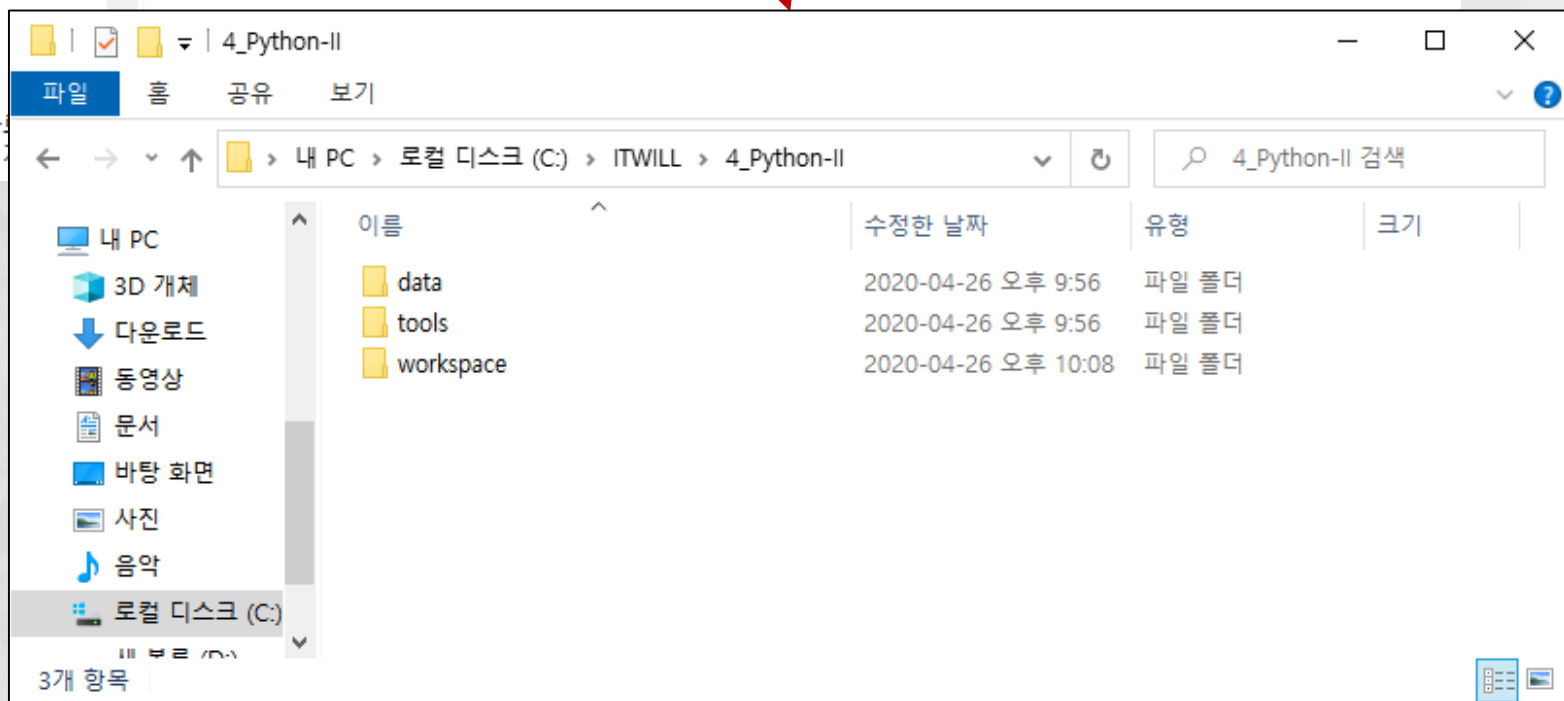
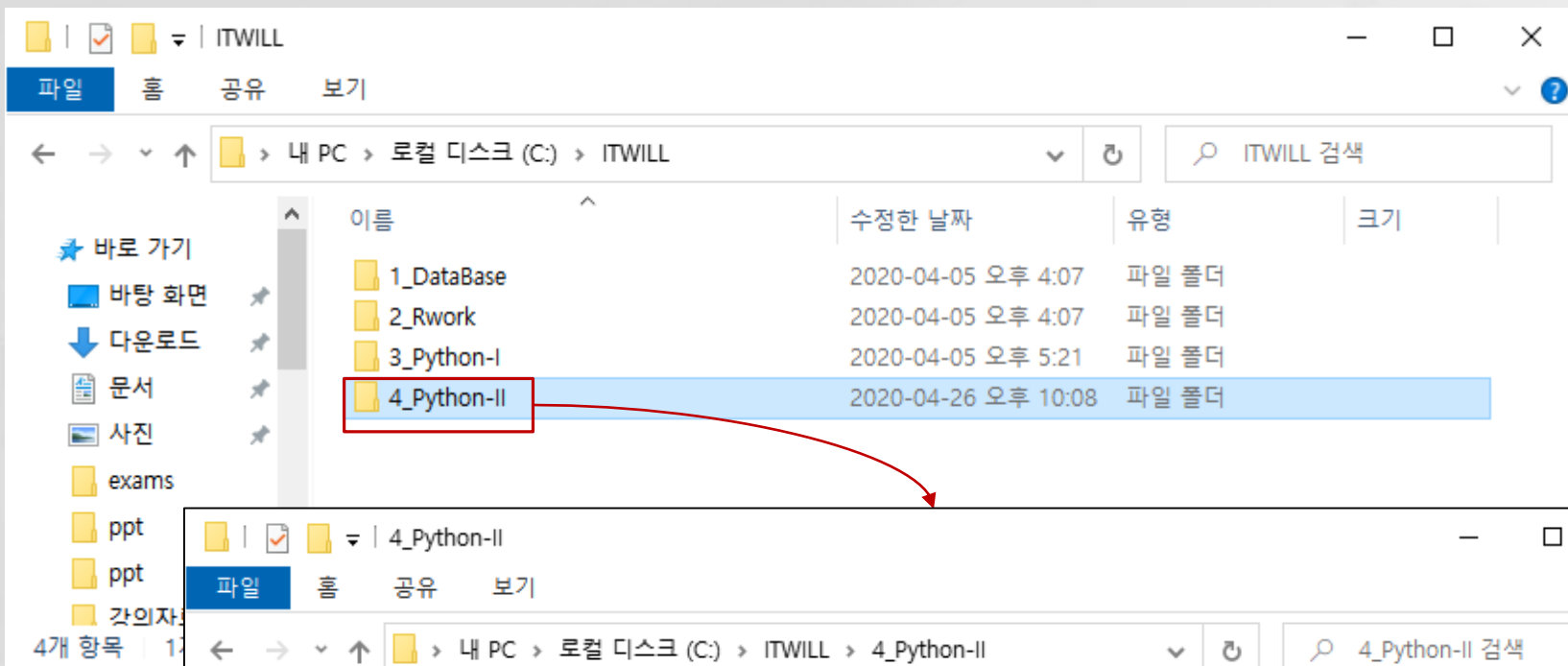


