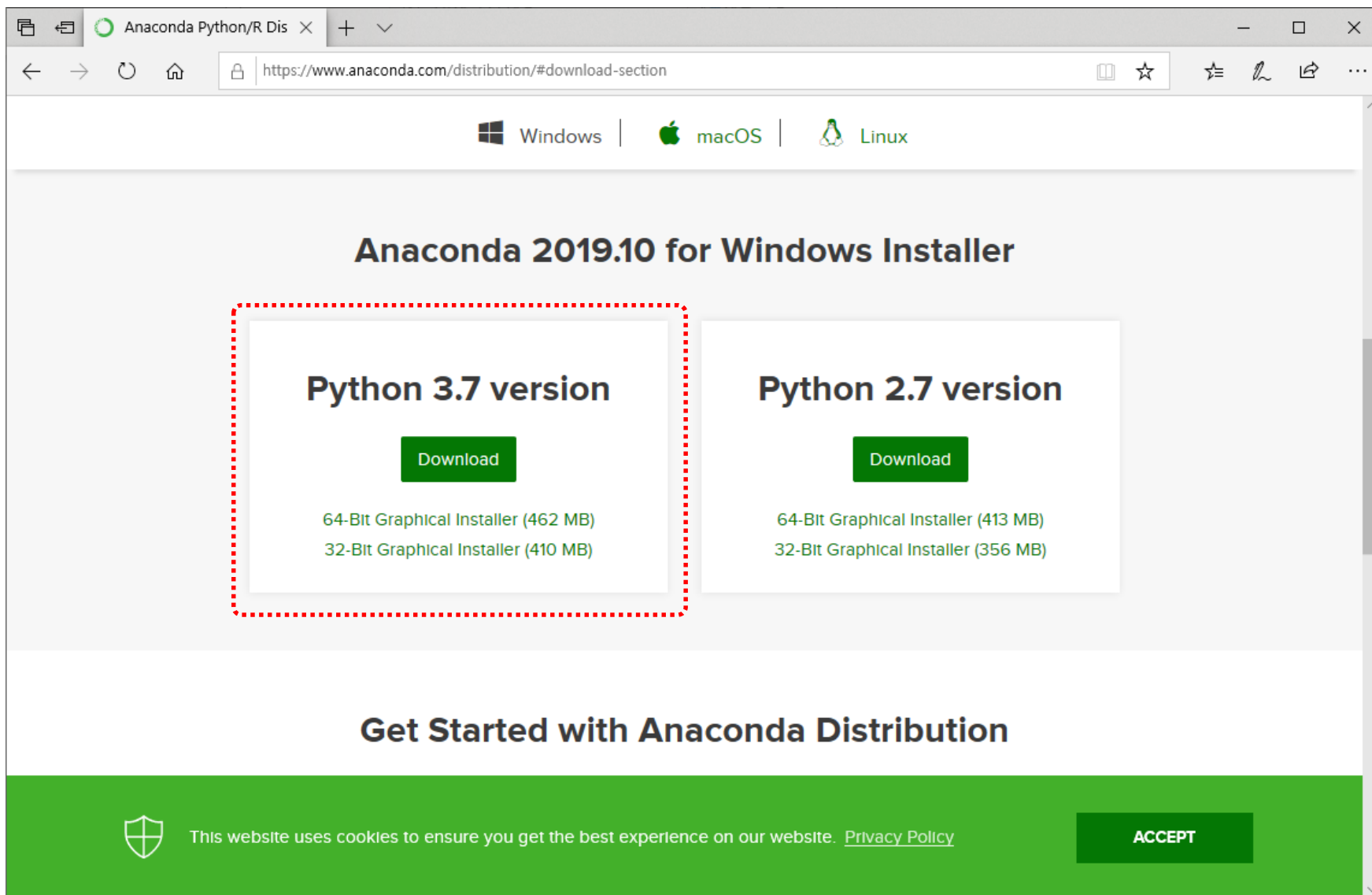




The screenshot shows the Anaconda Distribution website in a web browser. The browser's address bar displays `https://www.anaconda.com/distribution/`. The website's header includes the Anaconda logo and navigation links: Products, Why Anaconda?, Solutions, Resources, Company, Contact Us, and Download. The main content area features a large green banner with the text "Anaconda Distribution" and "The World's Most Popular Python/R Data Science Platform". A "Download" button is highlighted with a red dashed border. Below the banner, a paragraph describes the open-source Anaconda Distribution as the easiest way to perform Python/R data science and machine learning on Linux, Windows, and Mac OS X. It mentions over 15 million users worldwide and its role as the industry standard for developing, testing, and training on a single machine, enabling individual data scientists to:

- Quickly download 1,500+ Python/R data science packages
- Manage libraries, dependencies, and environments with Conda
- Develop and train machine learning and deep learning models with scikit-learn, TensorFlow, and Theano

To the right of the text is a grid of logos for various data science and machine learning libraries and frameworks, including Jupyter, Spyder, NumPy, SciPy, Numba, pandas, DASK, Bokeh, HoloViews, Datashader, matplotlib, and others. At the bottom of the page, a green footer contains a cookie consent message: "This website uses cookies to ensure you get the best experience on our website. Privacy Policy" and an "ACCEPT" button.



Anaconda Python/R Dis x + v

← → ↻ 🏠 🔒 https://www.anaconda.com/distribution/#download-section 📖 ☆ ⚙️ 🖨️ 🔗 ⋮

Windows | macOS | Linux

Anaconda 2019.10 for Windows Installer

Python 3.7 version

[Download](#)


64-Bit Graphical Installer (462 MB)
32-Bit Graphical Installer (410 MB)

