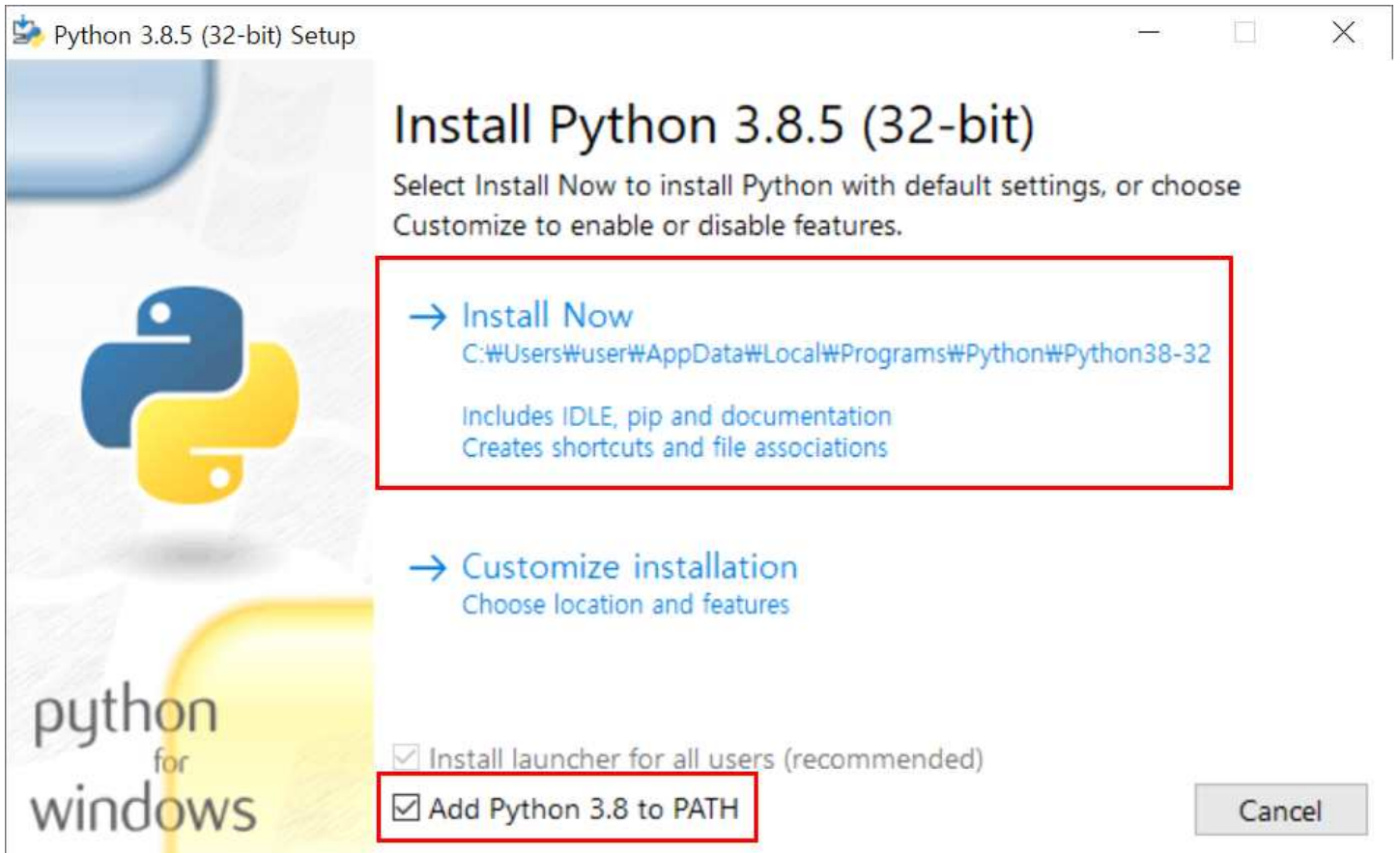


Visual Studio와 Python 실습환경 설치

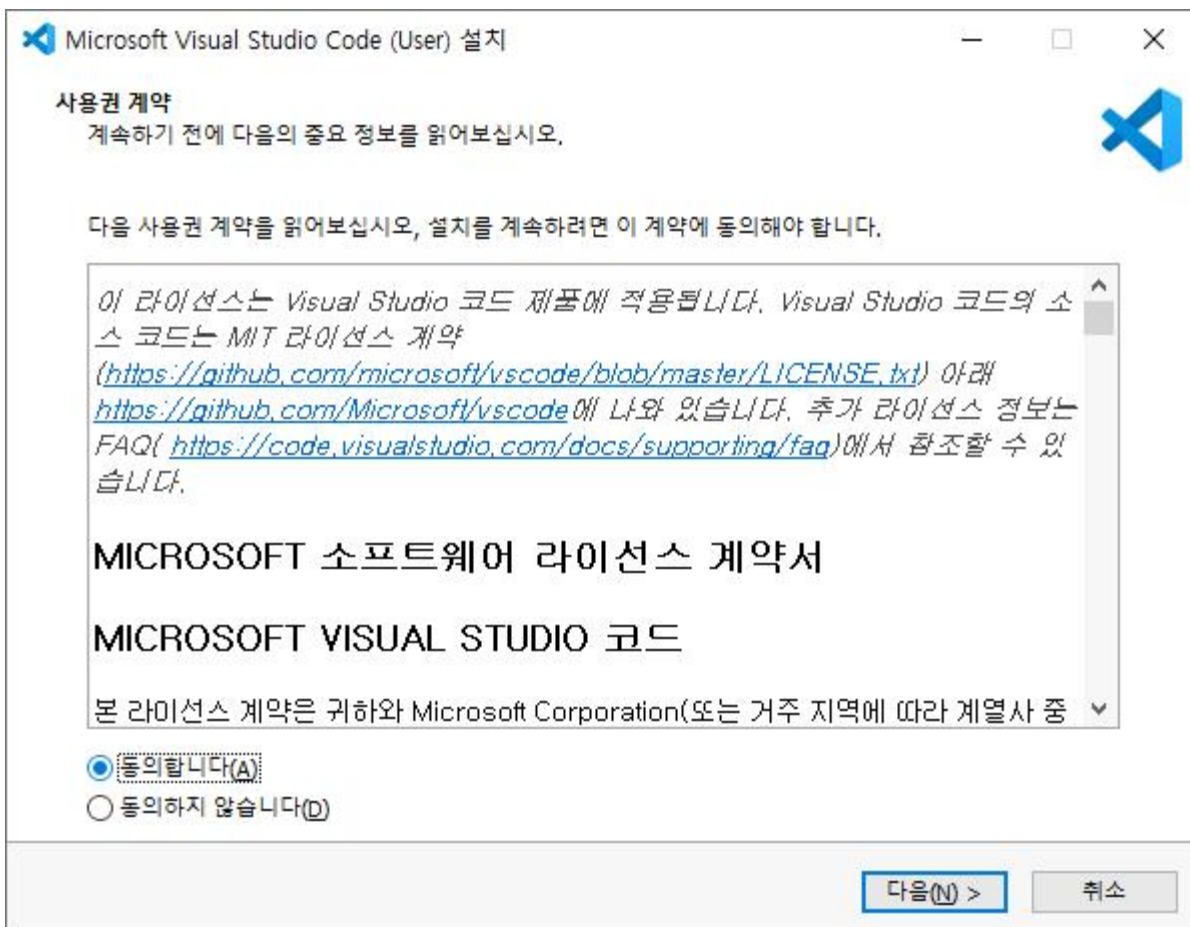
2020.09

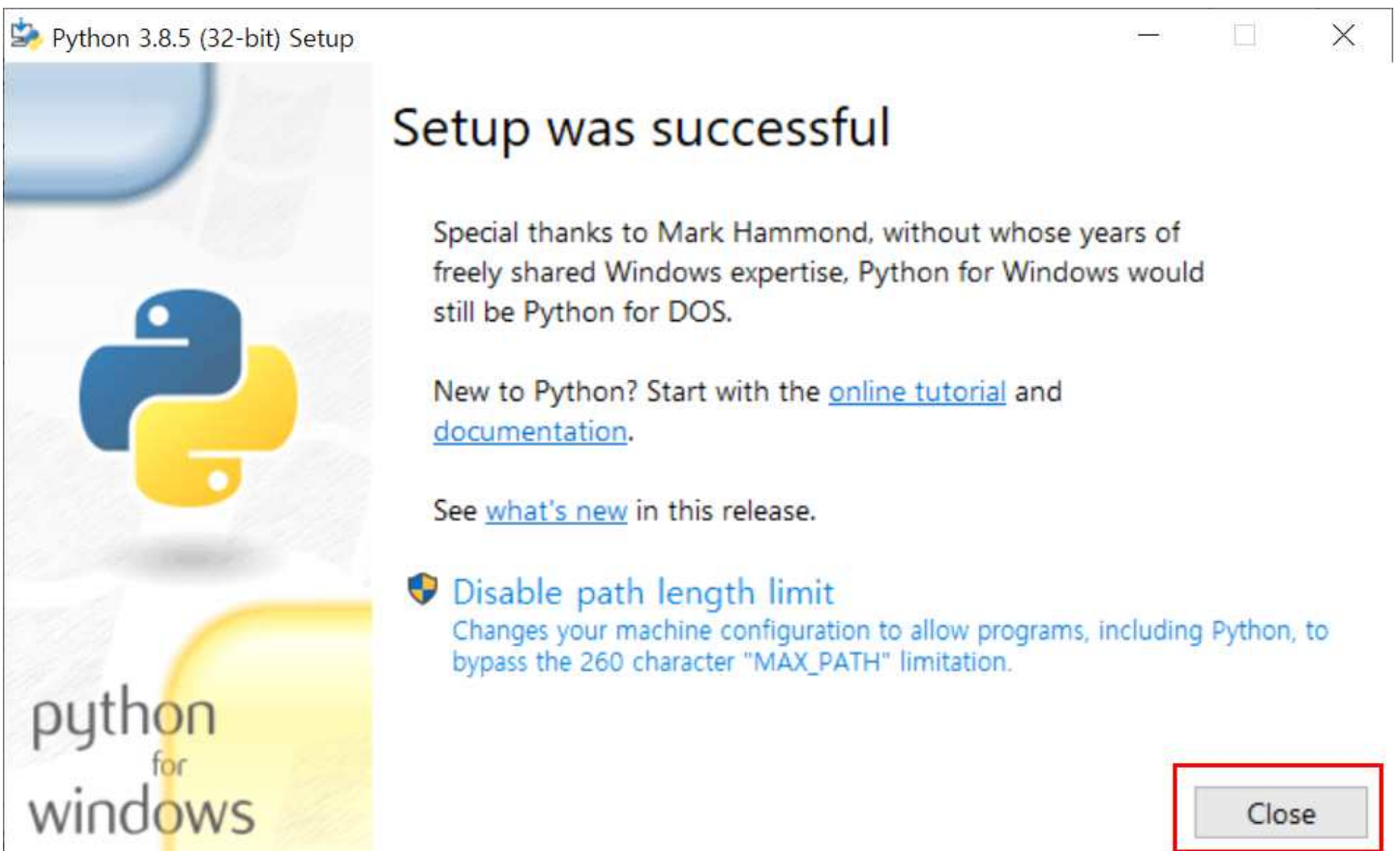
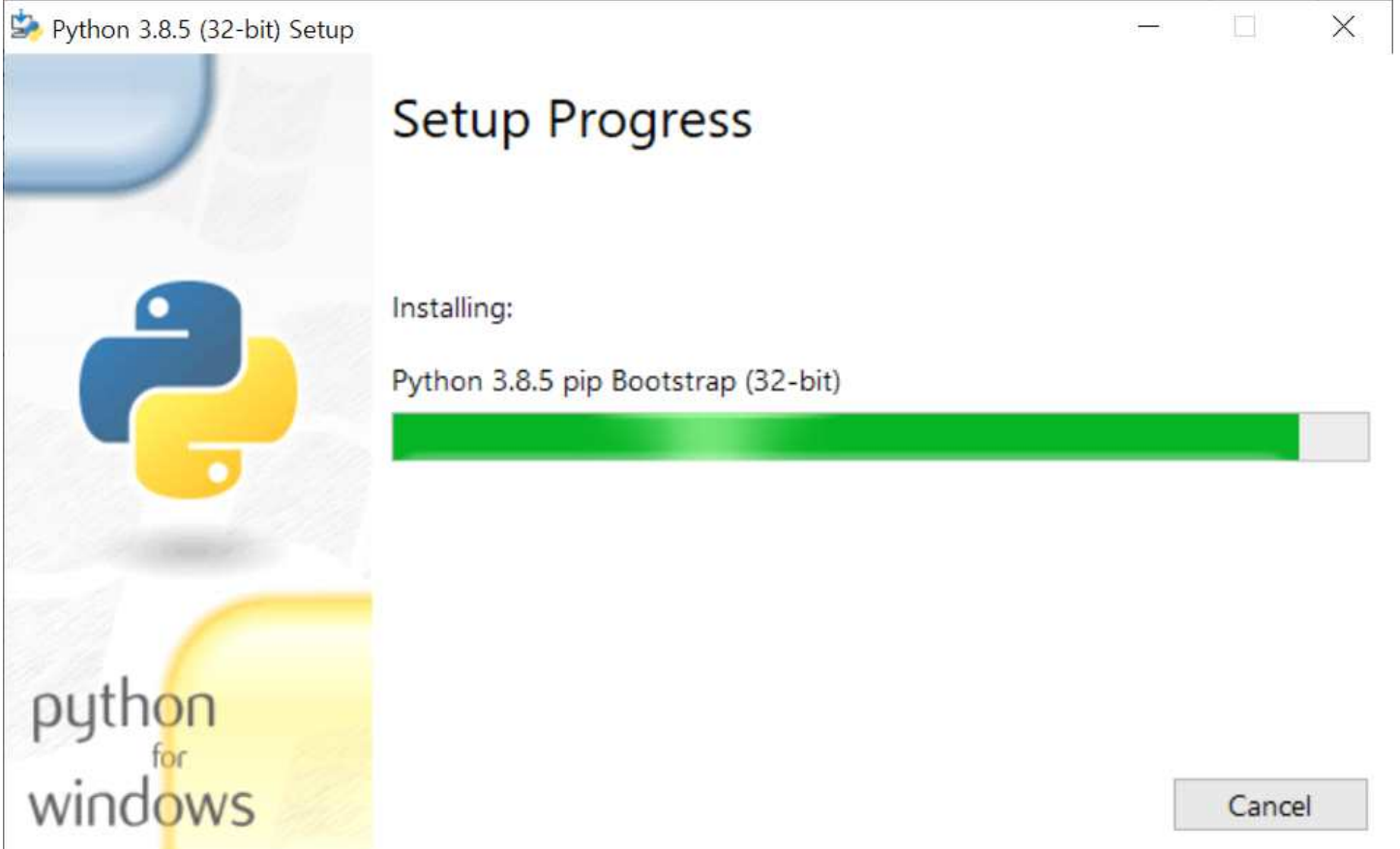
충청대학교 컴퓨터전자과 심 완 보

