

04

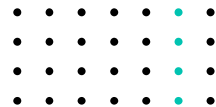
인공지능 개념

2. 개발환경설치



개발환경설치

파이썬 설치



설치파일 다운로드

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



python

About Downloads Documentation Comm

Download the

Download Python 3.9.1

Looking for Python with a d

OS X, Other

All releases

Source code

Windows

Mac OS X

Download for V

Python 3.9.0

Note that Python

earlier.

Not the OS you are

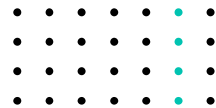
Python 3.7.7

Release version	Release date
Python 3.8.3	May 13, 2020
Python 2.7.18	April 20, 2020
Python 3.7.7	March 10, 2020
Python 3.8.2	Feb. 24, 2020
Python 3.8.1	Dec. 18, 2019

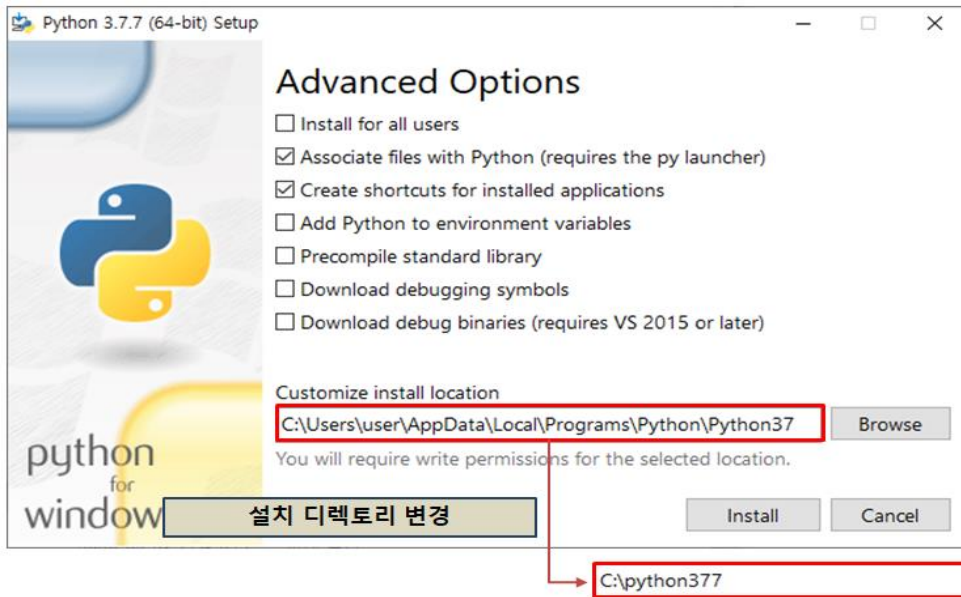


개발환경설치

파이썬 설치



Setup

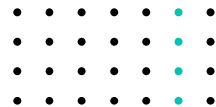


- 관리 편의성을 위해 C:\Python377 디렉토리 만들어서 설치

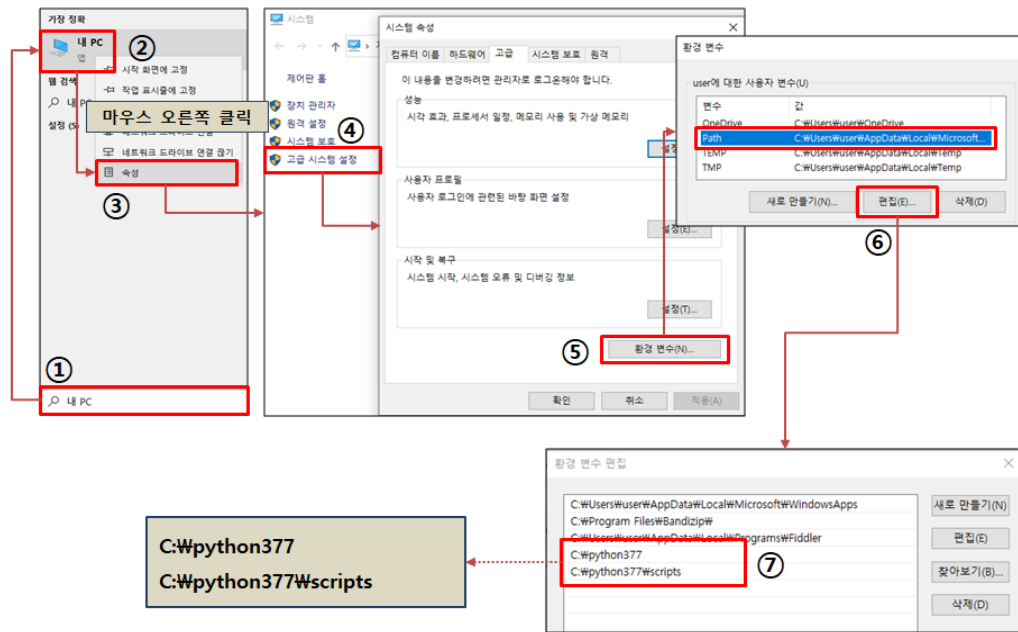


개발환경설치

파이썬 설치



환경변수 등록

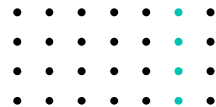


환경 변수에 `c:\python377` 과 `c:\python377\scripts`를 등록



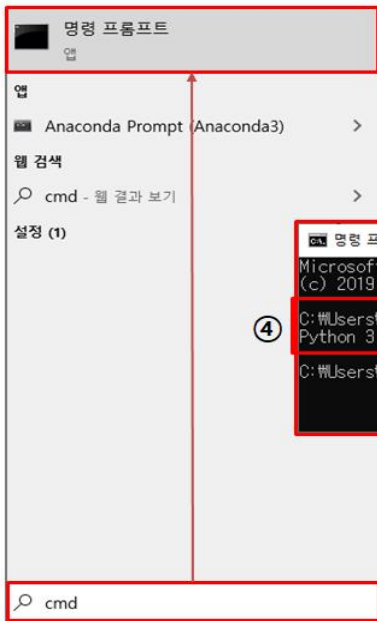
개발환경설치

파이썬 설치



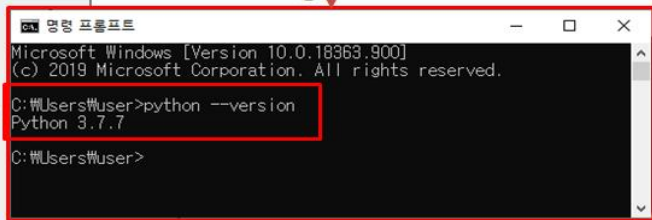
파이썬 버전 확인

②



③

④



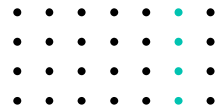
• 명령 프롬프트에서
“python --version”
정상설치 여부 확인 가능

명령어로



개발환경설치

패키지 설치



pip 업그레이드

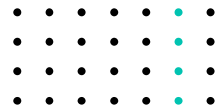
- 파이썬 패키지 설치를 지원하는 pip 프로그램 업그레이드

```
C:\Users\User>python -m pip install --upgrade pip
```



개발환경설치

패키지 설치



Jupyter Notebook 설치