Python 2.7 version

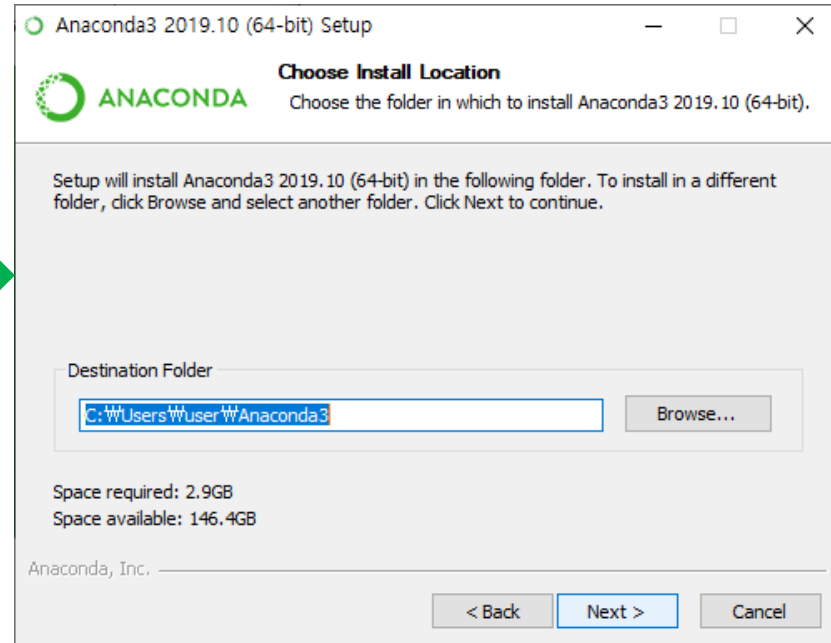
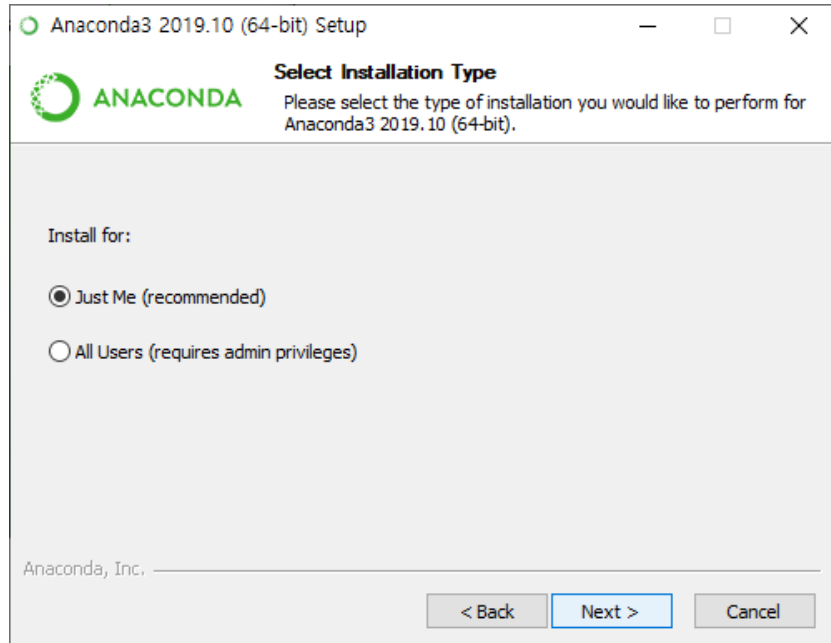
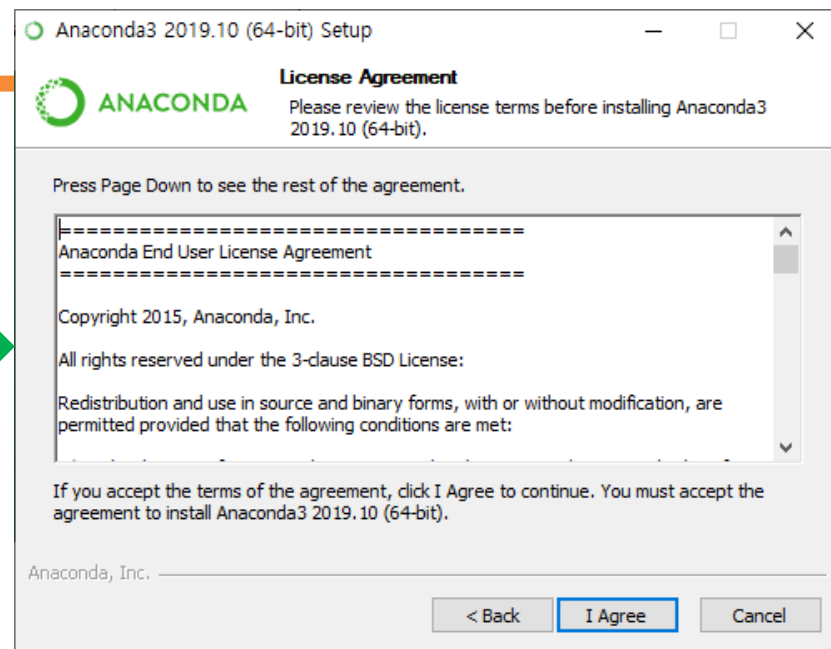
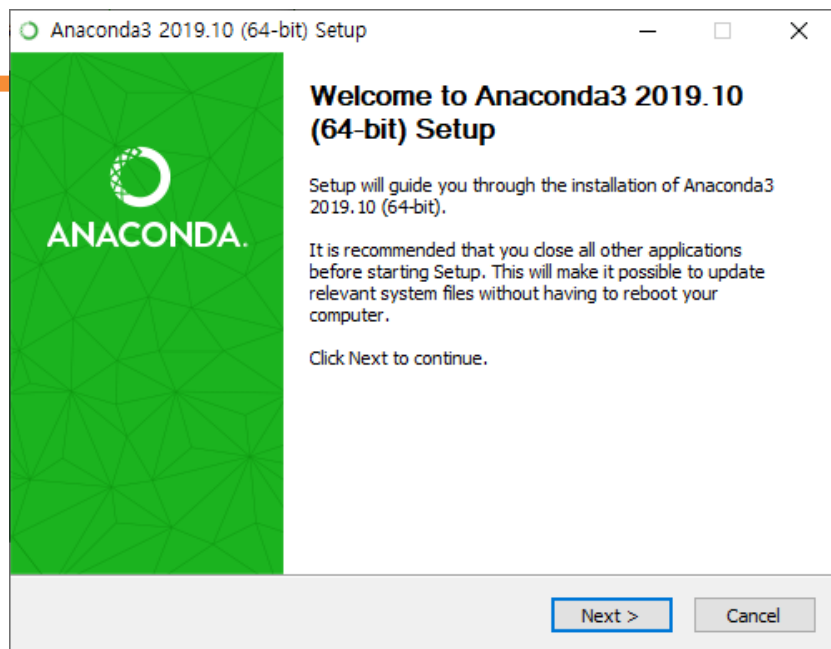
[Download](#)