1. python-3.8.5 설치



2. Visual Studio Code 설치 (VSCodeUserSetup-x64-1.49.0)





검색에서 cmd 쳐서 명령 프롬프트 실행

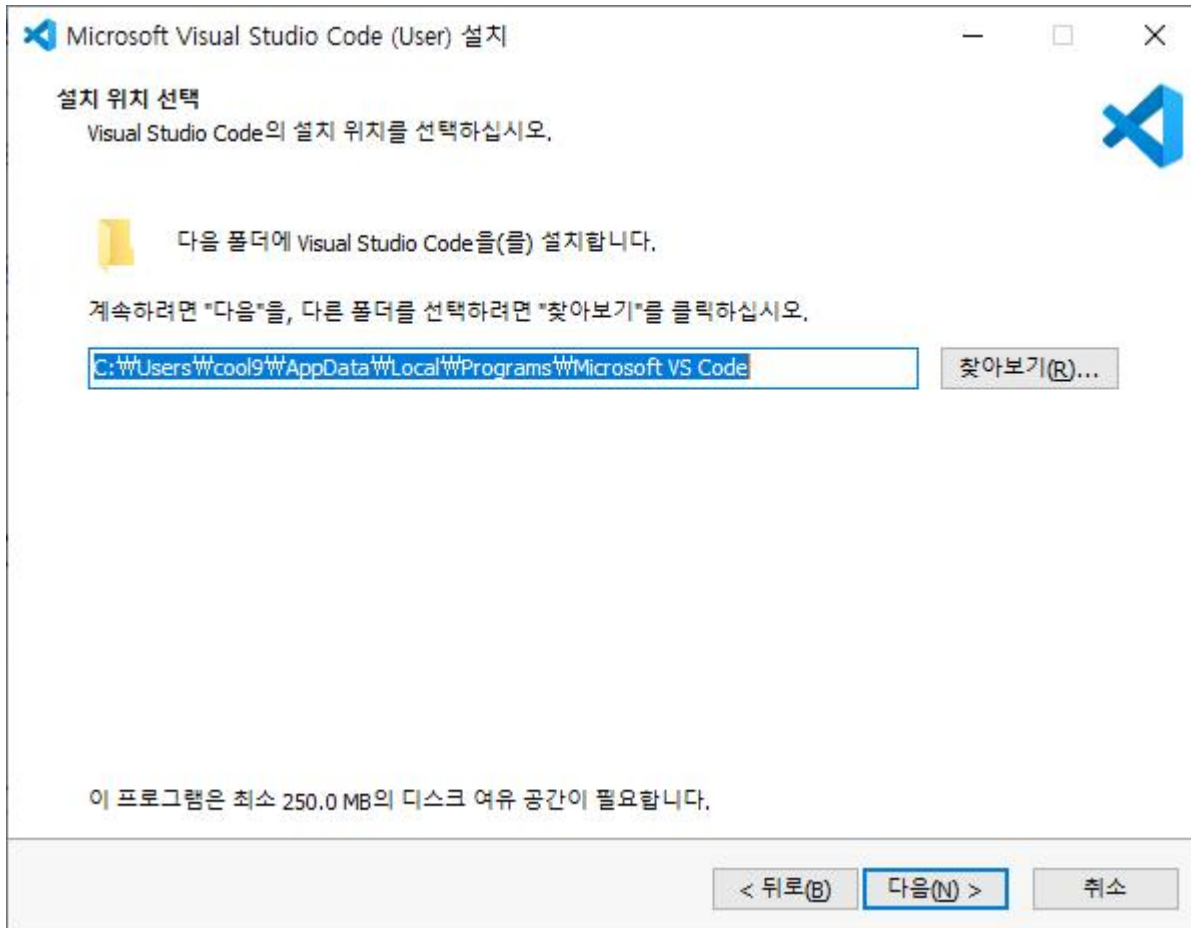


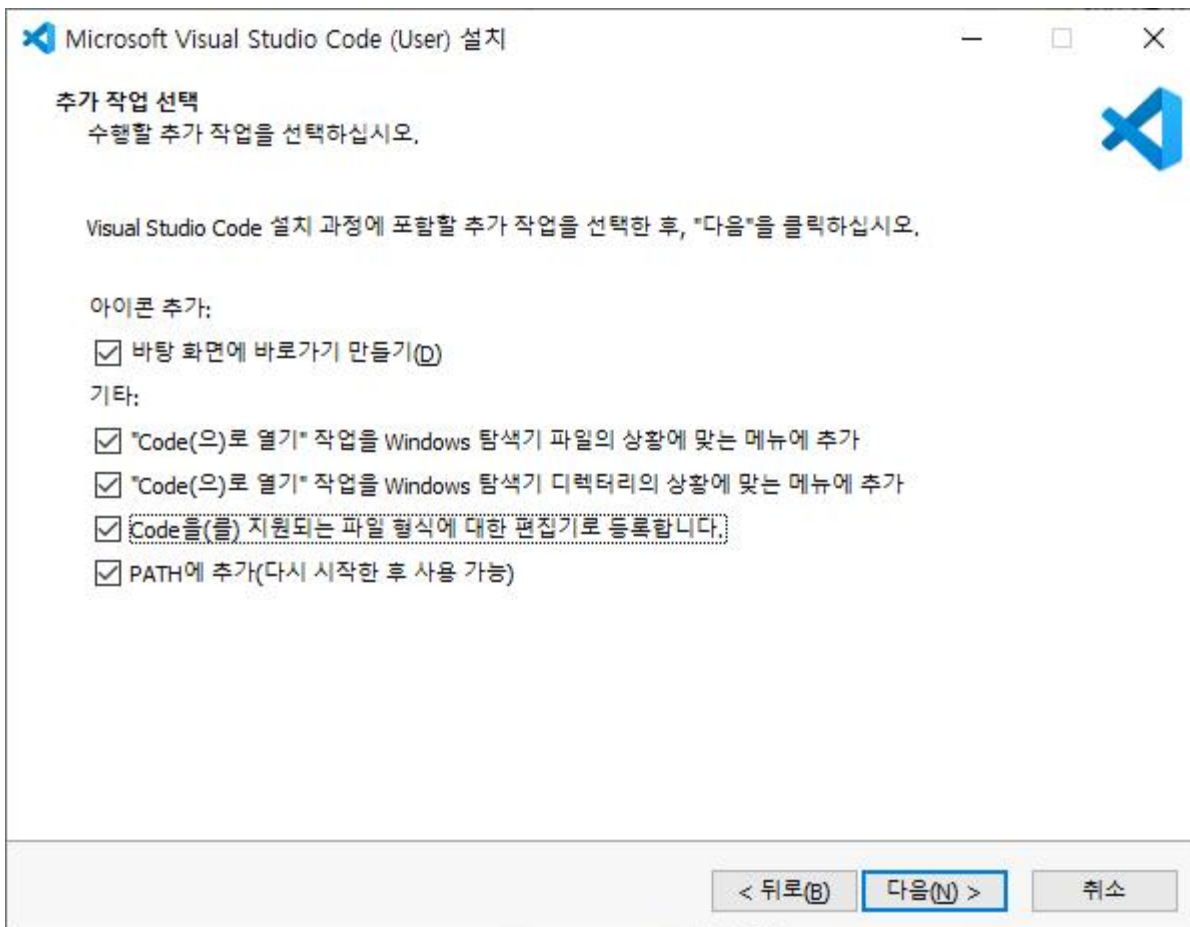
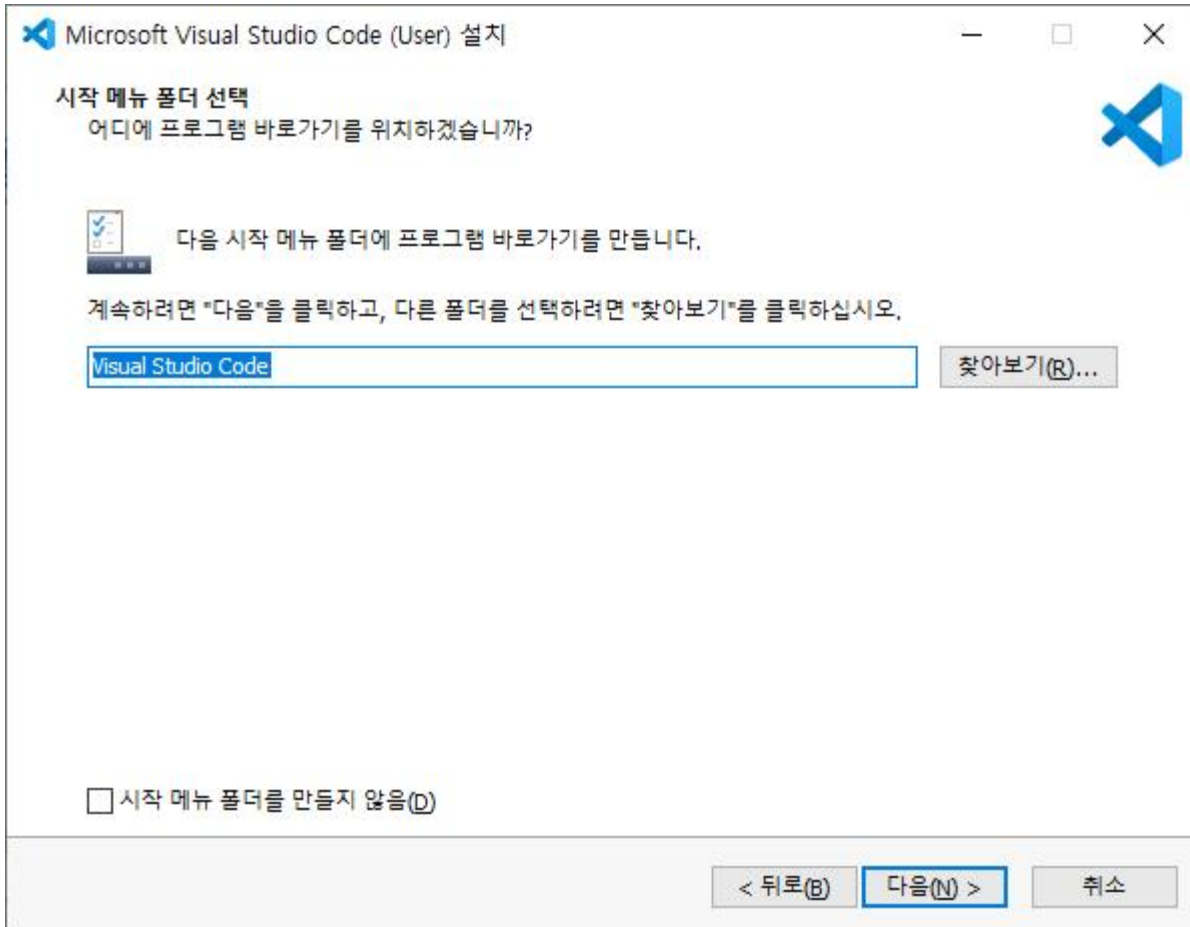
```
명령 프롬프트
Microsoft Windows [Version 10.0.18362.836]
(c) 2019 Microsoft Corporation. All rights reserved.