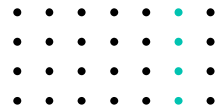
- 파이썬 에디터인 Jupyter Notebook 설치

```
C:\Users\user>pip install notebook_
```



개발환경설치

텐서플로우 설치



텐서플로우 설치

- 인공신경망 라이브러리인 텐서플로우 설치 2.2버전 설치

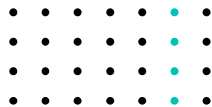
C:\ 명령 프롬프트

```
C:\>pip install tensorflow==2.2
```



개발환경설치

텐서플로우 설치



Microsoft Visual C++ 패키지 설치

- <https://support.microsoft.com/help/2977003/the-latest-supported-visual-c-downloads> 사이트 다운로드

ImportError: Could not find the DLL(s) 'msvcp140_1.dll'. TensorFlow requires that these DLLs be installed in a directory that is named these DLLs by downloading "Microsoft 2019" for your platform from this URL [supported-visual-c-downloads](https://support.microsoft.com/help/2977003/the-latest-supported-visual-c-downloads)

Visual Studio 2015, 2017 및 2019

Visual Studio 2015, 2017 및 2019용 Microsoft Visual C++ 재배포 가능 패키지를 다운로드합니다. 다음 업데이트는 Visual Studio 2015, 2017 및 2019용으로 지원되는 최신 Visual C++ 재배포 가능 패키지입니다. Universal C Runtime의 기본 버전이 포함되어 있습니다. 자세한 내용은 MSDN을 참조하세요.

- x86: vc_redist.x86.exe
- x64: vc_redist.x64.exe
- ARM64: vc_redist.arm64.exe

참고 Visual C++ 2015, 2017 및 2019 모두 동일한 재배포 가능 파일을 공유합니다.

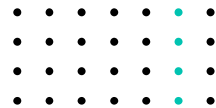
예를 들어, Visual C++ 2019 재배포 가능 패키지를 설치하면 Visual C++ 2015 및 2017로 구축된 프로그램에도 영향을 줍니다. 그러나 Visual C++ 2015 재배포 가능 패키지를 설치하면 Visual C++ 2017 및 2019 재배포 가능 패키지로 인해 설치된 더 최신 버전 파일로 교체되지 않습니다.