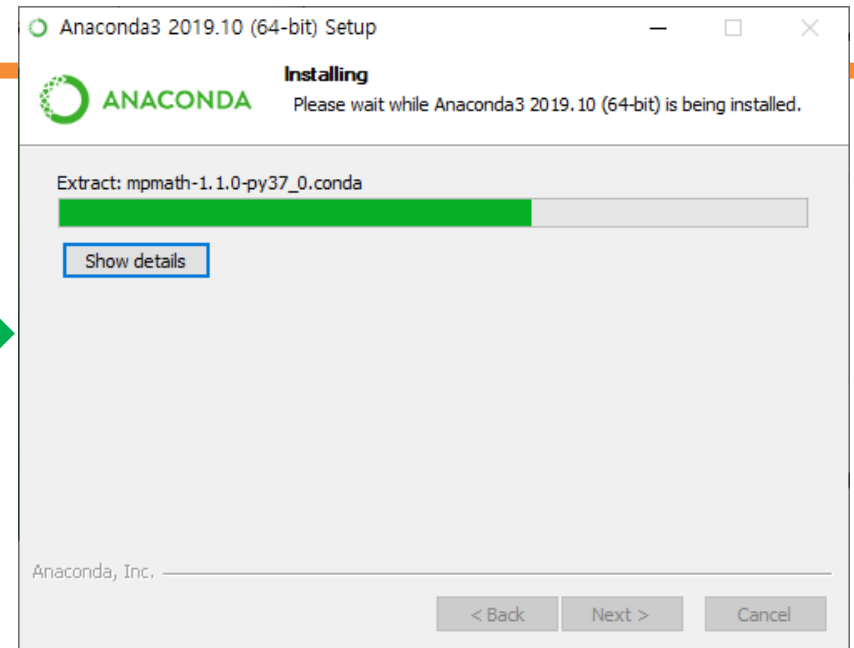
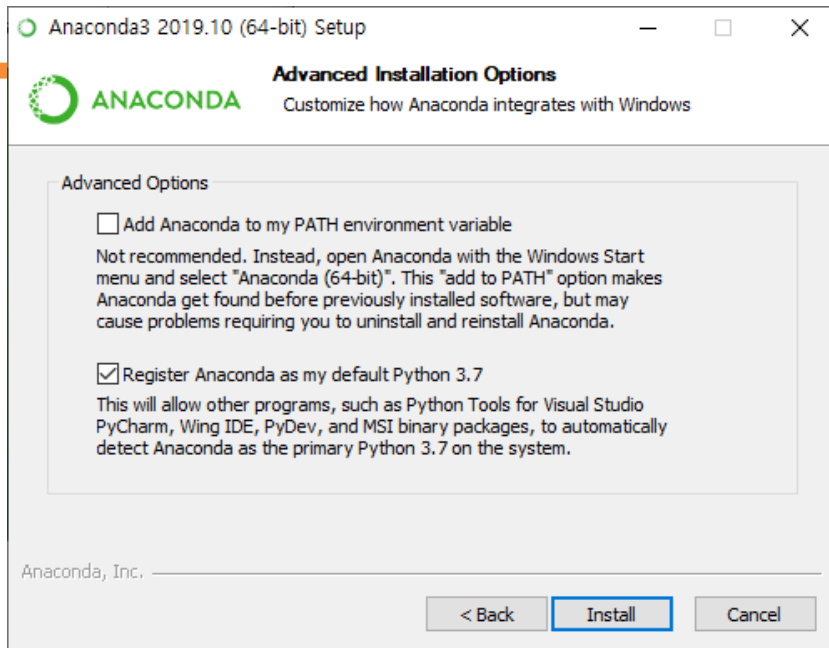
64-Bit Graphical Installer (413 MB)
32-Bit Graphical Installer (356 MB)

Get Started with Anaconda Distribution

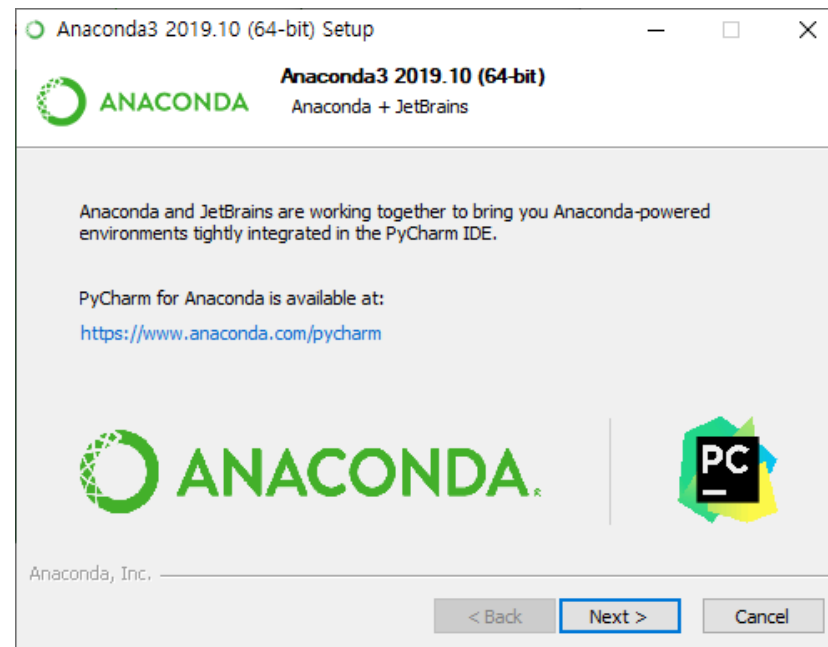
 This website uses cookies to ensure you get the best experience on our website. [Privacy Policy](#)

[ACCEPT](#)

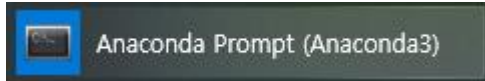




6



- 최신 패키지 업데이트 : Anaconda Prompt (Anaconda3) 선택



- (base) C:\Users\user>conda update -n base conda
 - (base) C:\Users\user>conda update -all
- 파이썬 버전 확인
 - (base) C:\Users\user>python --version
- 텐서플로우(TensorFlow 2)설치
 - (base) C:\Users\user>pip3 install tensorflow

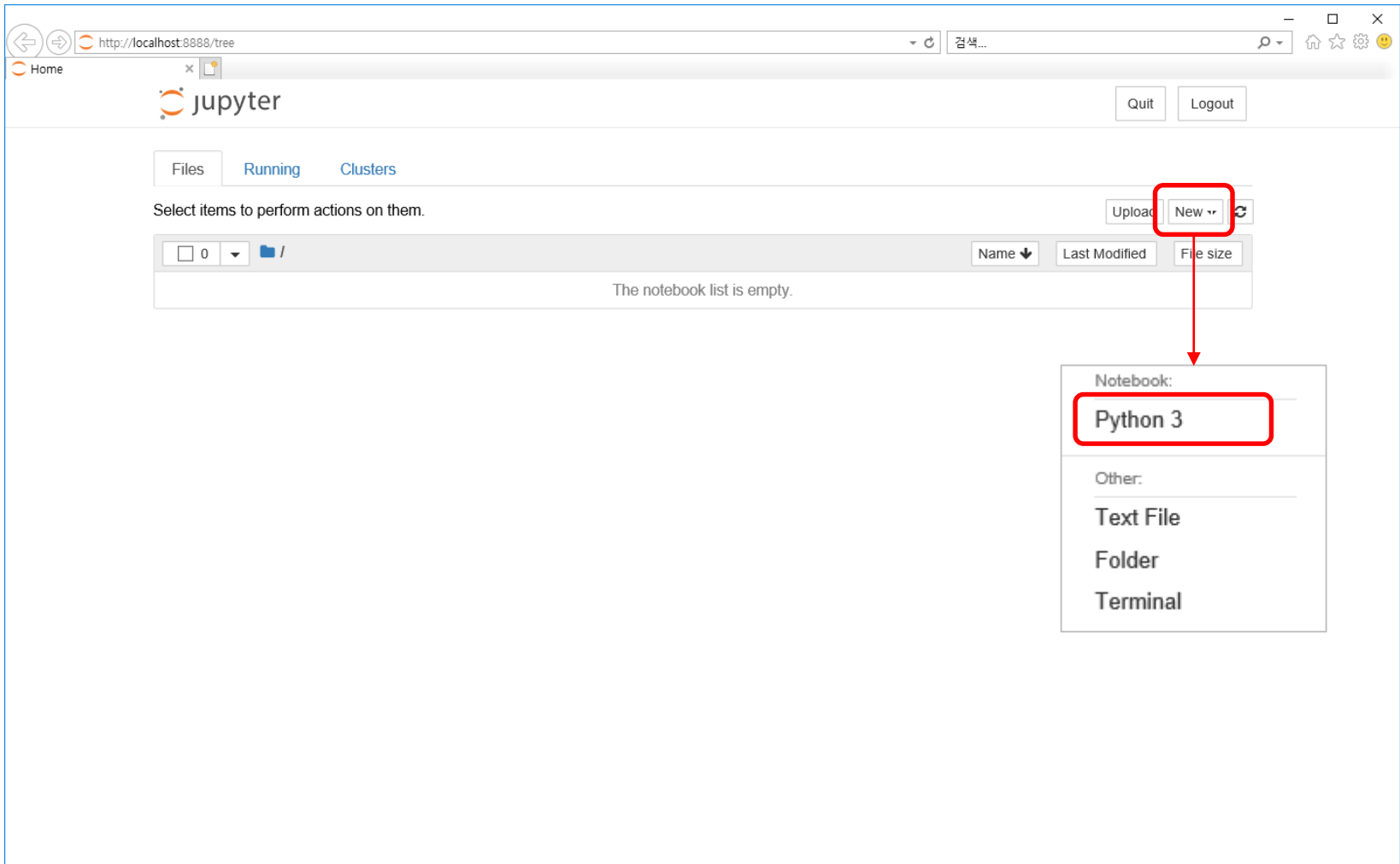
- 대화형 컴퓨팅을 위한 커맨드 셸
- 40여종 이상의 다양한 언어를 지원
- 브라우저 기반 노트북
 - 코드, 텍스트, 수식, 인라인 플롯, 기타 미디어등을 포함
- 병렬 컴퓨팅을 위한 툴 제공
- **Python** is a requirement (Python 3.3 or greater, or Python 2.7) for installing the Jupyter Notebook itself.
- <http://jupyter.org/>