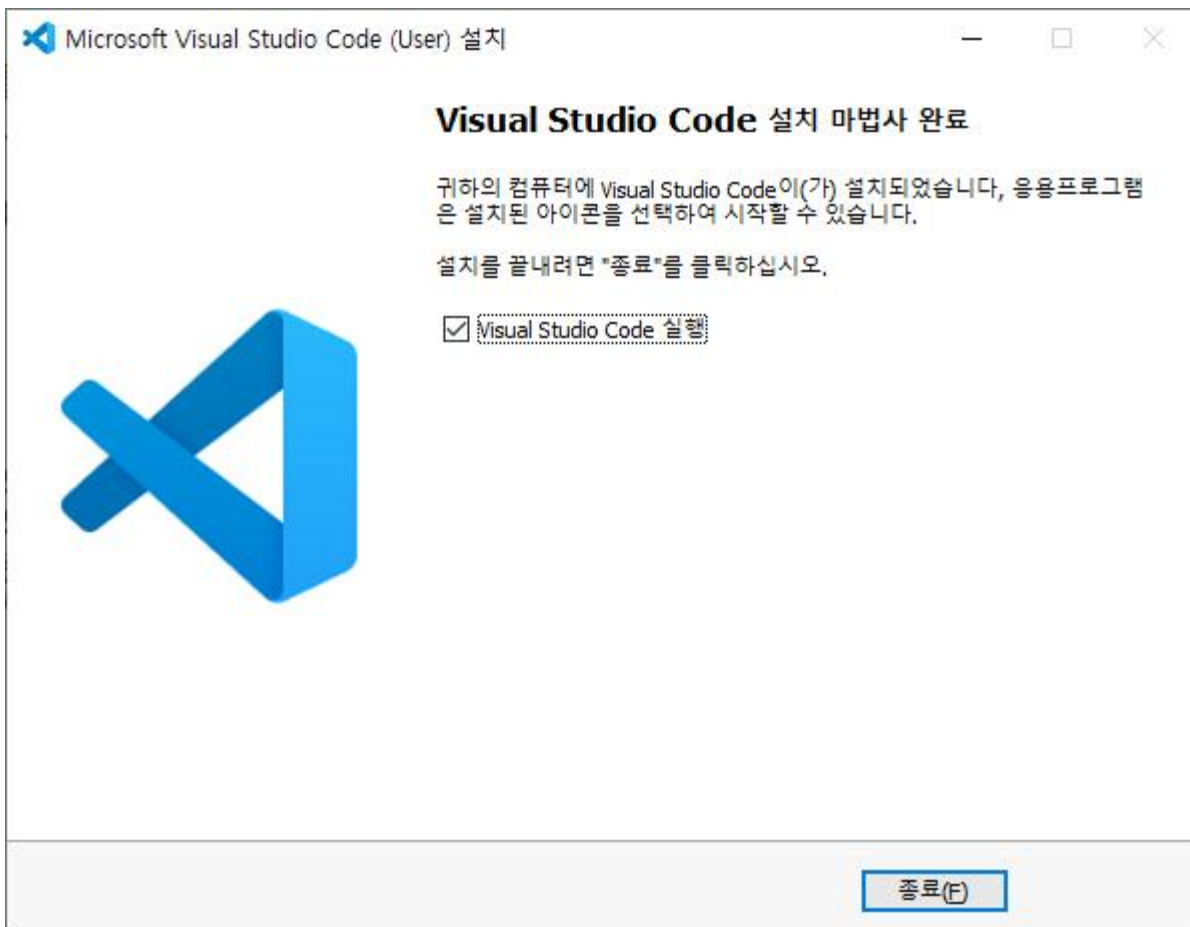
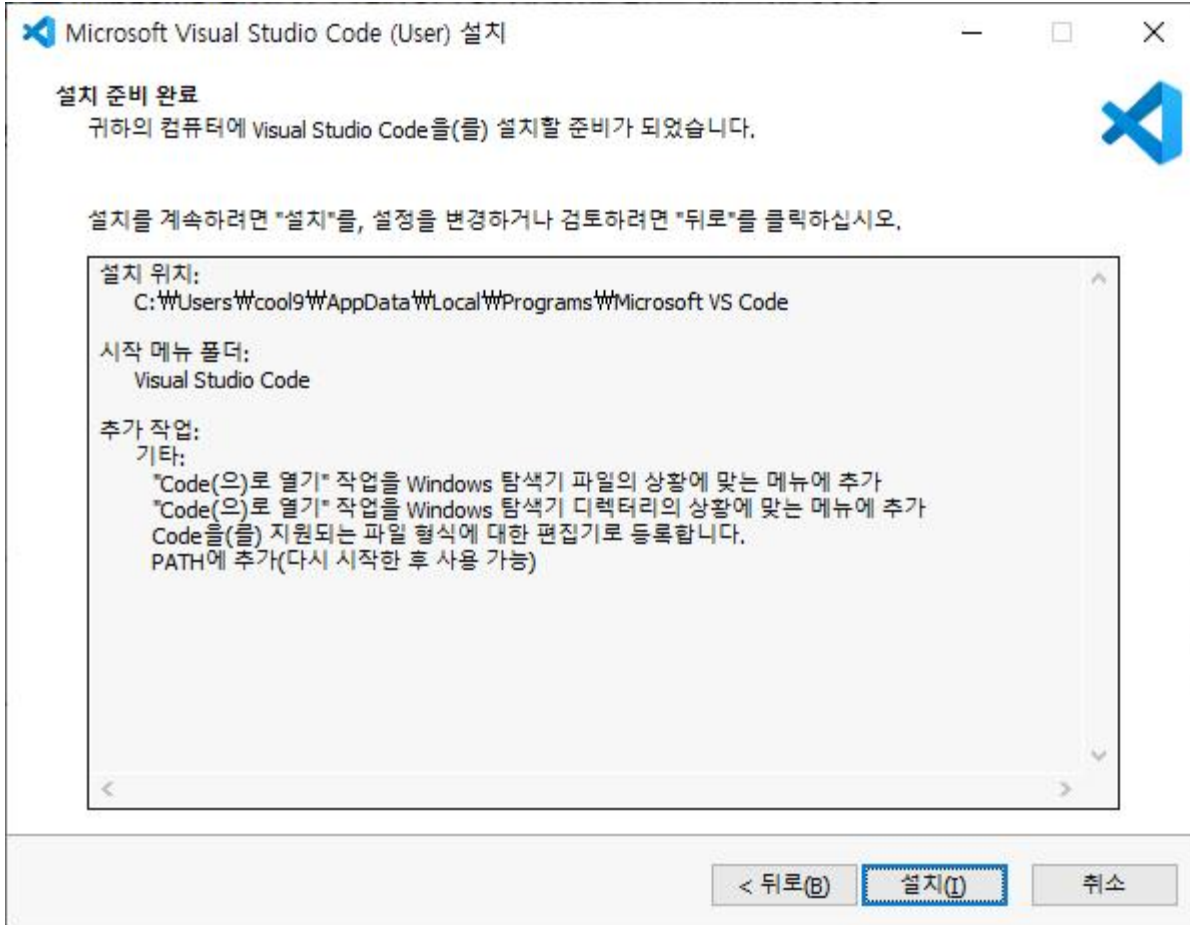
C:\Users\User>python
Python 3.8.5 (tags/v3.8.5:580fbb0, Jul 20 2020, 15:43:08) [MSC v.1926 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> print("Hello Python")
Hello Python
>>> exit()

C:\Users\User>
```