Anaconda install & setting

목차

1. 폴더구성
2. Anaconda 다운로드 & 설치
3. Spyder 사용법

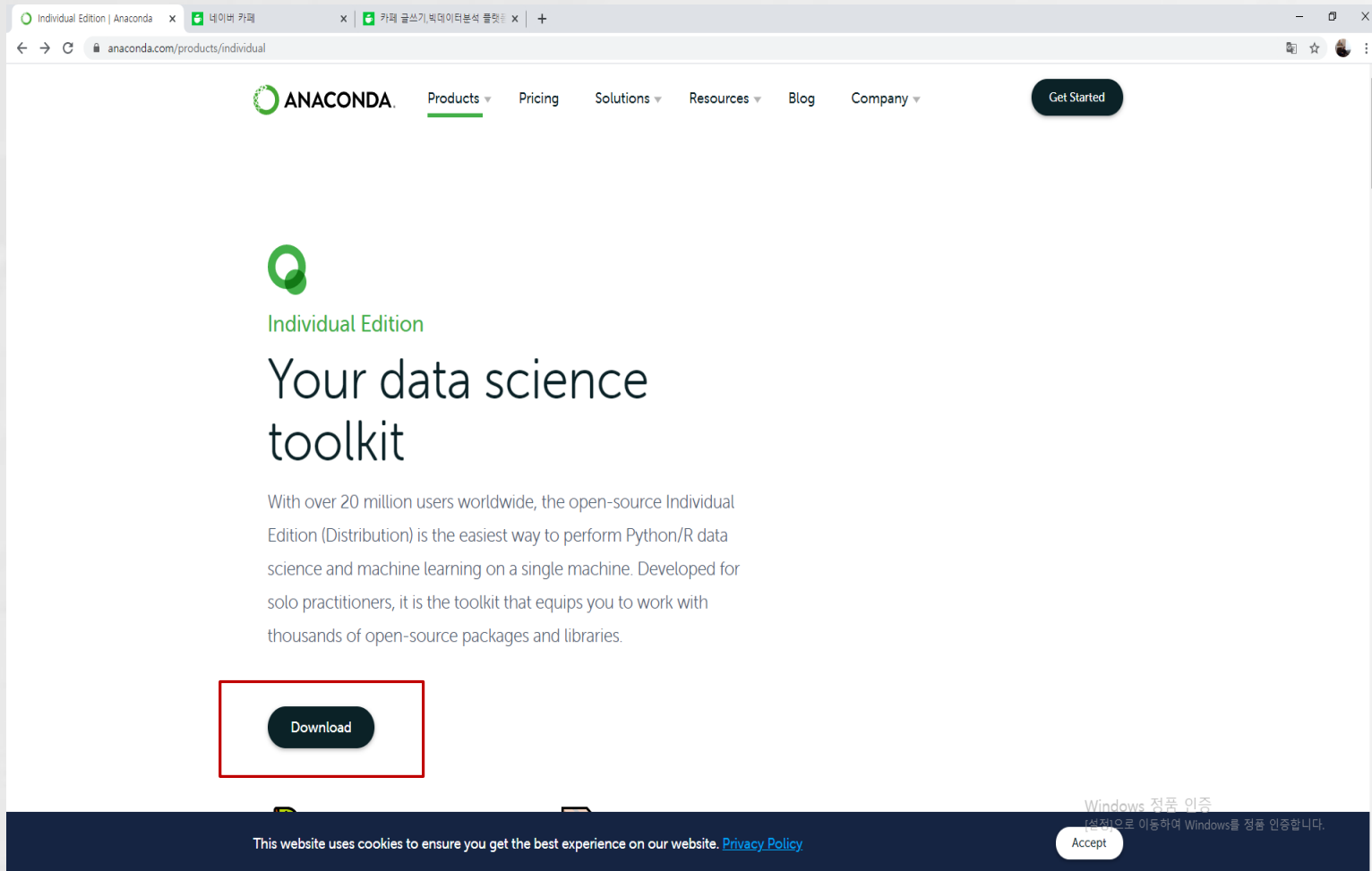


1. Anaconda 다운로드 & 설치

- Python 설치 및 분석 관련 라이브러리 제공
- Anaconda 주요 라이브러리
 - pandas
 - numpy
 - matplotlib
 - statistics
 - sklearn

● Anaconda 다운로드

<https://www.anaconda.com/distribution/>



Individual Edition | Anaconda x 네이버 카페 x 카톡 글쓰기 빅데이터분석 플랫폼 x +

anaconda.com/products/individual

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Individual Edition

Your data science toolkit

With over 20 million users worldwide, the open-source Individual Edition (Distribution) is the easiest way to perform Python/R data science and machine learning on a single machine. Developed for solo practitioners, it is the toolkit that equips you to work with thousands of open-source packages and libraries.

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(선택)으로 이동하여 Windows를 정품 인증합니다.

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Individual Edition | Anaconda

네이버 카페

카페 글쓰기, 빅데이터분석 플랫폼

anaconda.com/products/individual

Anaconda Installers

Windows

Python 3.7

64-Bit Graphical Installer (466 MB)

32-Bit Graphical Installer (425 MB)

Python 2.7

64-Bit Graphical Installer (413 MB)

32-Bit Graphical Installer (356 MB)

MacOS

Python 3.7

64-Bit Graphical Installer (442)

64-Bit Command Line Installer (430 MB)

Python 2.7

64-Bit Graphical Installer (637 MB)

64-Bit Command Line Installer (409 MB)

Linux

Python 3.7

64-Bit (x86) Installer (522 MB)

64-Bit (Power8 and Power9) Installer (276 MB)

Python 2.7

64-Bit (x86) Installer (477 MB)

64-Bit (Power8 and Power9) Installer (295 MB)