- (base) C:\Users\Wuser>jupyter notebook --generate-config
 - C:\Users\Wuser\jupyter\jupyter_notebook_config.py 파일이 생성.
 - Text editor로 jupyter_notebook_config.py에서 원하는 경로(root경로)로 수정

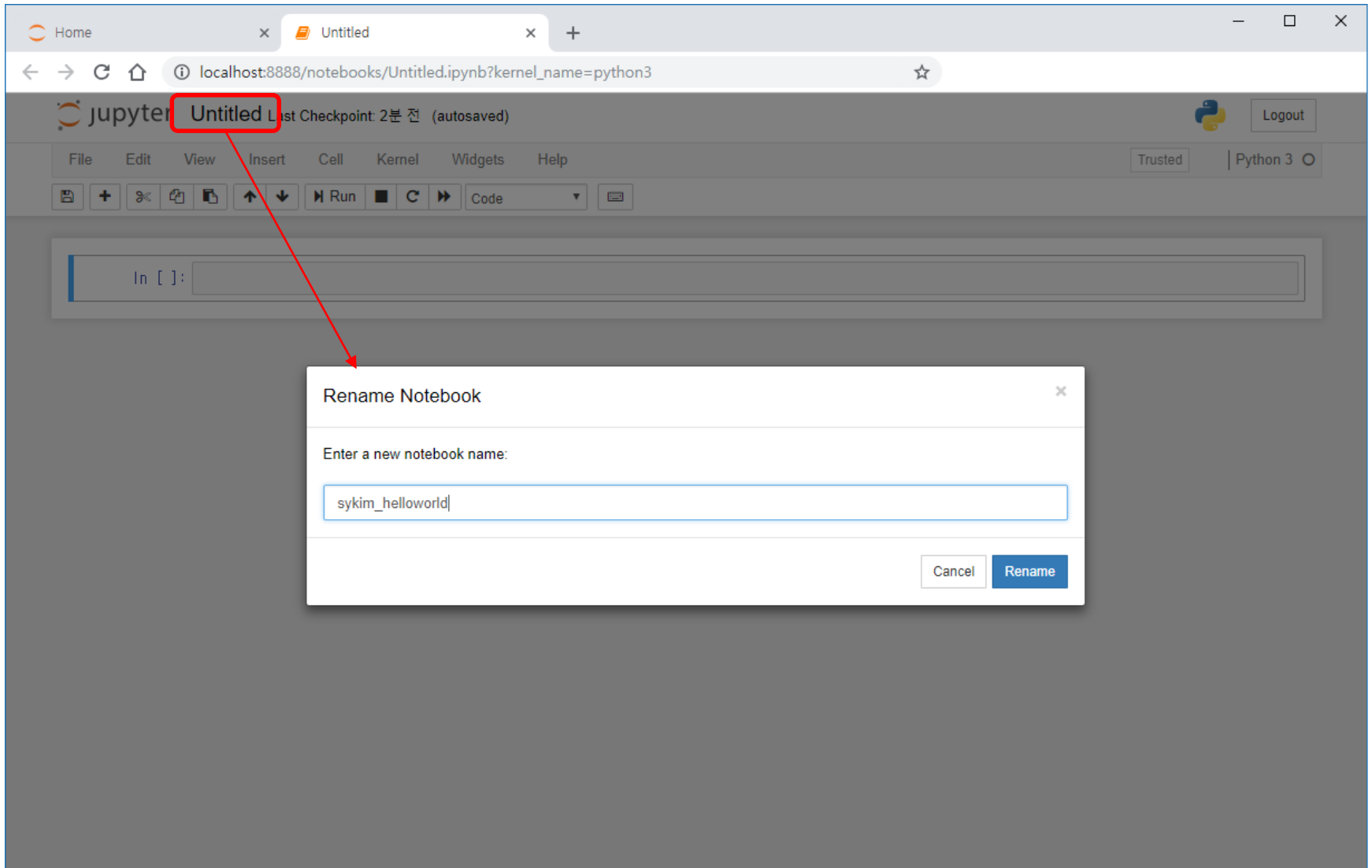
```
201  ## The MathJax.js configuration file that is to be used.
202  #c.NotebookApp.mathjax_config = 'TeX-AMS-MML_HTMLorMML-full, Safe'
203
204  ## A custom url for MathJax.js. Should be in the form of a case-sensitive url to
205  # MathJax, for example: /static/components/MathJax/MathJax.js
206  #c.NotebookApp.mathjax_url = ''
207
208  ## Dict of Python modules to load as notebook server extensions. Entry values can
209  # be used to enable and disable the loading of the extensions. The extensions
210  # will be loaded in alphabetical order.
211  #c.NotebookApp.nbserver_extensions = {}
212
213  ## The directory to use for notebooks and kernels.
214  #c.NotebookApp.notebook_dir = ''
215  c.NotebookApp.notebook_dir = 'D:/python_workspace'
216
217  ## Whether to open in a browser after starting. The specific browser used is
218  # platform dependent and determined by the python standard library `webbrowser`
219  # module, unless it is overridden using the --browser (NotebookApp.browser)
220  # configuration option.
221  #c.NotebookApp.open_browser = True
```

- (base) C:\Users\user>jupyter notebook
 - jupyter notebook --notebook-dir=D:/python_workspace/ →직접 root설정 경우



Python 소스명 변경

11



Hello world

12

The screenshot shows a web browser window with a single tab titled 'sykim_helloworld'. The address bar shows the URL 'localhost:8888/notebooks/sykim_helloworld.ipynb'. The Jupyter Notebook interface is displayed, with the title 'jupyter sykim_helloworld' and a status message 'Last Checkpoint: 6분 전 (unsaved changes)'. A 'Logout' button is visible in the top right. The menu bar includes 'File', 'Edit', 'View', 'Insert', 'Cell', 'Kernel', 'Widgets', and 'Help'. The toolbar contains icons for saving, adding, undo, redo, and running code, along with a 'Run' button and a dropdown menu set to 'Code'. The main area shows two code cells. The first cell contains the code 'In [1]: print("Hello world")' and its output 'Hello world'. The second cell is currently empty, showing 'In []: |'.