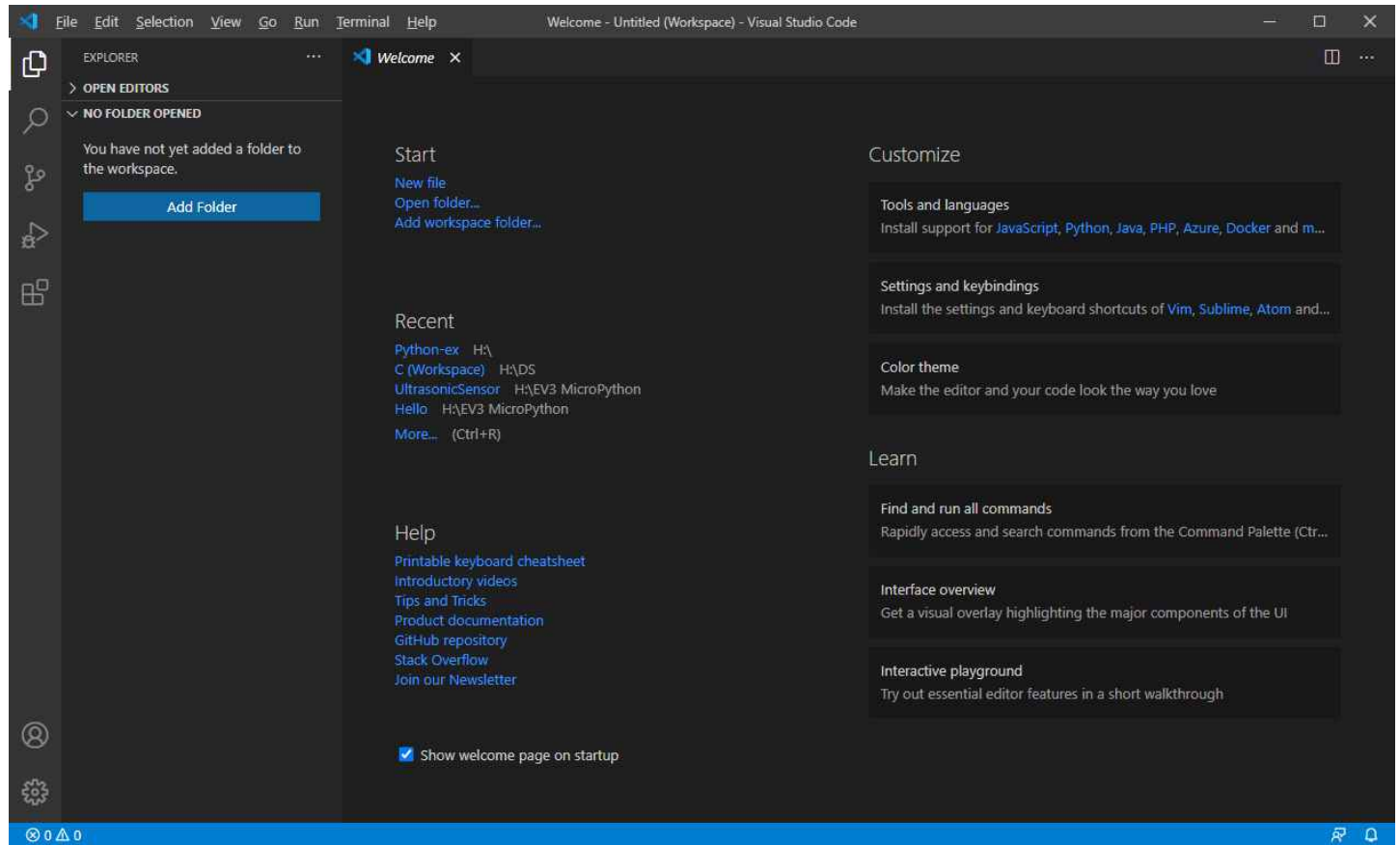
2. Visual Studio Code 설치 (VSCodeUserSetup-x64-1.49.0)







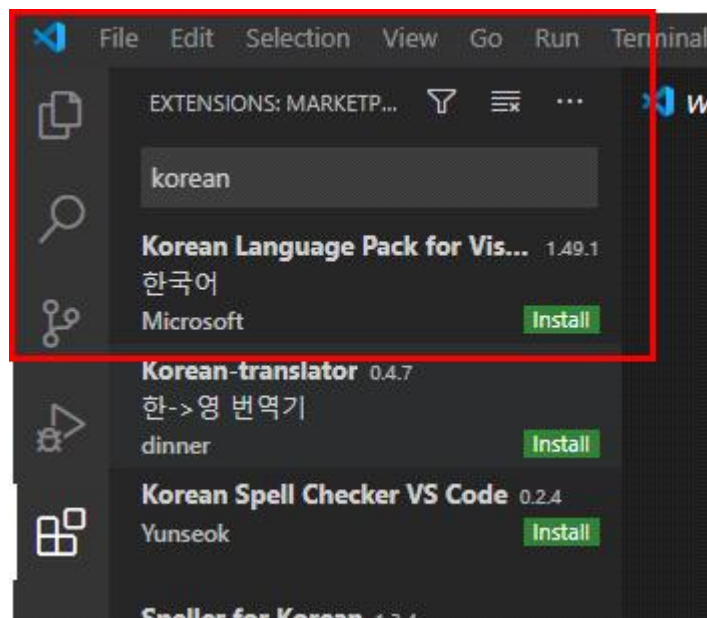
3. 한글 및 Python 확장모듈 설치

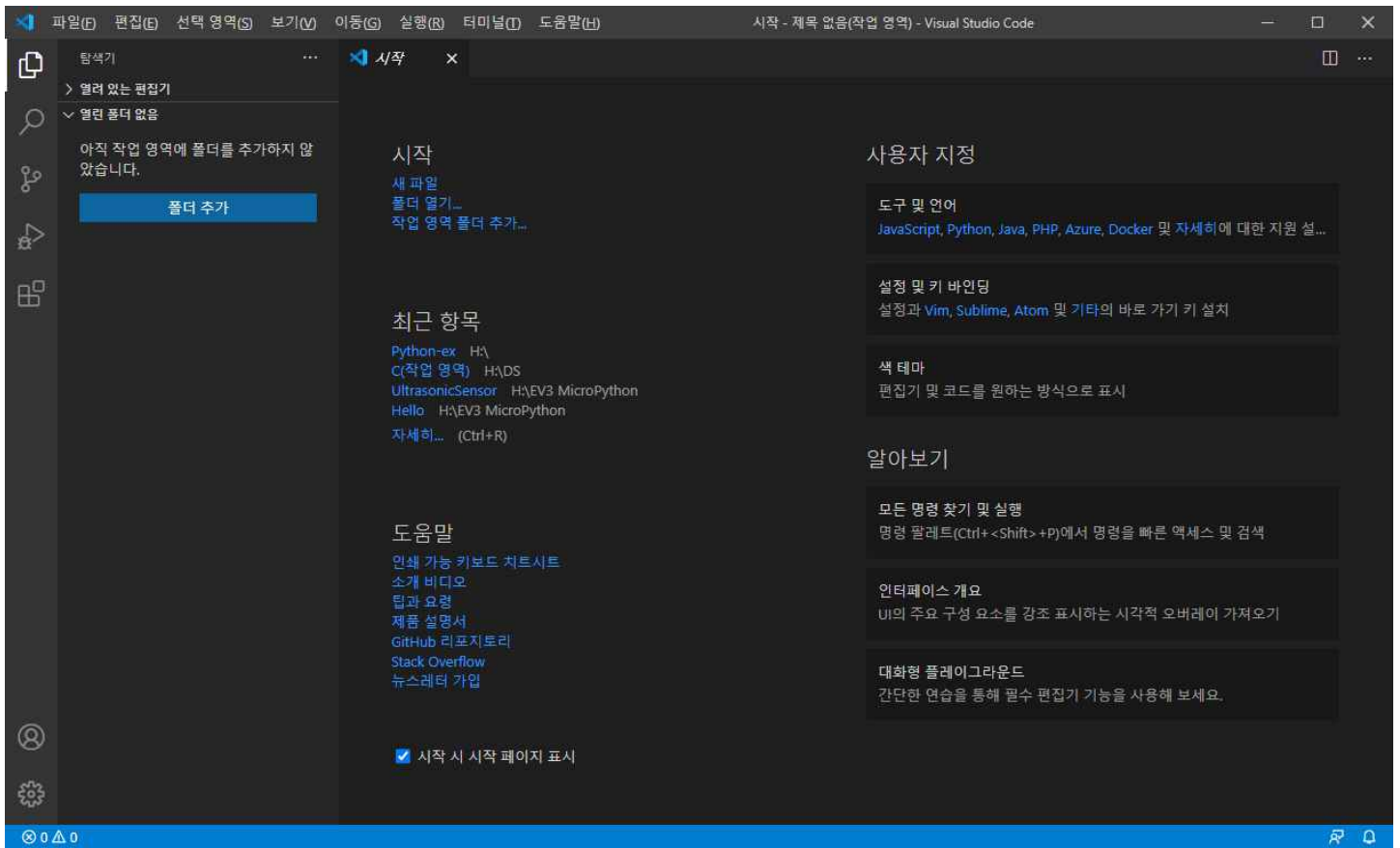


1) 한글 확장모듈 설치

Extension 선택후 korean

Korean Language Pack 설치. Visual Studio Code 종료 후 다시 실행

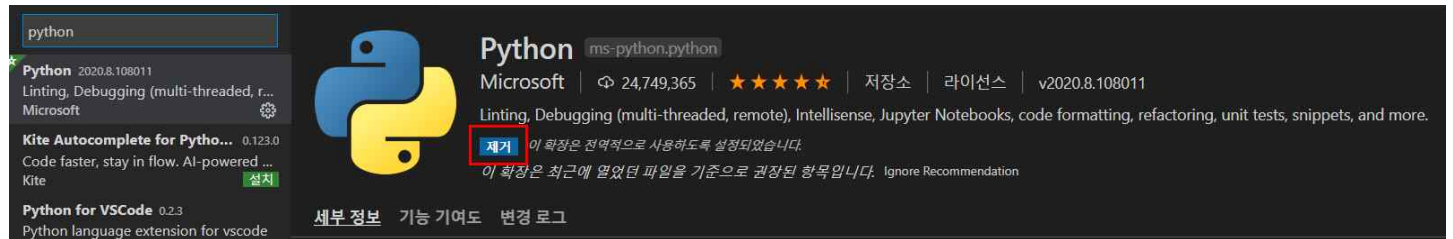
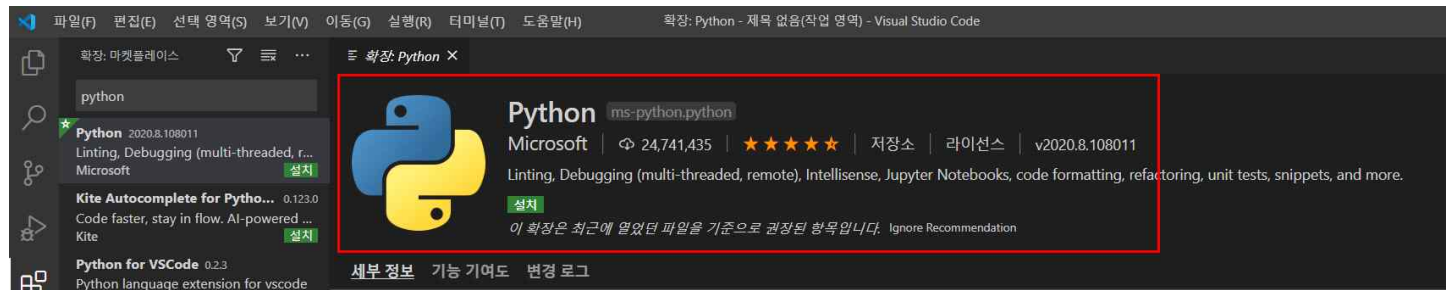