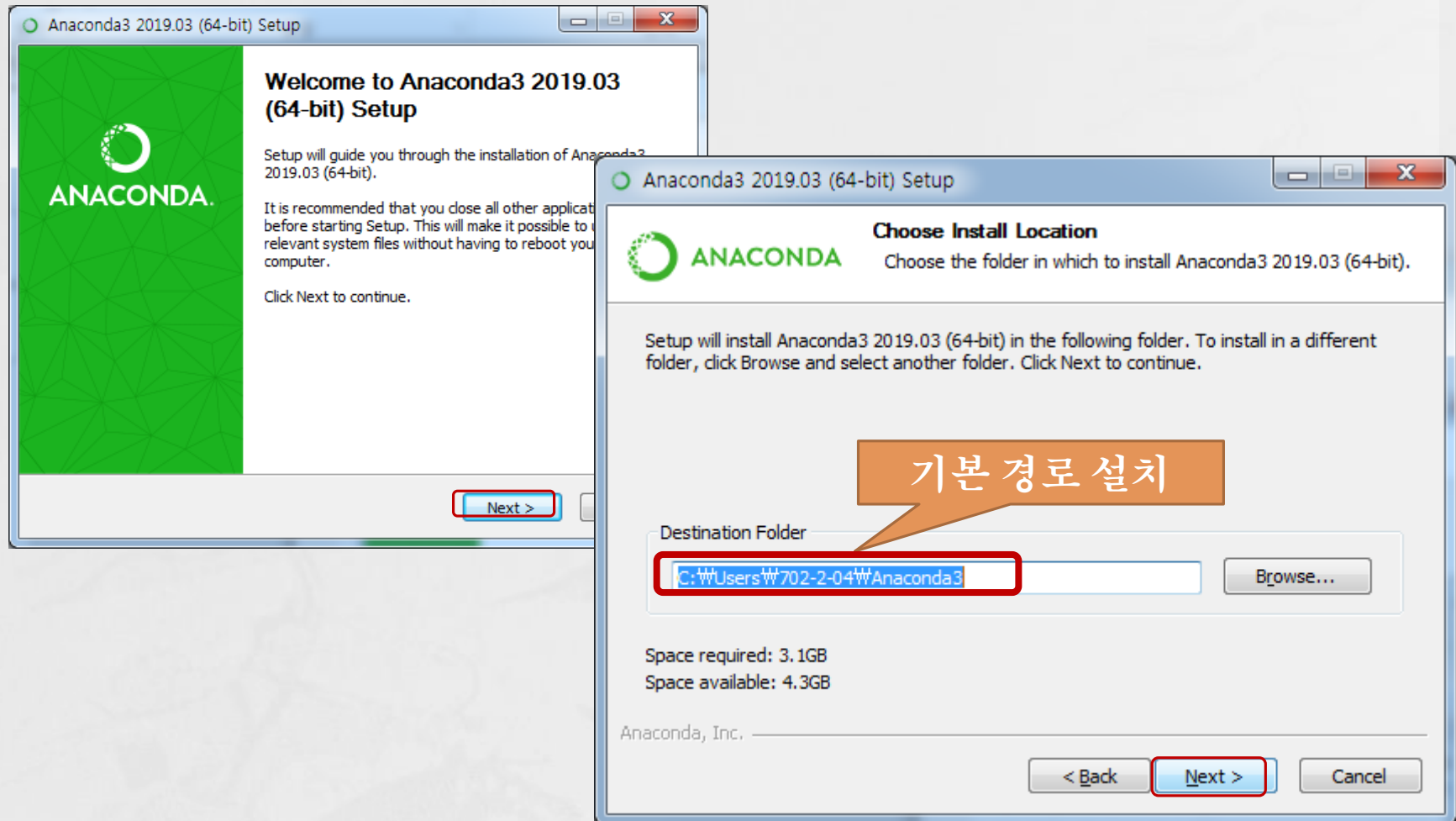
Windows 정품 인증

(선택)으로 이동하며 Windows를 정품 인증합니다.