Home x sykim_helloworld x +

localhost:8888/notebooks/sykim_helloworld.ipynb

jupyter sykim_helloworld Last Checkpoint: 6분 전 (unsaved changes) Logout

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

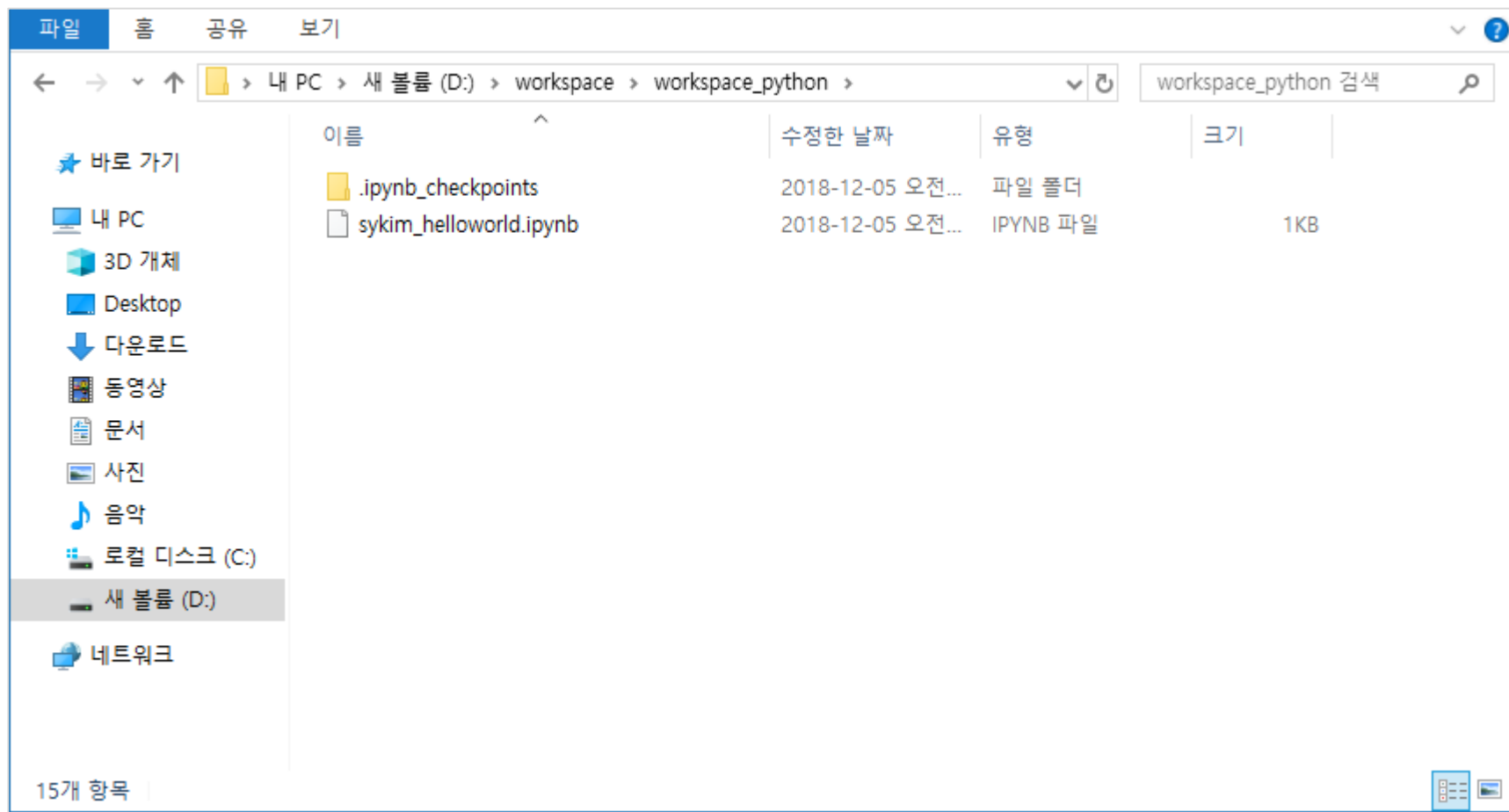
Run Code

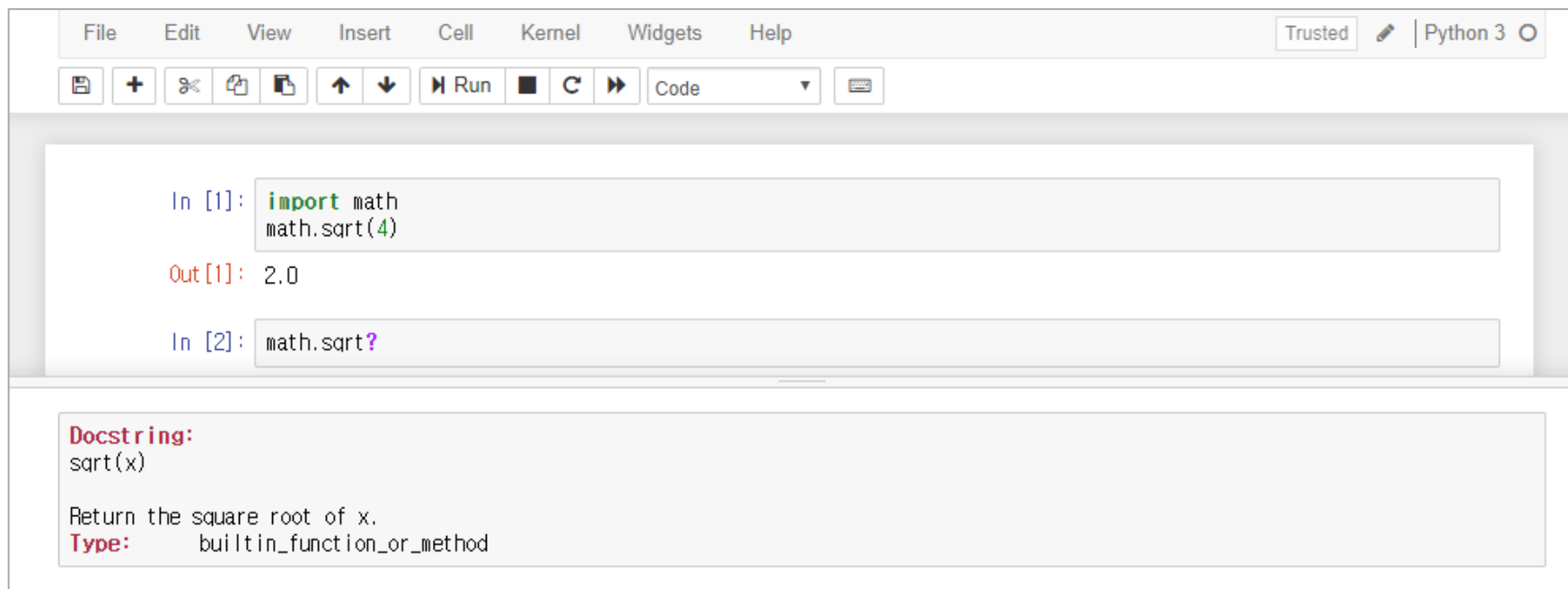
```
In [1]: print("Hello world")
Hello world
```

```
In [ ]: |
```