2) Python 확장 모듈 설치

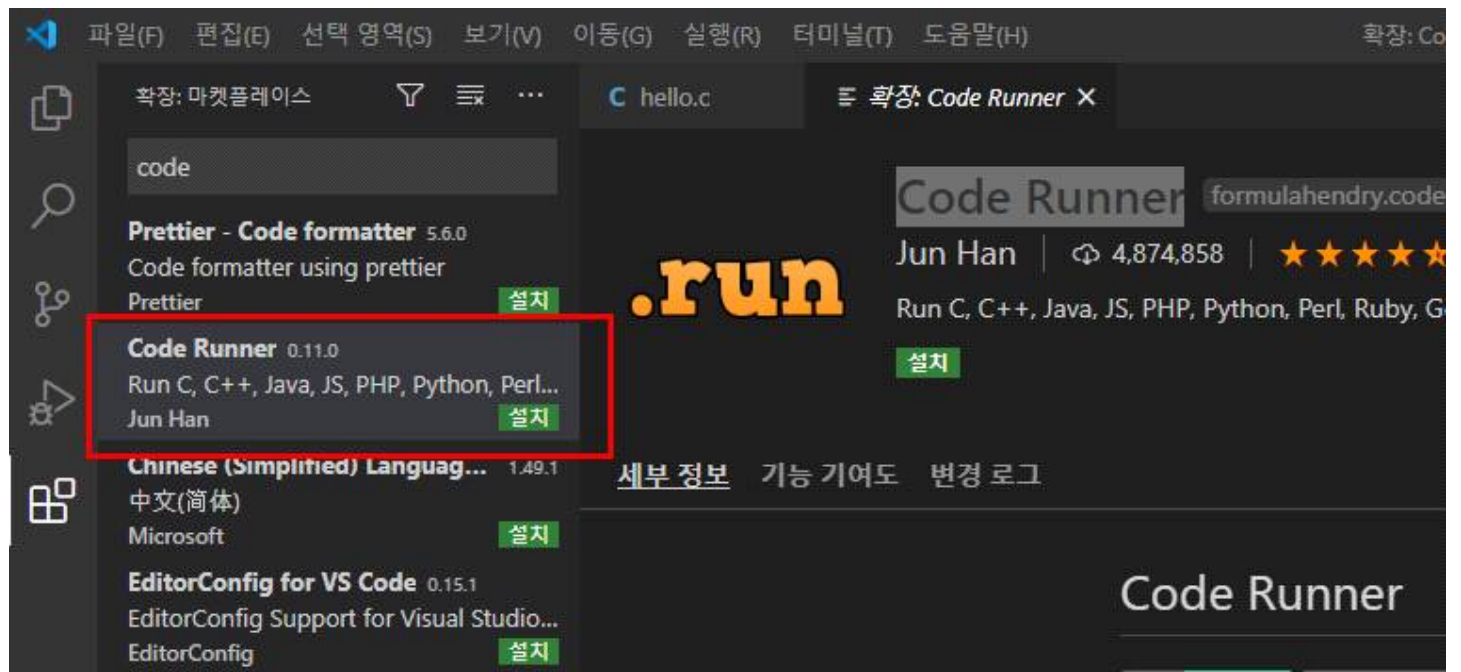
Extension 선택후 python

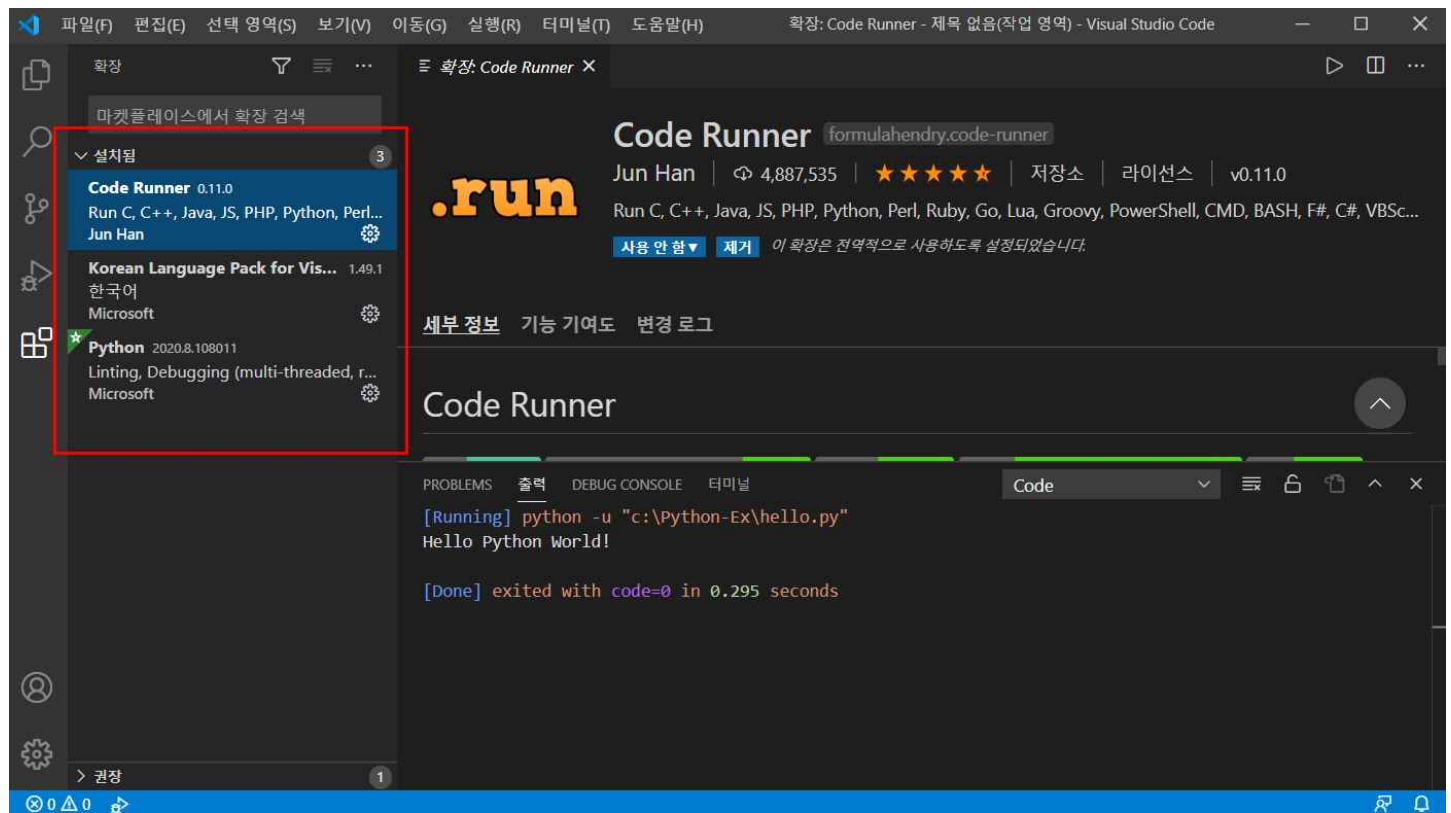
Python ms-python.python 설치



Extension 선택후 code

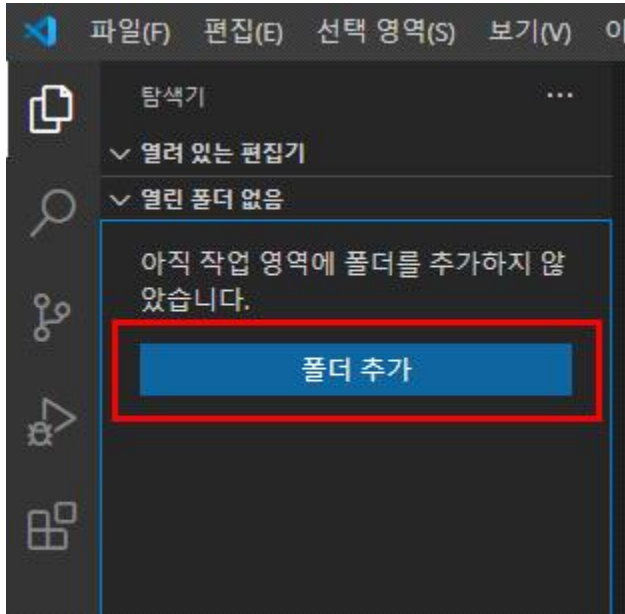
Code Runner 설치



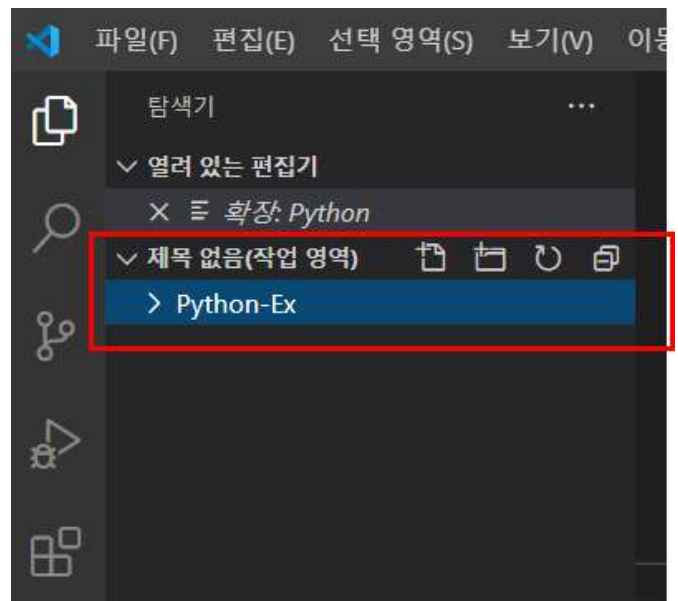


4. hello.py 작성 및 실행

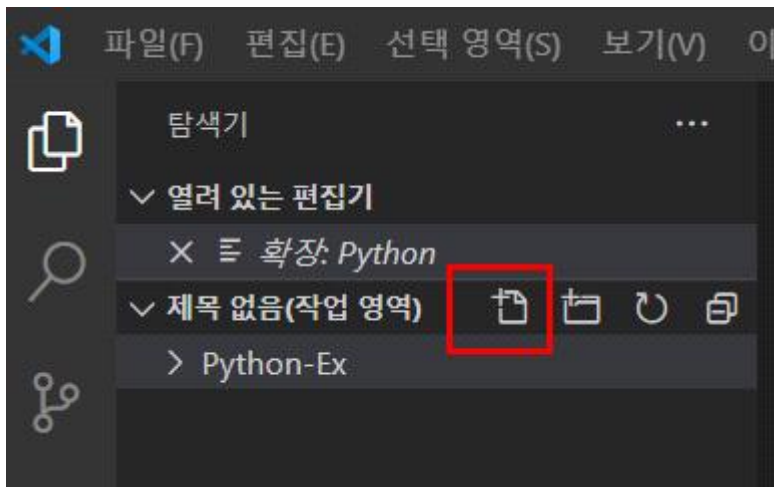