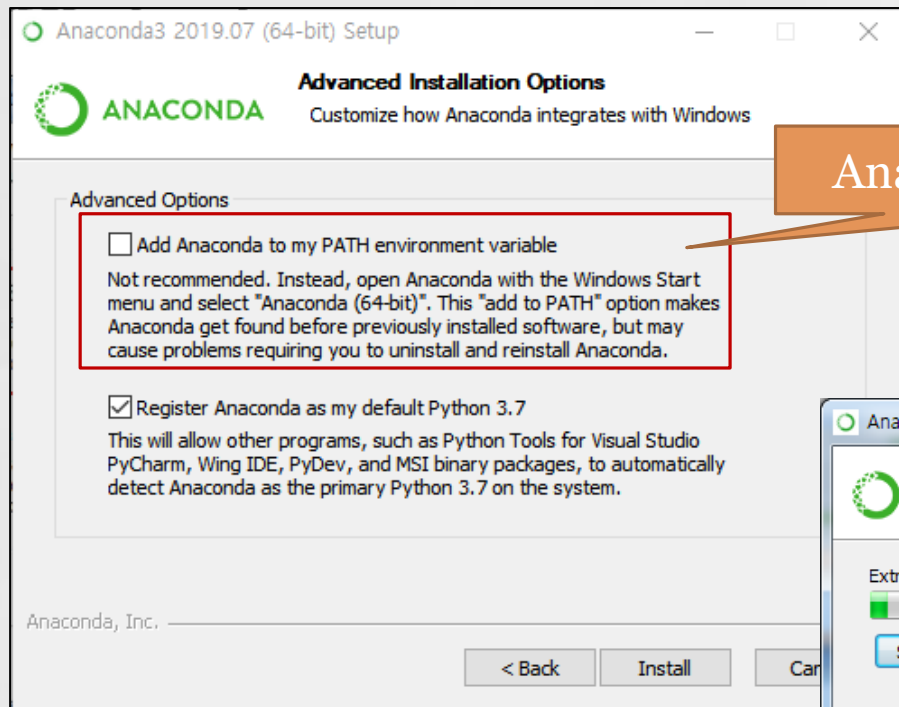
Accept

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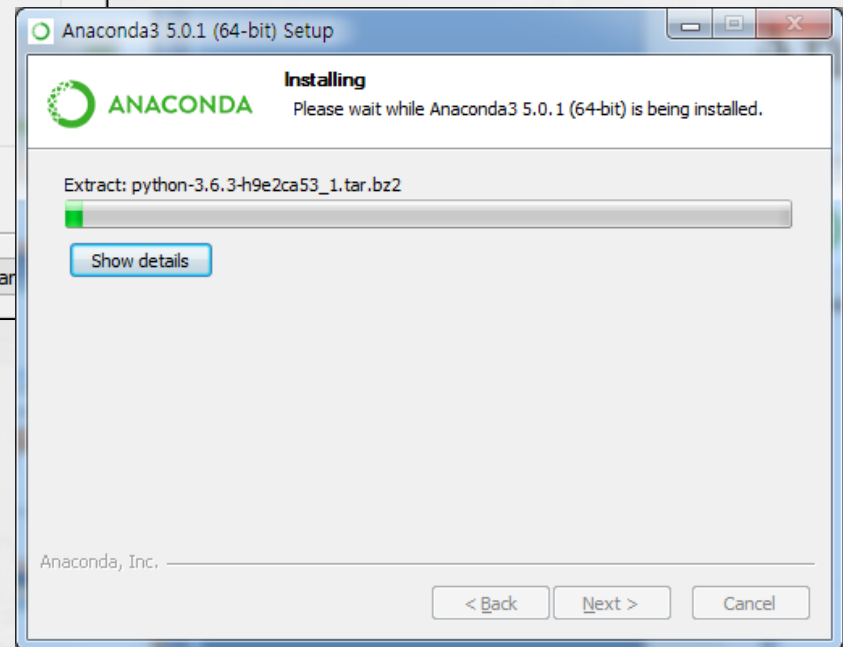
Anaconda 설치