소스경로 확인

13





The image shows a Jupyter Notebook interface. The top menu bar includes File, Edit, View, Insert, Cell, Kernel, Widgets, and Help. On the right, it says 'Trusted' with a pencil icon and 'Python 3' with a circle icon. Below the menu is a toolbar with icons for saving, adding cells, undo, redo, running, and other functions. The main area contains two code cells. The first cell has the code `import math` and `math.sqrt(4)`, with the output `2.0`. The second cell has the code `math.sqrt?`, which displays the docstring for the `sqrt` function. The docstring shows the function signature `sqrt(x)`, a description 'Return the square root of x.', and the type 'builtin_function_or_method'.

```
In [1]: import math
        math.sqrt(4)

Out[1]: 2.0

In [2]: math.sqrt?
```

Docstring:
`sqrt(x)`
Return the square root of x.
Type: builtin_function_or_method

- [Help] 메뉴 → [Keyboard Shortcuts]

Keyboard shortcuts

The Jupyter Notebook has two different keyboard input modes. **Edit mode** allows you to type code or text into a cell and is indicated by a green cell border. **Command mode** binds the keyboard to notebook level commands and is indicated by a grey cell border with a blue left margin.

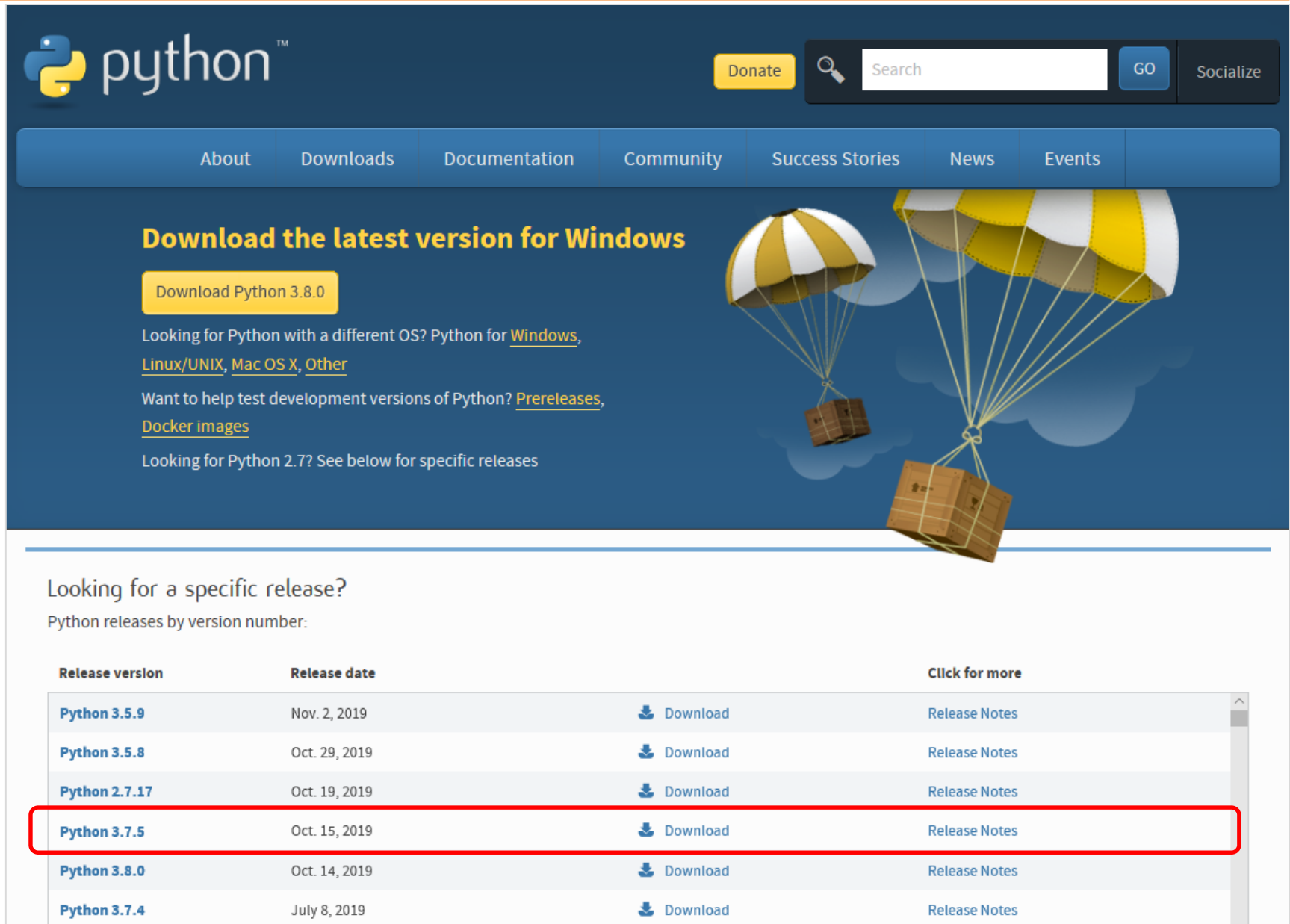
Command Mode (press `Esc` to enable)

Edit Shortcuts

<code>F</code> : find and replace	<code>Shift-Down</code> : extend selected cells below
<code>Ctrl-Shift-F</code> : open the command palette	<code>Shift-J</code> : extend selected cells below
<code>Ctrl-Shift-P</code> : open the command palette	<code>A</code> : insert cell above
<code>Enter</code> : enter edit mode	<code>B</code> : insert cell below
<code>P</code> : open the command palette	<code>X</code> : cut selected cells
<code>Shift-Enter</code> : run cell, select below	<code>C</code> : copy selected cells
<code>Ctrl-Enter</code> : run selected cells	<code>Shift-V</code> : paste cells above
<code>Alt-Enter</code> : run cell and insert below	<code>V</code> : paste cells below
<code>Y</code> : change cell to code	<code>Z</code> : undo cell deletion
<code>M</code> : change cell to markdown	<code>D</code> , <code>D</code> : delete selected cells
<code>R</code> : change cell to raw	<code>Shift-M</code> : merge selected cells, or current cell with cell below if only one cell is selected
<code>1</code> : change cell to heading 1	<code>Ctrl-S</code> : Save and Checkpoint
<code>2</code> : change cell to heading 2	
<code>3</code> : change cell to heading 3	

Close

참조 : 파이썬 설치



The image shows the Python.org website's 'Downloads' page. At the top is the Python logo and a navigation bar with links: About, Downloads, Documentation, Community, Success Stories, News, and Events. A search bar and 'Socialize' link are on the right. The main heading is 'Download the latest version for Windows', followed by a 'Download Python 3.8.0' button. Below this are links for other OSes and prereleases. A large illustration of two parachutes carrying boxes is on the right. The bottom section, 'Looking for a specific release?', contains a table of Python releases. The row for 'Python 3.7.5' is highlighted with a red rectangle.