Python-Ex 폴더 만들어 폴더추가



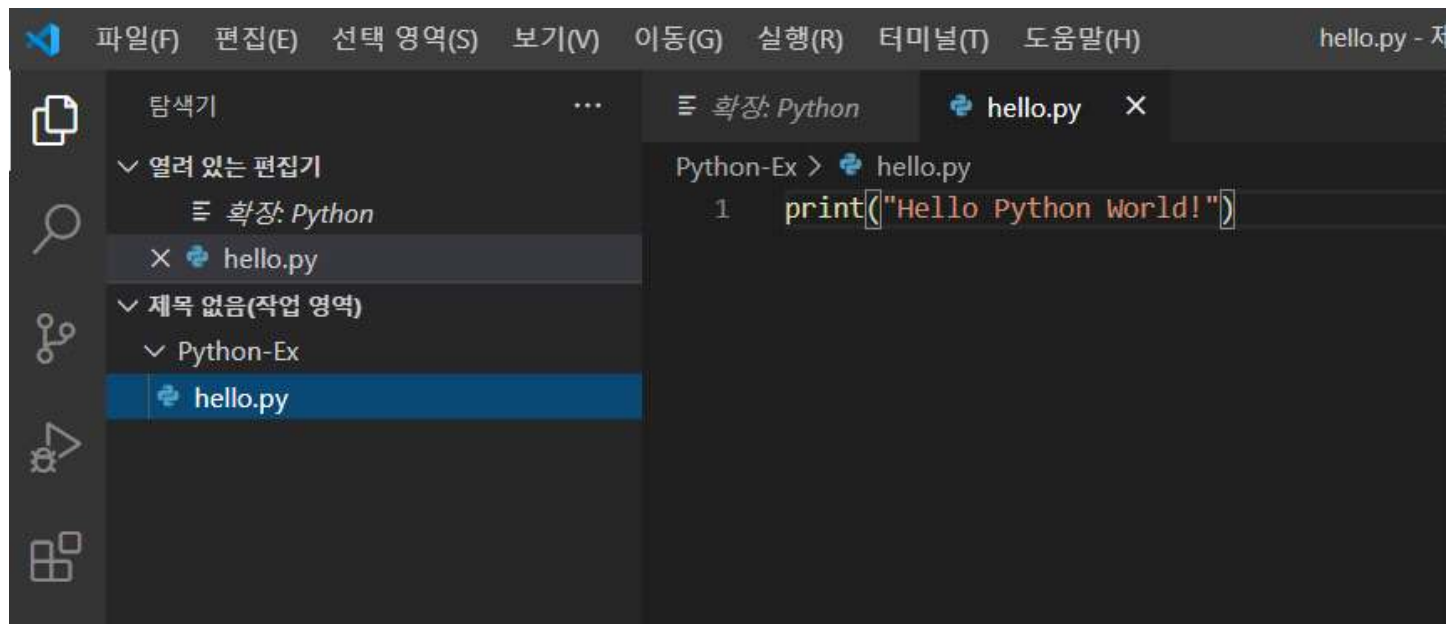
=>



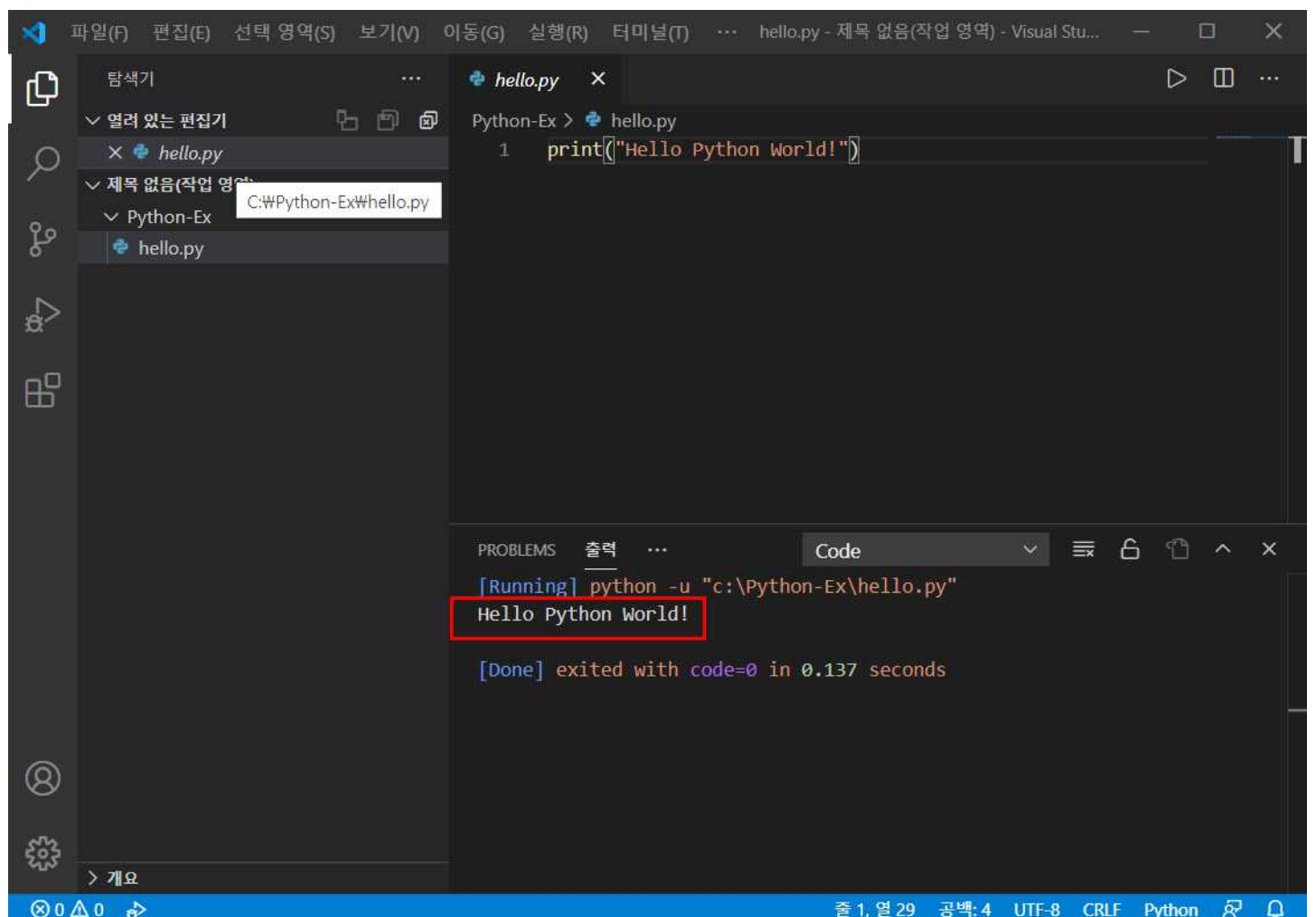
hello.py 추가



hello.py 작성 후 저장(Ctrl + s)



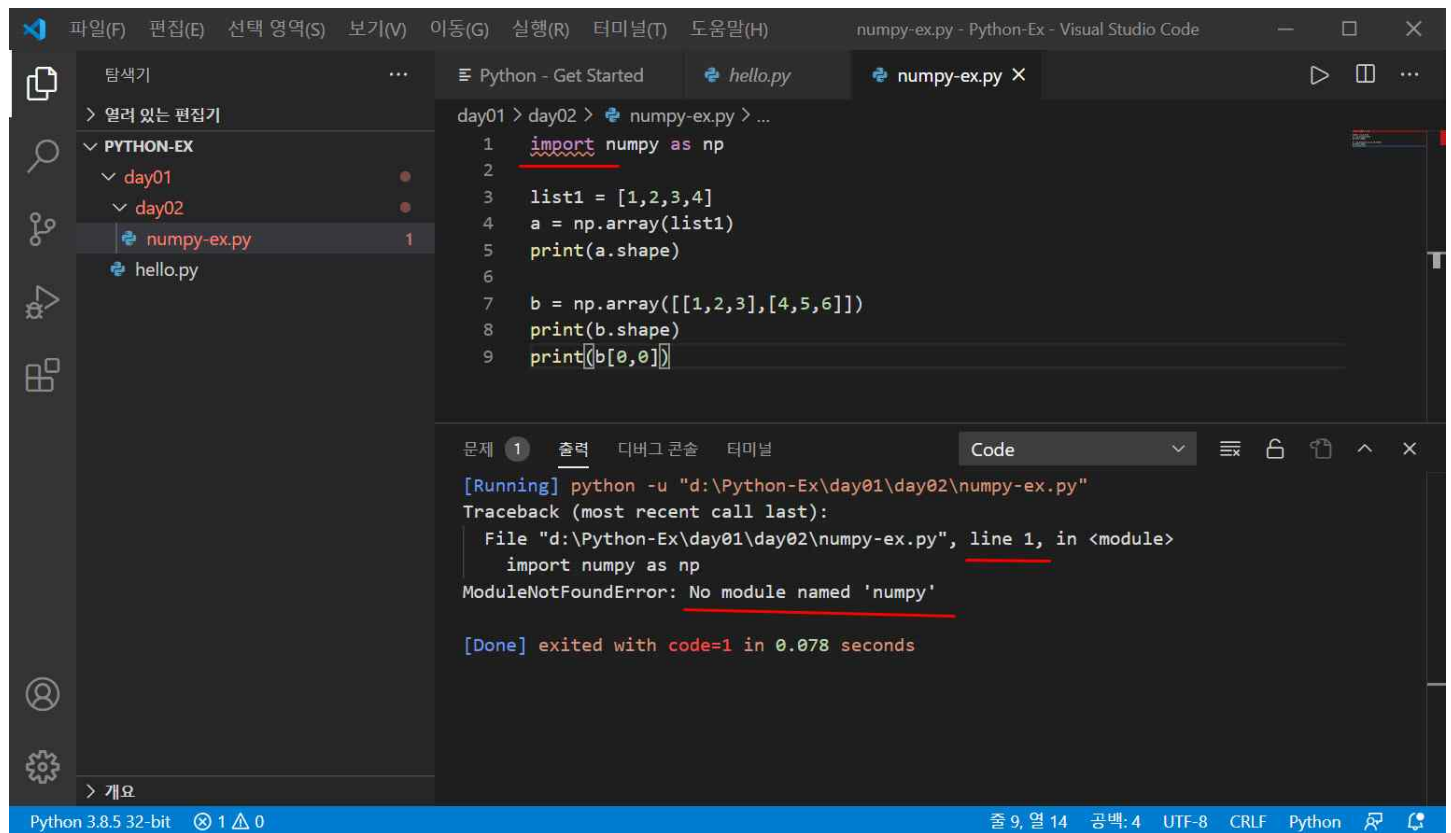
Ctrl + Alt + n 으로 컴파일 & 실행



5. numpy 예제

import numpy 시 에러 발생

(현재 numpy package가 설치되어 있지 않기 때문에 에러 발생)