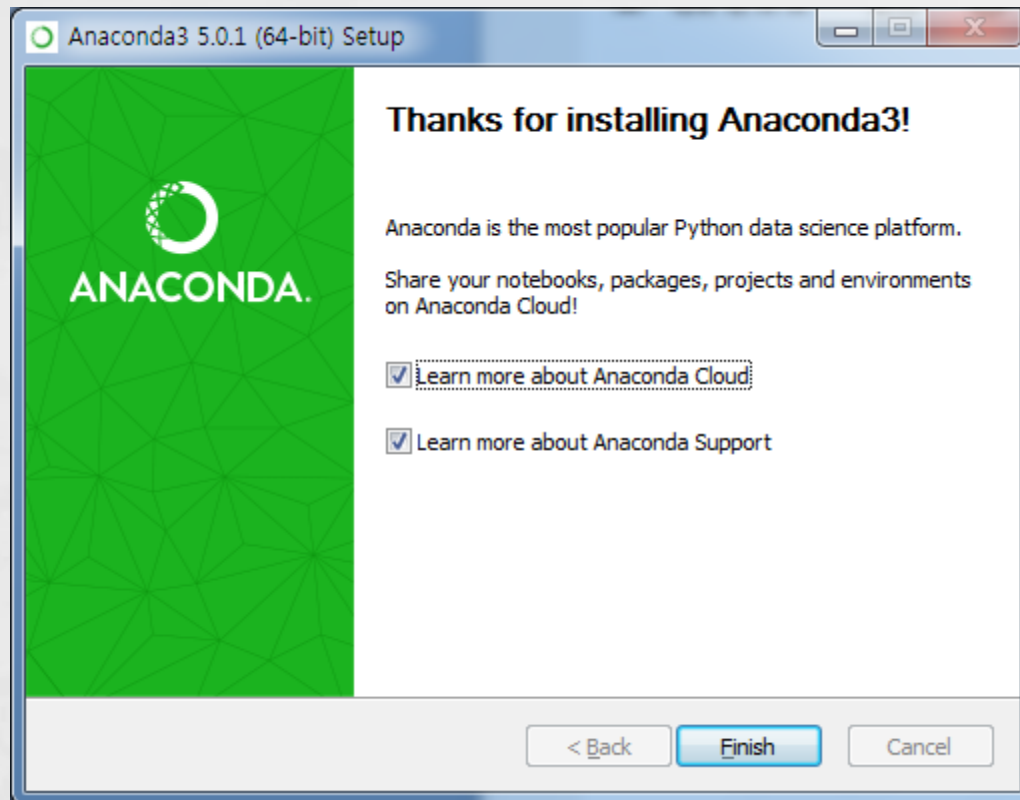
Anaconda 설치



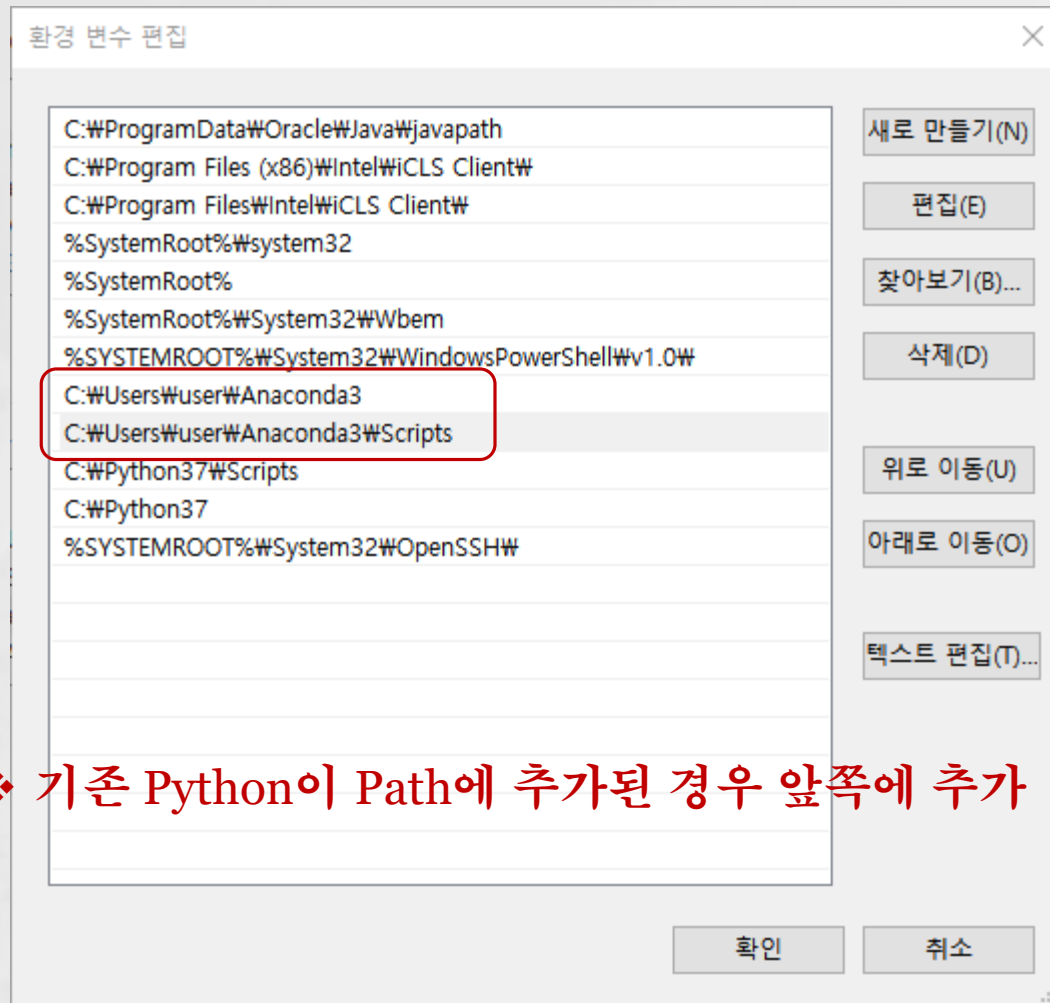
Anaconda만 사용 시 체크



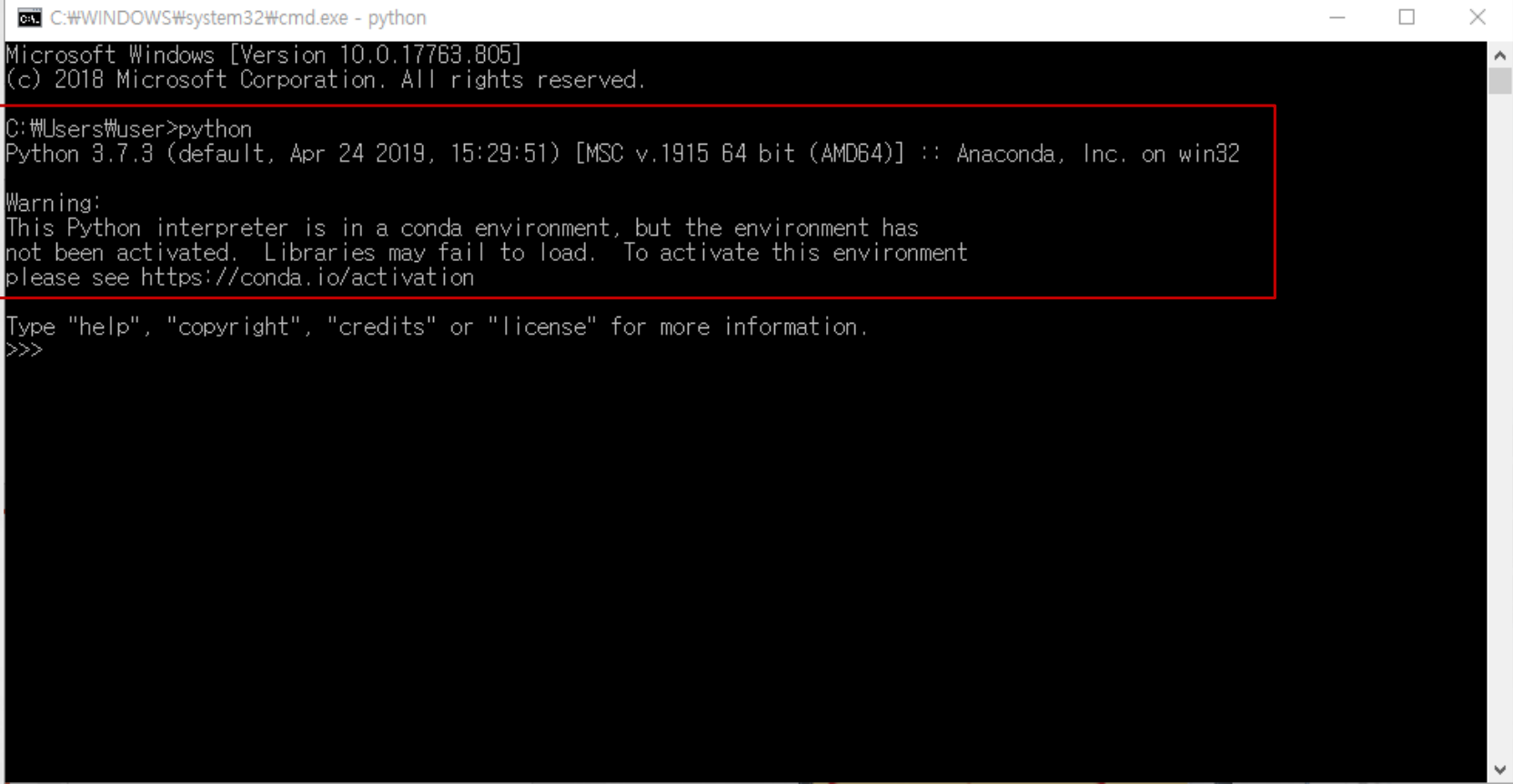
Anaconda 설치 완료



Path 설정



Path 설정 확인



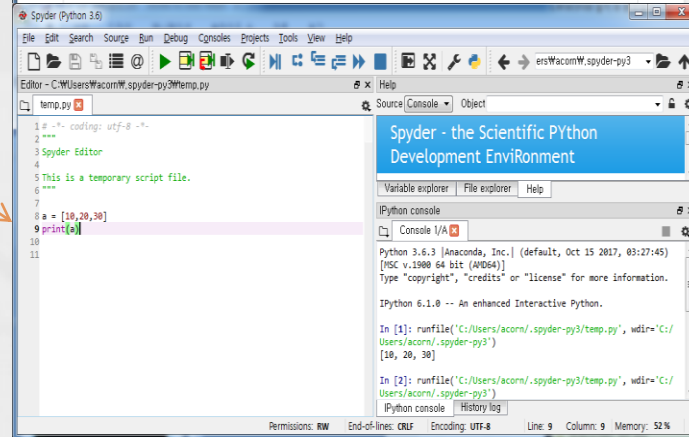
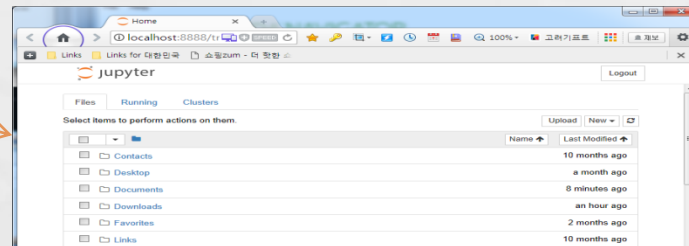
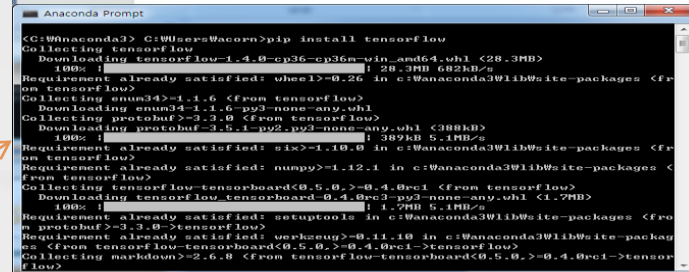
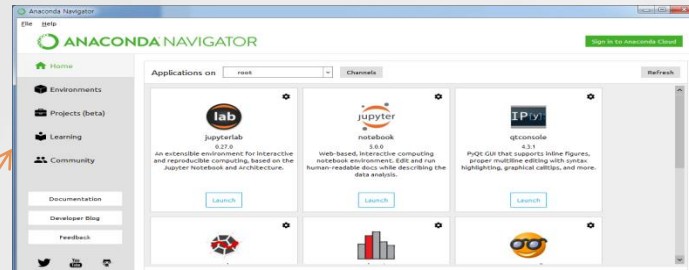
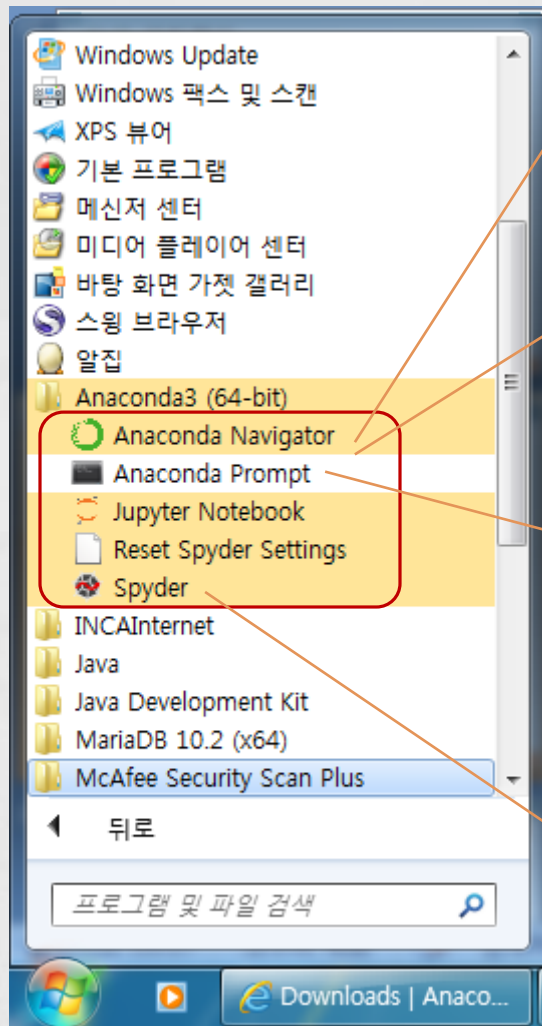
A screenshot of a Windows command prompt window. The title bar reads 'C:\WINDOWS\system32\cmd.exe - python'. The window content shows the following text: 'Microsoft Windows [Version 10.0.17763.805] (c) 2018 Microsoft Corporation. All rights reserved. C:\Users\User>python Python 3.7.3 (default, Apr 24 2019, 15:29:51) [MSC v.1915 64 bit (AMD64)] :: Anaconda, Inc. on win32 Warning: This Python interpreter is in a conda environment, but the environment has not been activated. Libraries may fail to load. To activate this environment please