Download the latest version for Windows

[Download Python 3.8.0](#)

Looking for Python with a different OS? Python for [Windows](#), [Linux/UNIX](#), [Mac OS X](#), [Other](#)

Want to help test development versions of Python? [Prereleases](#), [Docker images](#)

Looking for Python 2.7? See below for specific releases

Looking for a specific release?

Python releases by version number:

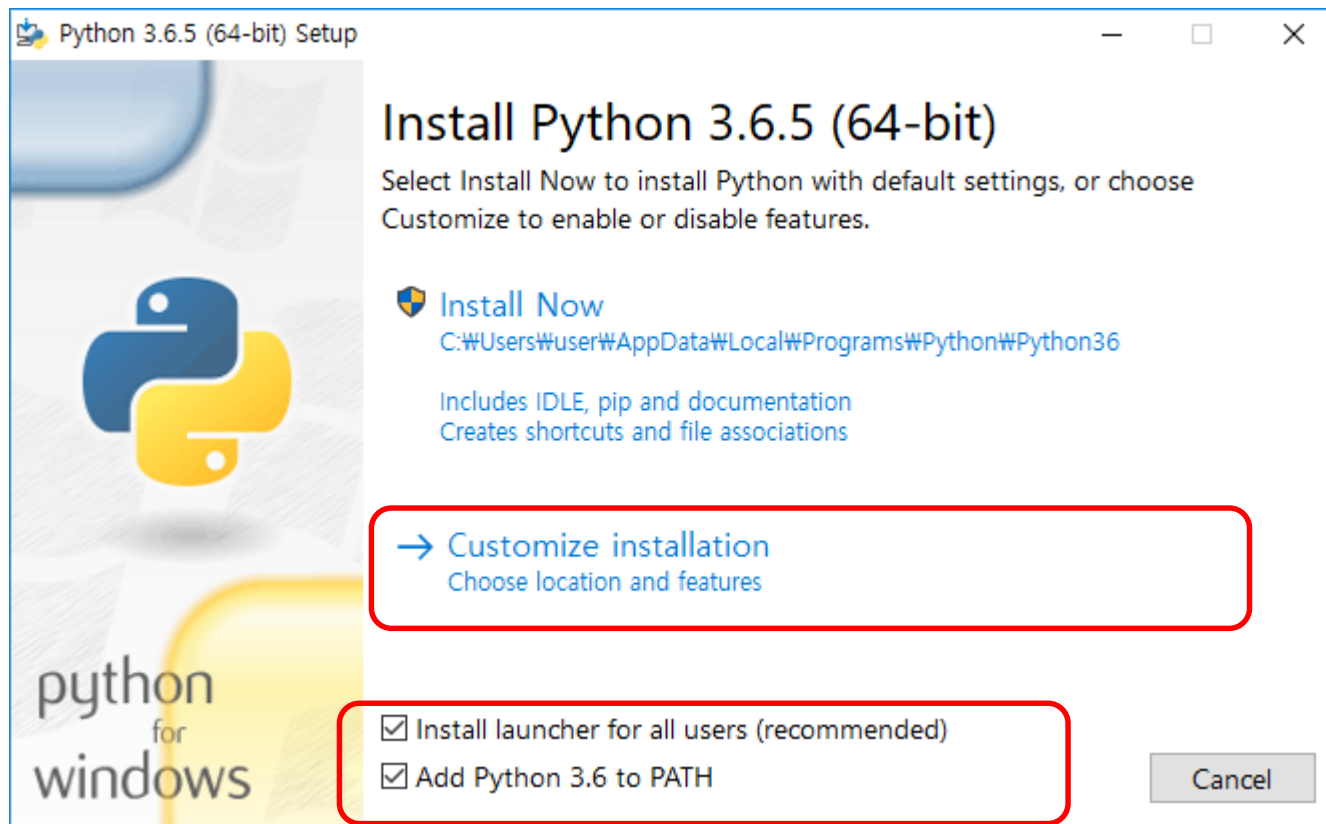
Release version	Release date		Click for more
Python 3.5.9	Nov. 2, 2019	Download	Release Notes
Python 3.5.8	Oct. 29, 2019	Download	Release Notes
Python 2.7.17	Oct. 19, 2019	Download	Release Notes
Python 3.7.5	Oct. 15, 2019	Download	Release Notes
Python 3.8.0	Oct. 14, 2019	Download	Release Notes
Python 3.7.4	July 8, 2019	Download	Release Notes