The screenshot shows the Visual Studio Code interface. The left sidebar displays the file explorer with a project structure under 'PYTHON-EX' containing 'day01', 'day02', 'numpy-ex.py', and 'hello.py'. The 'numpy-ex.py' file is selected and open in the editor. The code in the editor is as follows:

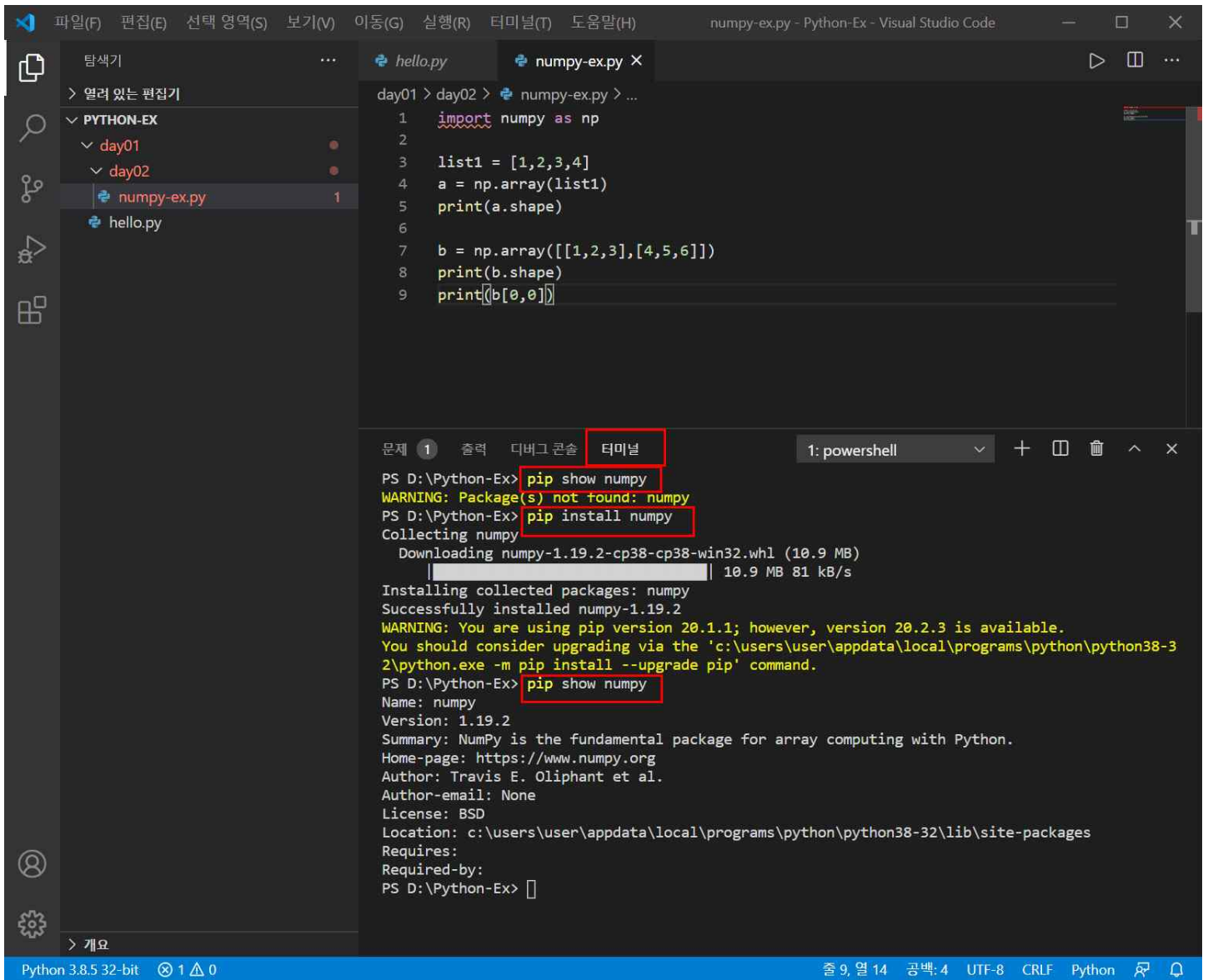
```
1 import numpy as np
2
3 list1 = [1,2,3,4]
4 a = np.array(list1)
5 print(a.shape)
6
7 b = np.array([[1,2,3],[4,5,6]])
8 print(b.shape)
9 print(b[0,0])
```

The bottom panel shows the 'TERMINAL' output with the following error message:

```
[Running] python -u "d:\Python-Ex\day01\day02\numpy-ex.py"
Traceback (most recent call last):
  File "d:\Python-Ex\day01\day02\numpy-ex.py", line 1, in <module>
    import numpy as np
ModuleNotFoundError: No module named 'numpy'

[Done] exited with code=1 in 0.078 seconds
```

The status bar at the bottom indicates 'Python 3.8.5 32-bit' and '줄 9, 열 14' (Line 9, Column 14).



터미널에서

1) numpy Package 존재여부 체크

pip show numpy

2) numpy Package 설치

pip install numpy

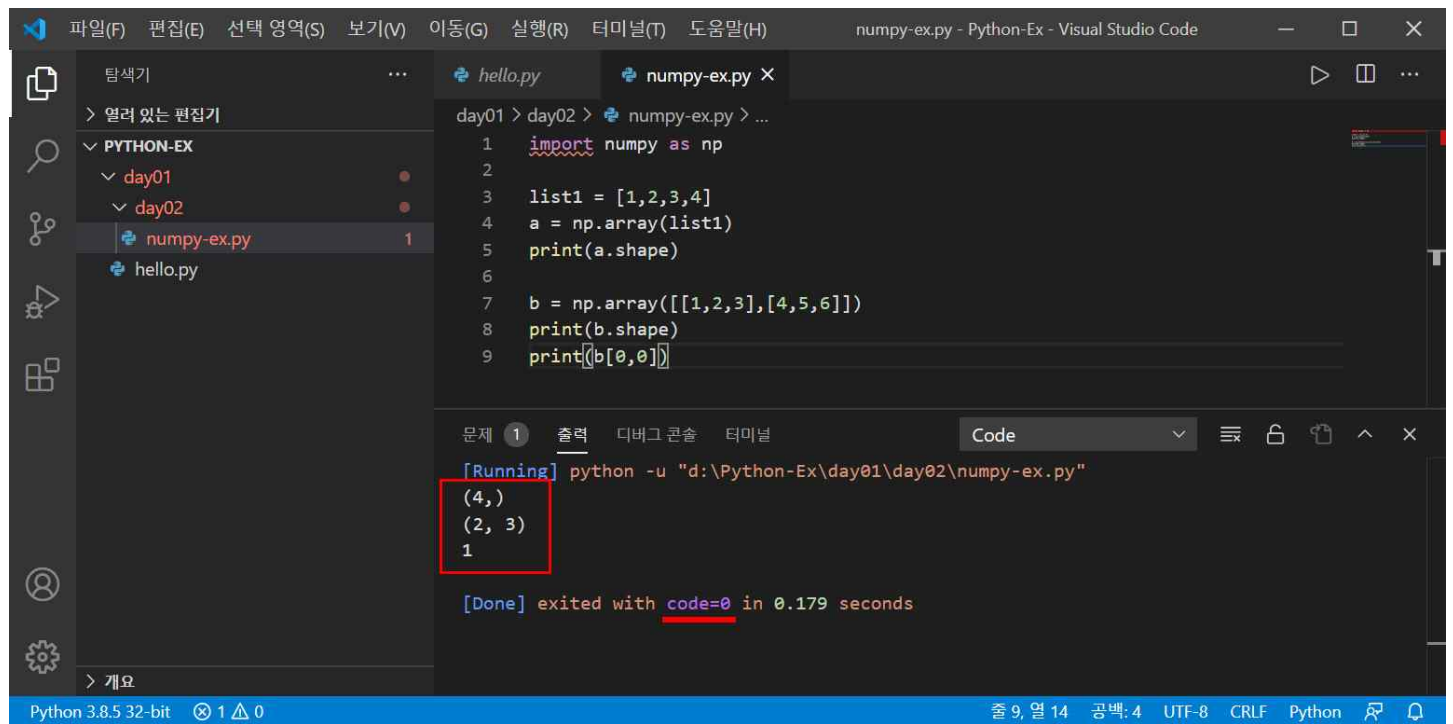
추후 pandas, matplotlib 등 필요한 Package를

pip install 패키지명

명령을 이용하여 설치해 사용하면 됨

Ctrl + Alt + n 으로 실행

실행결과



```
numpy-ex.py - Python-Ex - Visual Studio Code
```

```
day01 > day02 > numpy-ex.py > ...
```

```
1 import numpy as np
2
3 list1 = [1,2,3,4]
4 a = np.array(list1)
5 print(a.shape)
6
7 b = np.array([[1,2,3],[4,5,6]])
8 print(b.shape)
9 print(b[0,0])
```

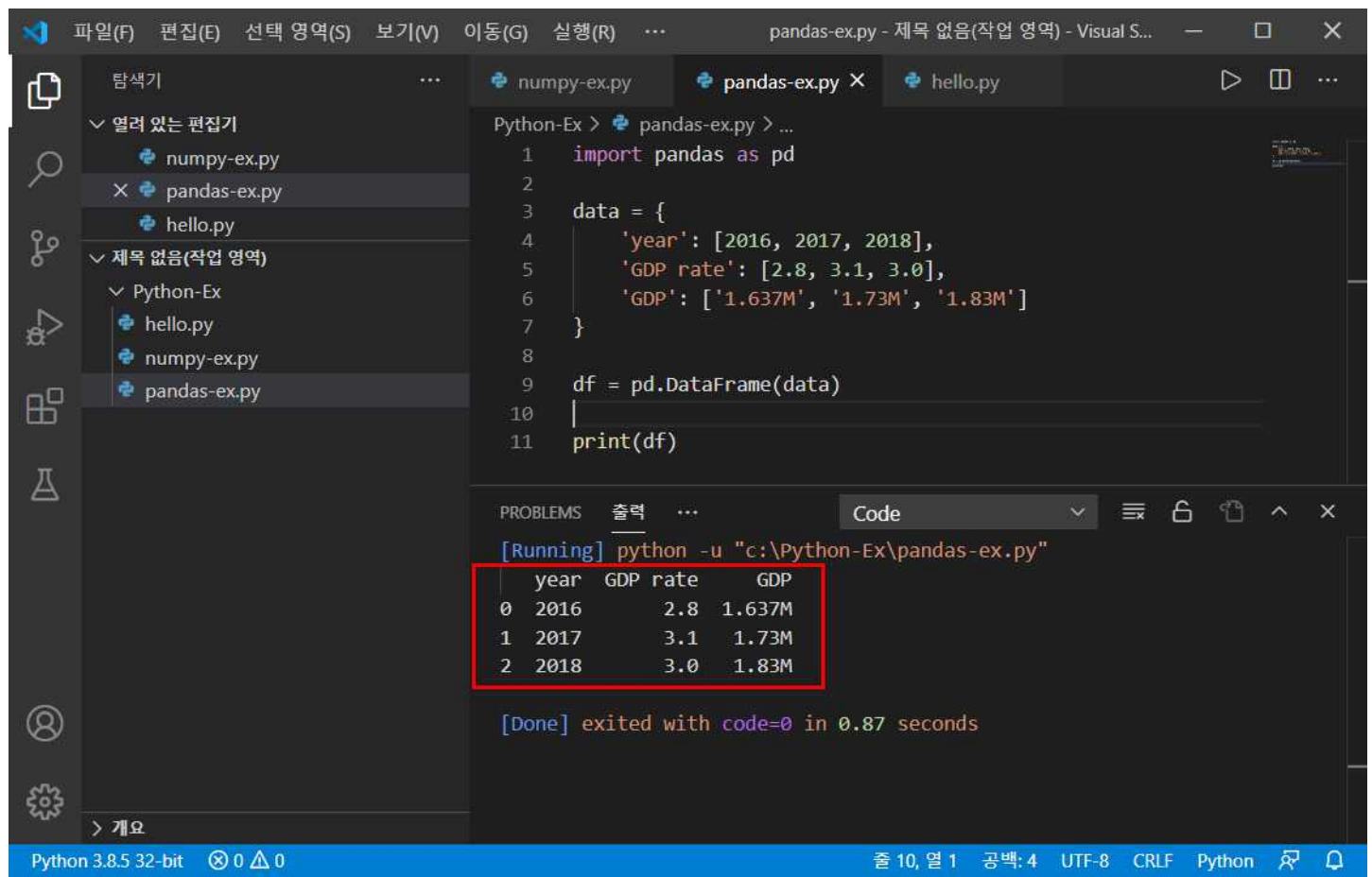
```
[Running] python -u "d:\Python-Ex\day01\day02\numpy-ex.py"
```

```
(4,)
(2, 3)
1
```

```
[Done] exited with code=0 in 0.179 seconds
```