see https://conda.io/activation Type "help", "copyright", "credits" or "license" for more information. >>>'. A red rectangular box highlights the warning message.

```
C:\WINDOWS\system32\cmd.exe - python
Microsoft Windows [Version 10.0.17763.805]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\User>python
Python 3.7.3 (default, Apr 24 2019, 15:29:51) [MSC v.1915 64 bit (AMD64)] :: Anaconda, Inc. on win32
Warning:
This Python interpreter is in a conda environment, but the environment has
not been activated. Libraries may fail to load. To activate this environment
please see https://conda.io/activation

Type "help", "copyright", "credits" or "license" for more information.
>>>
```

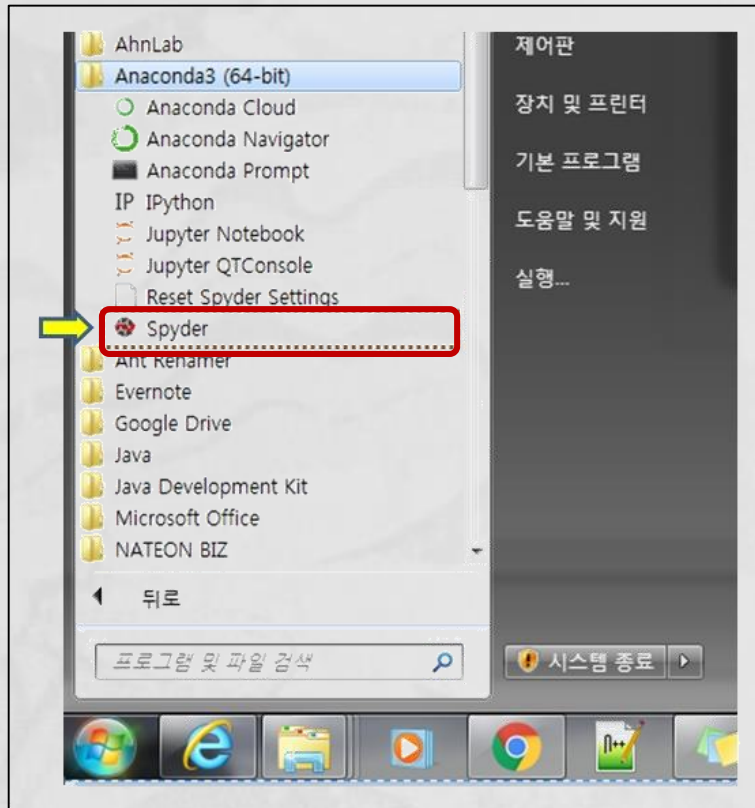
Anaconda 메뉴



2. Spyder 사용법

- Spyder 실행

Windows 시작 단추 > 'Anaconda3 (64-bit)' > 'Spyder' 아이콘 클릭



[참고] <https://rfriend.tistory.com/m/298>

● Spyder 창 구성 ([View] – [Window layouts] – [Spyder Default Layout])