- 브라우저 스크롤링하여 하단참조

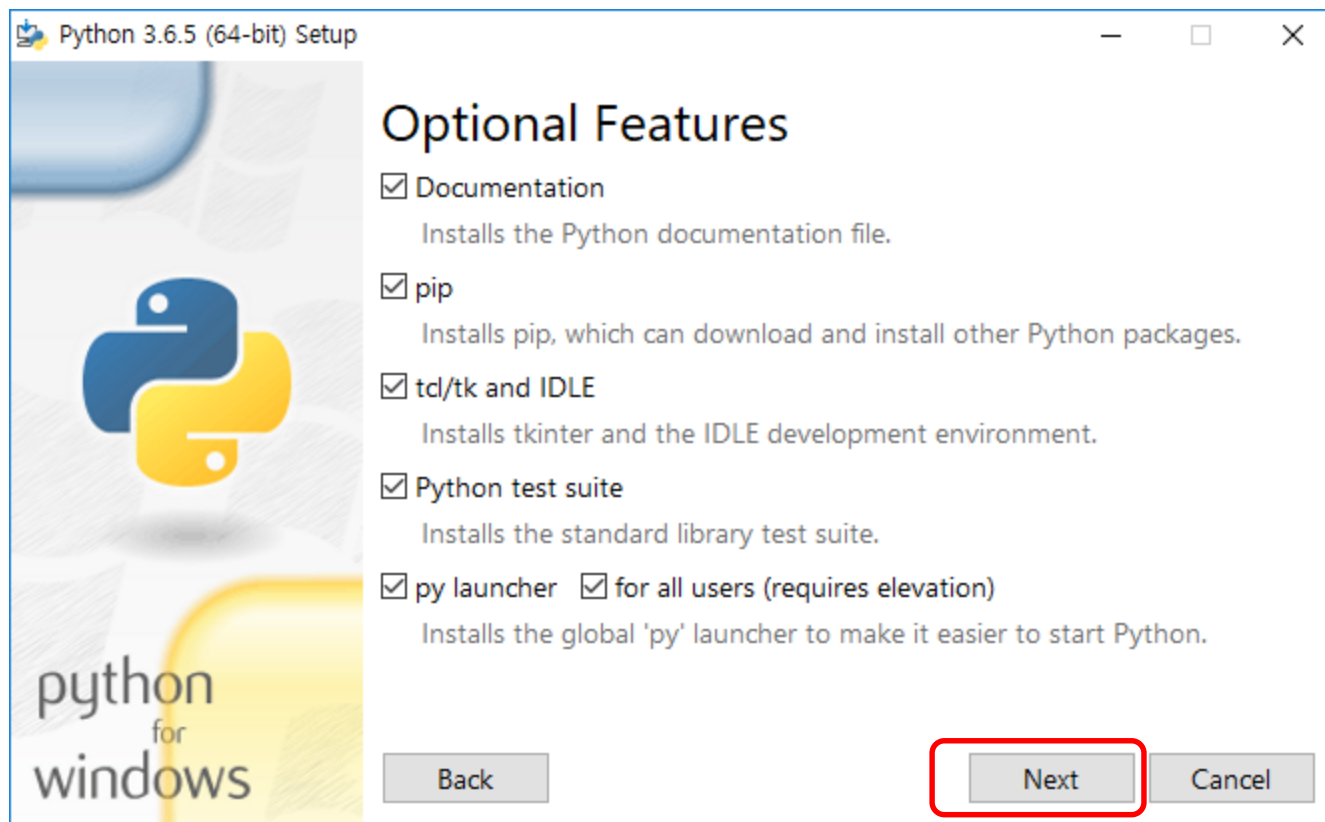
Files

Version	Operating System	Description	MD5 Sum	File Size	GPG
Gzipped source tarball	Source release		1cd071f78ff6d9c7524c95303a3057aa	23126230	SIG
XZ compressed source tarball	Source release		08ed8030b1183107c48f2092e79a87e2	17236432	SIG
macOS 64-bit/32-bit installer	Mac OS X	{Deprecated} for Mac OS X 10.6 and later	cd503606638c8e6948a591a9229446e4	35020778	SIG
macOS 64-bit installer	Mac OS X	for macOS 10.9 and later	20d9540e88c6aaba1d2bc1ad5d069359	28198752	SIG
Windows help file	Windows		608cafa250f8baa11a69bbfcb842c0e0	8141193	SIG
Windows x86-64 embeddable zip file	Windows	for AMD64/EM64T/x64	436b0f803d2a0b393590030b1cd59853	7500597	SIG
Windows x86-64 executable installer	Windows	for AMD64/EM64T/x64	697f7a884e80ccaa9dff3a77e979b0f8	26777448	SIG
Windows x86-64 web-based installer	Windows	for AMD64/EM64T/x64	b8b6e5ce8c27c20bfd28f1366ddf8a2f	1363032	SIG
Windows x86 embeddable zip file	Windows		726877d1a1f5a7dc68f6a4fa48964cd1	6745126	SIG
Windows x86 executable installer	Windows		cfe9a828af6111d5951b74093d70ee89	25766192	SIG
Windows x86 web-based installer	Windows		ea946f4b76ce63d366d6ed0e32c11370	1324872	SIG

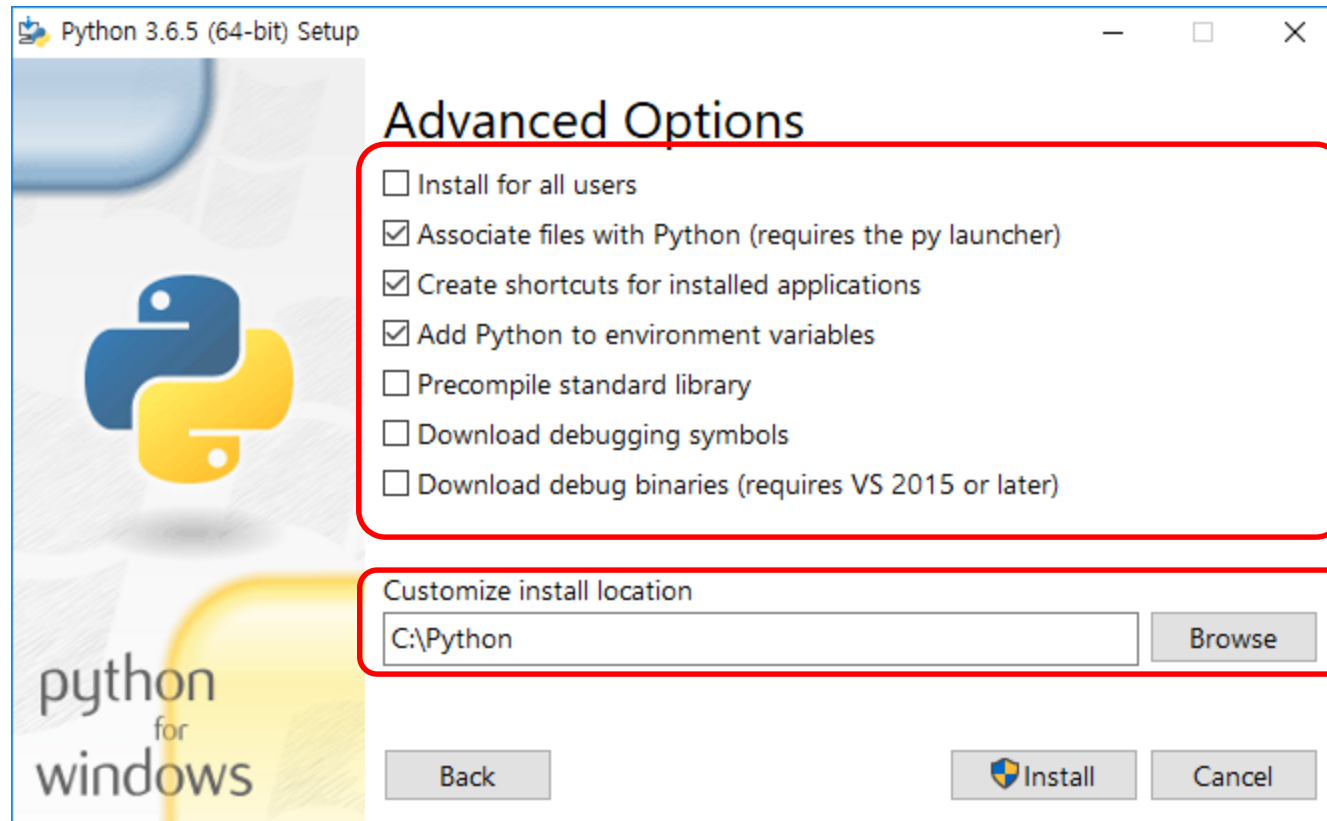
- 반드시 체크 – 이미지 변경(3.7.5형태로)
 - Install launcher for all users(recommended)
 - Add Python 3.6 to PATH



- 파이썬 설치(Python Install)



- 파이썬 설치(Python Install)



Setup Progress

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