각 버전마다 다른 버전과 공유되지 않는 고유한 런타임 파일이 있기 때문에 이전의 모든 Visual C++ 버전과 다릅니다.



개발환경설치

matplotlib 설치



matplotlib 설치

- 파이썬 시각화 패키지인 matplotlib 설치

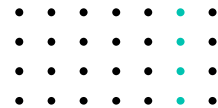
A screenshot of a Windows command prompt window. The title bar reads "명령 프롬프트" (Command Prompt). The command prompt shows the command `C:\Users\User>pip install matplotlib` entered. The window has standard Windows window controls (minimize, maximize, close) in the top right corner.

```
C:\Users\User>pip install matplotlib
```



개발환경설치

Open AI Gym 설치



Open AI Gym 설치

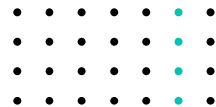
- 강화학습 알고리즘 테스트를 위한 Open AI Gym 설치

```
C:\Users\User>pip install gym
```



개발환경설치

설치확인



넘파이 다운그레이드

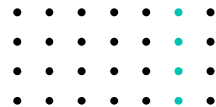
```
C:\WRL>pip uninstall numpy
Found existing installation: numpy 1.19.4
Uninstalling numpy-1.19.4:
  Would remove:
    c:\python377\lib\site-packages\numpy-1.19.4.dist-info\*
    c:\python377\lib\site-packages\numpy\*
    c:\python377\scripts\fp2py.exe
Proceed (y/n)? y
  Successfully uninstalled numpy-1.19.4

C:\WRL>pip install numpy==1.19.3
Collecting numpy==1.19.3
  Downloading numpy-1.19.3-cp37-cp37m-win_amd64.whl (13.2 MB)
  | 13.2 MB 128 kB/s
Installing collected packages: numpy
Successfully installed numpy-1.19.3
```



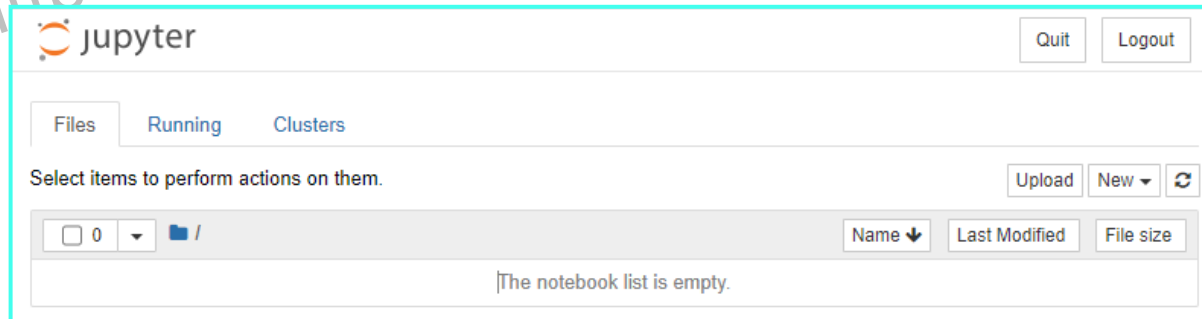
개발환경설치

설치확인



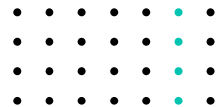
개발환경 설치확인

```
C:\WRL>jupyter notebook
[I 13:34:06.245 NotebookApp] Serving notebooks from local directory: C
[I 13:34:06.245 NotebookApp] The Jupyter Notebook is running at:
[I 13:34:06.246 NotebookApp] http://localhost:8888/?token=317e8d5965d8
[I 13:34:06.246 NotebookApp] or http://127.0.0.1:8888/?token=317e8d59
[I 13:34:06.246 NotebookApp] Use Control-C to stop this server and shu
```



개발환경설치

설치확인



개발환경 설치확인

The screenshot shows a web browser window with the Jupyter Notebook interface. The browser tabs include 'Home Page - Select or cr...', 'env - Jupyter Notebook', and 'Google 계정'. The address bar shows 'localhost:8888/notebooks/env.ipynb'. The Jupyter interface has a menu bar (File, Edit, View, Insert, Cell, Kernel, Widgets, Help) and a toolbar with icons for file operations, running, and code execution. The main area displays a code cell with the following Python code:

```
In [4]: import tensorflow as tf
import matplotlib
import gym
import numpy as np
print(tf.__version__)
```

The output of the code cell is '2.2.0'. Below the code cell is an empty input field for the next command.