The screenshot displays the Spyder Python IDE interface. The main editor window on the left shows a Python script named `test.py` with the following content:

```
1 # -*- coding: utf-8 -*-
2 """
3 Spyder Editor
4
5 This is a temporary script file.
6 """
7
8 import numpy as np
9
10 dataset = np.array([1,2,3,4,5])
11 avg = dataset.mean()
12 print('avg=', avg)
13
14
```

The Variable explorer on the right shows the following variables:

Name	Type	Size	Value
avg	float64	1	3.0
dataset	int32	(5,)	array([1, 2, 3, 4, 5])

The IPython console at the bottom shows the execution of the script:

```
Python 3.6.4 |Anaconda, Inc.| (default, Jan 16 2018, 10:22:32) [MSC v.1900 64
bit (AMD64)]
Type "copyright", "credits" or "license" for more information.

IPython 6.2.1 -- An enhanced Interactive Python.
[1 2 3 4 5]

In [2]:

In [2]:

In [2]: runfile('D:/THEJOEUN/PythonII_week_ML_DNN[1902]/test.py', wdir='D:/
THEJOEUN/PythonII_week_ML_DNN[1902]')
avg= 3.0

In [3]:
```

The status bar at the bottom indicates: Permissions: RW, End-of-lines: CRLF, Encoding: UTF-8, Line: 13, Column: 1, Memory: 85%.

● Spyder 창 구성 ([View] – [Window layouts] – [Rstudio Layout])

The screenshot displays the Spyder Python IDE interface with the following components:

- Editor:** Contains a Python script named `test.py` with the following code:

```
1 # -*- coding: utf-8 -*-
2 """
3 Spyder Editor
4
5 This is a temporary script file.
6 """
7
8 import numpy as np
9
10 dataset = np.array([1,2,3,4,5])
11 avg = dataset.mean()
12 print('avg=', avg)
13
14
```
- Variable explorer:** Shows the current state of variables in the workspace.

Name	Type	Size	Value
avg	float64	1	3.0
dataset	int32	(5,)	array([1, 2, 3, 4, 5])
- IPython console:** Displays the output of the executed code:

```
Python 3.6.4 [Anaconda, Inc.] (default, Jan 16 2018, 10:22:32) [MSC v.1900 64 bit (AMD64)]
Type "copyright", "credits" or "license" for more information.

IPython 6.2.1 -- An enhanced Interactive Python.
[1 2 3 4 5]

In [2]:
In [2]:
In [2]: runfile('D:/THEJOEUN/PythonII_week_ML_DNN[1902]/test.py', wdir='D:/THEJOEUN/PythonII_week_ML_DNN[1902]')
avg= 3.0

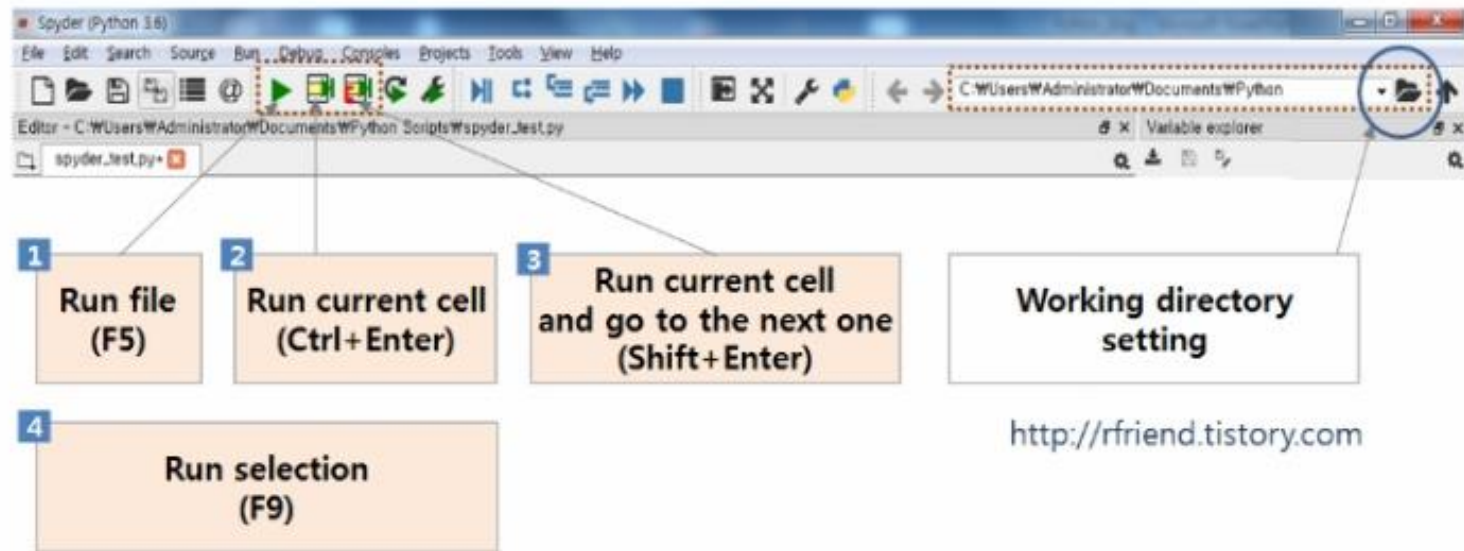
In [3]:
```
- File explorer:** Shows the file structure of the current project.

Name	Size	Type	Date Modified
> .metadata		File Folder	2019-01-20 오후 5:26
> eclipse		File Folder	2019-02-02 오후 10:46
> lecutre		File Folder	2019-02-06 오후 4:29
> RemoteSystemsTempFiles		File Folder	2019-01-19 오후 7:37
> util		File Folder	2019-01-10 오후 4:42
> workspace		File Folder	2019-01-19 오후 8:31
python분석 목차.txt	1 KB	txt File	2019-01-26 오후 7:46
test.py	187 bytes	py File	2019-02-06 오후 5:46
문제원형-Python을활용한머신러닝실무.hwp	613 KB	hwp File	2018-12-03 오후 11:13
시간표-파이썬을+활용한+머신러닝실무_01월.xlsx	13 KB	xlsx File	2019-01-08 오전 11:39
진단평가양식-Python을활용한머신러닝실무.hwp	631 KB	hwp File	2018-12-07 오후 10:11