Python 3.8.5 32-bit 1 0 줄 9, 열 14 공백: 4 UTF-8 CRLF Python

6. pandas 예제



The screenshot shows the Visual Studio Code editor with a Python file named `pandas-ex.py`. The code defines a dictionary `data` with three columns: `year`, `GDP rate`, and `GDP`. It then creates a `DataFrame` object `df` from this dictionary and prints it.

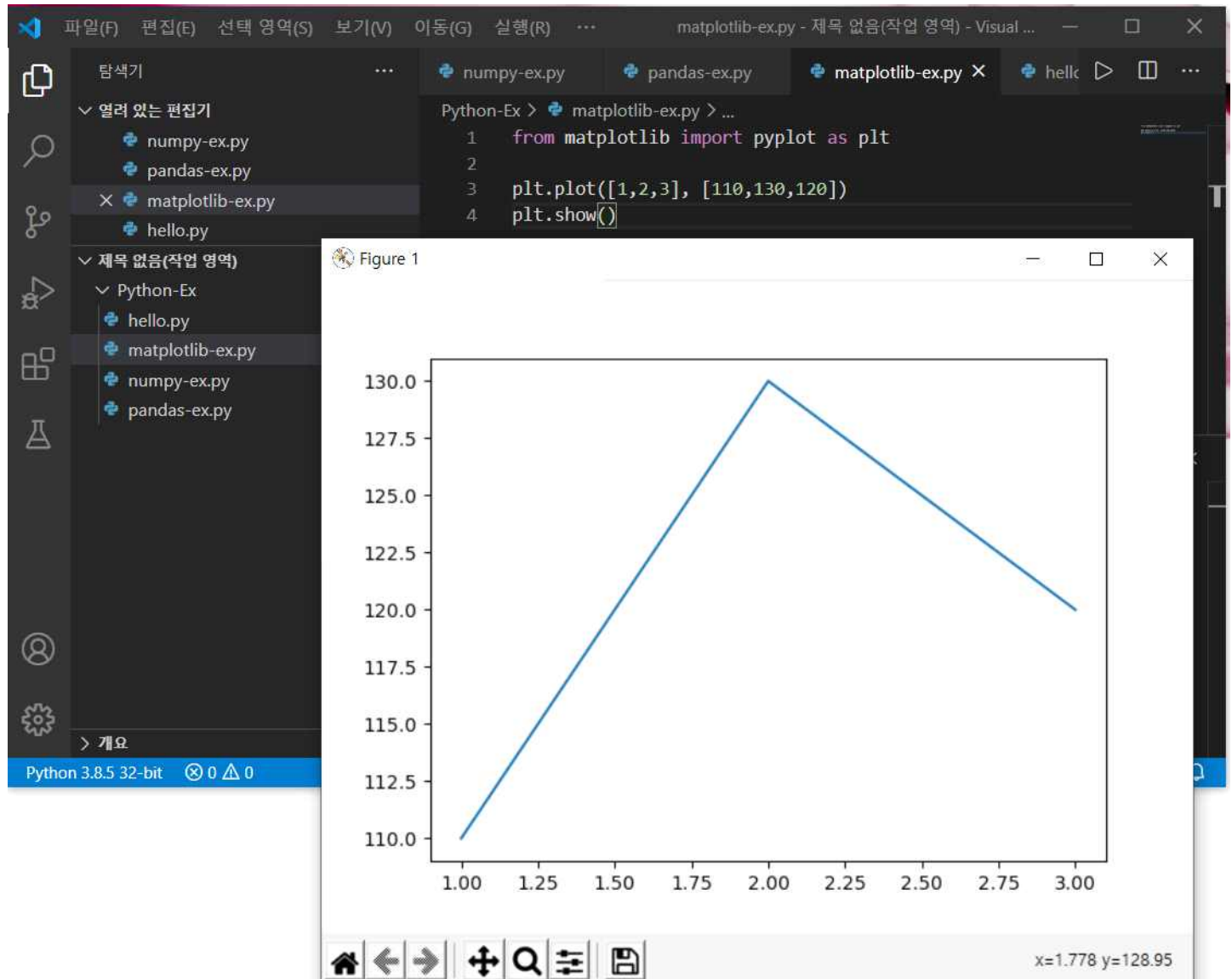
```
1 import pandas as pd
2
3 data = {
4     'year': [2016, 2017, 2018],
5     'GDP rate': [2.8, 3.1, 3.0],
6     'GDP': ['1.637M', '1.73M', '1.83M']
7 }
8
9 df = pd.DataFrame(data)
10
11 print(df)
```

The output of the code is displayed in the `PROBLEMS` panel, showing a table with 3 rows and 4 columns (index, year, GDP rate, GDP). The table is highlighted with a red box.

	year	GDP rate	GDP
0	2016	2.8	1.637M
1	2017	3.1	1.73M
2	2018	3.0	1.83M

The status bar at the bottom indicates the environment is Python 3.8.5 32-bit, and the file encoding is UTF-8.

7. matplotlib 예제



8. pip 명령어

PIP(Package Installer for Python)는 파이썬에서 패키지를 관리하는 시스템

1) pip 버전 체크

pip --version

```
PS C:\Python-Ex> pip --version
pip 20.2.3 from c:\users\완보\appdata\local\programs\python\python38-32\lib\site-packages\pip (python 3.8)
PS C:\Python-Ex>
```

2) 설치된 패키지 리스트

pip list

```
PS C:\Python-Ex> pip list
Package            Version
-----
astroid            2.4.2
certifi            2020.6.20
colorama           0.4.3
cyclor             0.10.0
isort              5.5.2
kiwisolver         1.2.0
lazy-object-proxy  1.4.3
matplotlib         3.3.1
mccabe             0.6.1
numpy              1.19.2
pandas             1.1.2
Pillow             7.2.0
pip                20.2.3
pylint             2.6.0
pyparsing          2.4.7
python-dateutil    2.8.1
pytz               2020.1
setuptools         47.1.0
six                1.15.0
toml               0.10.1
wrap               1.12.1
PS C:\Python-Ex>
```

3) 패키지 설치

pip install 패키지명

4) 패키지 삭제

pip uninstall 패키지명

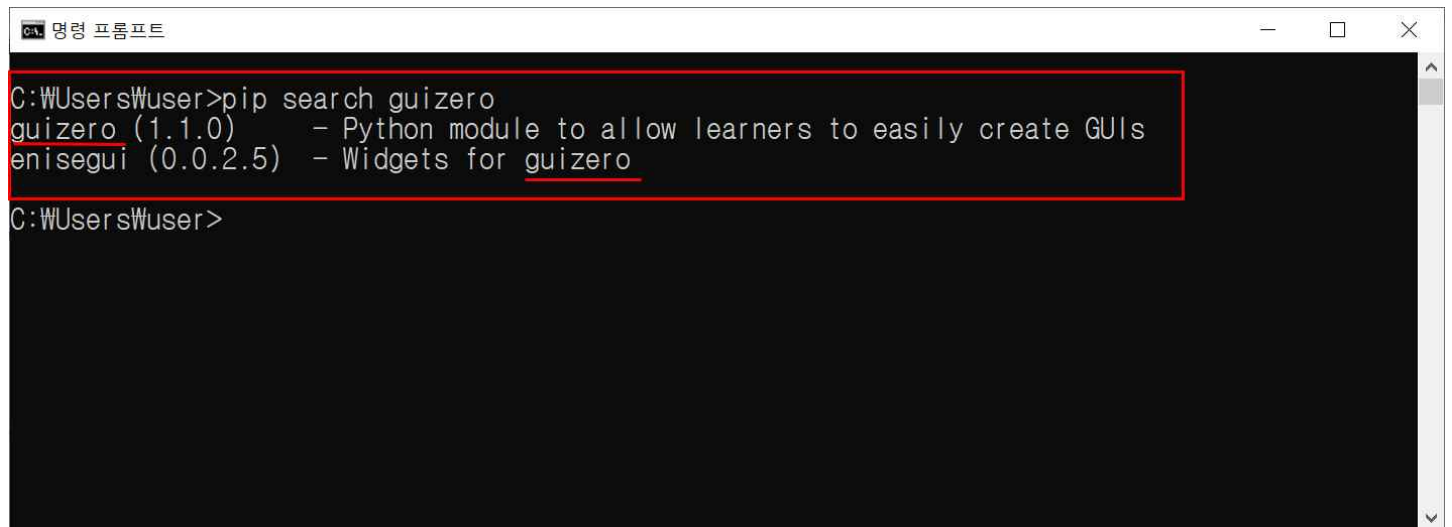
5) 패키지 정보

pip show 패키지명

```
PS C:\Python-Ex> pip show matplotlib
Name: matplotlib
Version: 3.3.1
Summary: Python plotting package
Home-page: https://matplotlib.org
Author: John D. Hunter, Michael Droettboom
Author-email: matplotlib-users@python.org
License: PSF
Location: c:\users\완보\AppData\Local\Programs\Python\Python38-32\lib\site-packages
Requires: certifi, cyclier, numpy, pyparsing, python-dateutil, kiwisolver, pillow
Required-by:
PS C:\Python-Ex> █
```

6) 키워드로 찾기

pip search keyword 또는 pip search "keyword"



```
명령 프롬프트
C:\Users\Wuser>pip search guizero
guizero (1.1.0) - Python module to allow learners to easily create GUIs
enisegui (0.0.2.5) - Widgets for guizero
C:\Users\Wuser>
```