At the bottom right, the status bar shows: Permissions: RW | End-of-lines: CRLF | Encoding: UTF-8 | Line: 13 | Column: 1 | Memory: 84%

● Code 실행

- 1) 저장한 파일 전체를 처음부터 끝까지 한꺼번에 실행(Run file) : **F5**
- 2) 현재 커서가 위치한 cell 전체 실행 후 커서 현재 cell에 위치 : **Ctrl + Enter**
: 여기서 cell 은 '#%%' 로 구분, 위/아래 '선(line)'으로 구분 된 코드 block
- 3) 현재 커서가 위치한 cell 전체를 실행 후 다음 cell로 커서 이동 : **Shift + Enter**
- 4) 현재 커서가 위치한 행(row) 또는 선택한 행 전체 실행(Run selection) : **F9**



● code 실행 : F5(전체 프로그램 실행)

1 # -*- coding: utf-8 -*-
2 """
3 Spyder Editor
4 This is a temporary script file.
5 """
6
7
8 import numpy as np
9
10 dataset = np.array([1,2,3,4,5])
11 avg = dataset.mean()
12 print('avg=', avg)
13
14

Name	Type	Size	Value
avg	float64	1	3.0
dataset	int32	(5,)	array([1, 2, 3, 4, 5])

Python 3.6.4 [Anaconda, Inc.] (default, Jan 16 2018, 10:22:32) [MSC v.1900 64 bit (AMD64)]
Type "copyright", "credits" or "license" for more information.

IPython 6.2.1 -- An enhanced Interactive Python.
[1 2 3 4 5]

In [2]:
In [2]:
In [2]: runfile('D:/THEJOEUN/PythonII_week_ML_DNN[1902]/test.py', wdir='D:/THEJOEUN/PythonII_week_ML_DNN[1902]')
avg= 3.0
In [3]:

Run file Permissions: RW End-of-lines: CRLF Encoding: UTF-8 Line: 13 Column: 1 Memory: 84%

● code 실행 : F9(줄 단위 or 블록 단위 실행)

The screenshot displays the Spyder Python IDE interface. The editor window on the left shows a Python script named `test.py` with the following content:

```
1 # -*- coding: utf-8 -*-
2 """
3 Spyder Editor
4
5 This is a temporary script file
6 """
7
8 import numpy as np
9
10 dataset = np.array([1,2,3,4,5])
11 avg = dataset.mean()
12 print('avg=', avg)
13
14
```

The variable explorer on the right shows the current state of variables:

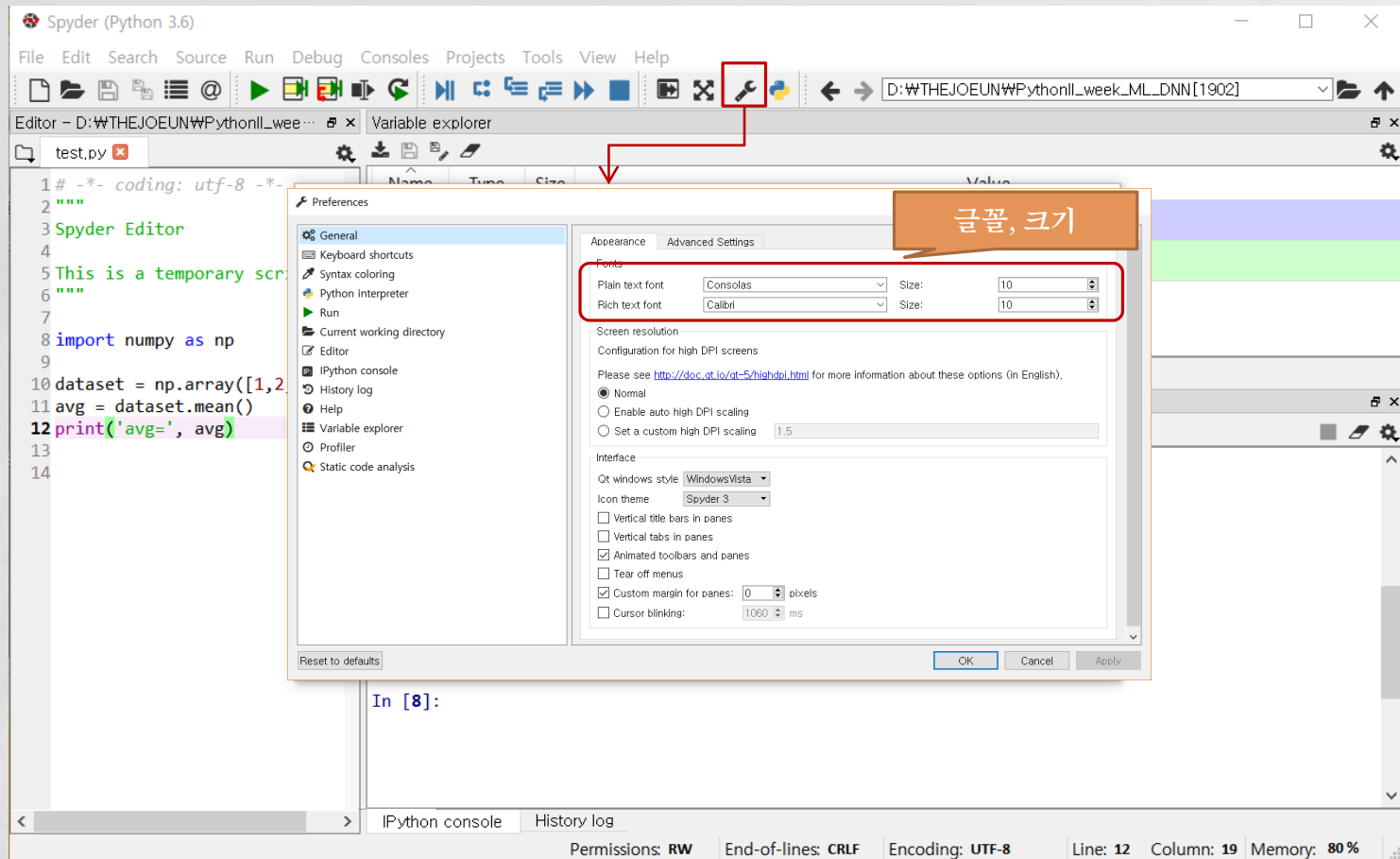
Name	Type	Size	Value
avg	float64	1	3.0
dataset	int32	(5,)	array([1, 2, 3, 4, 5])

The IPython console at the bottom shows the execution history, with a red box highlighting the first four lines of code:

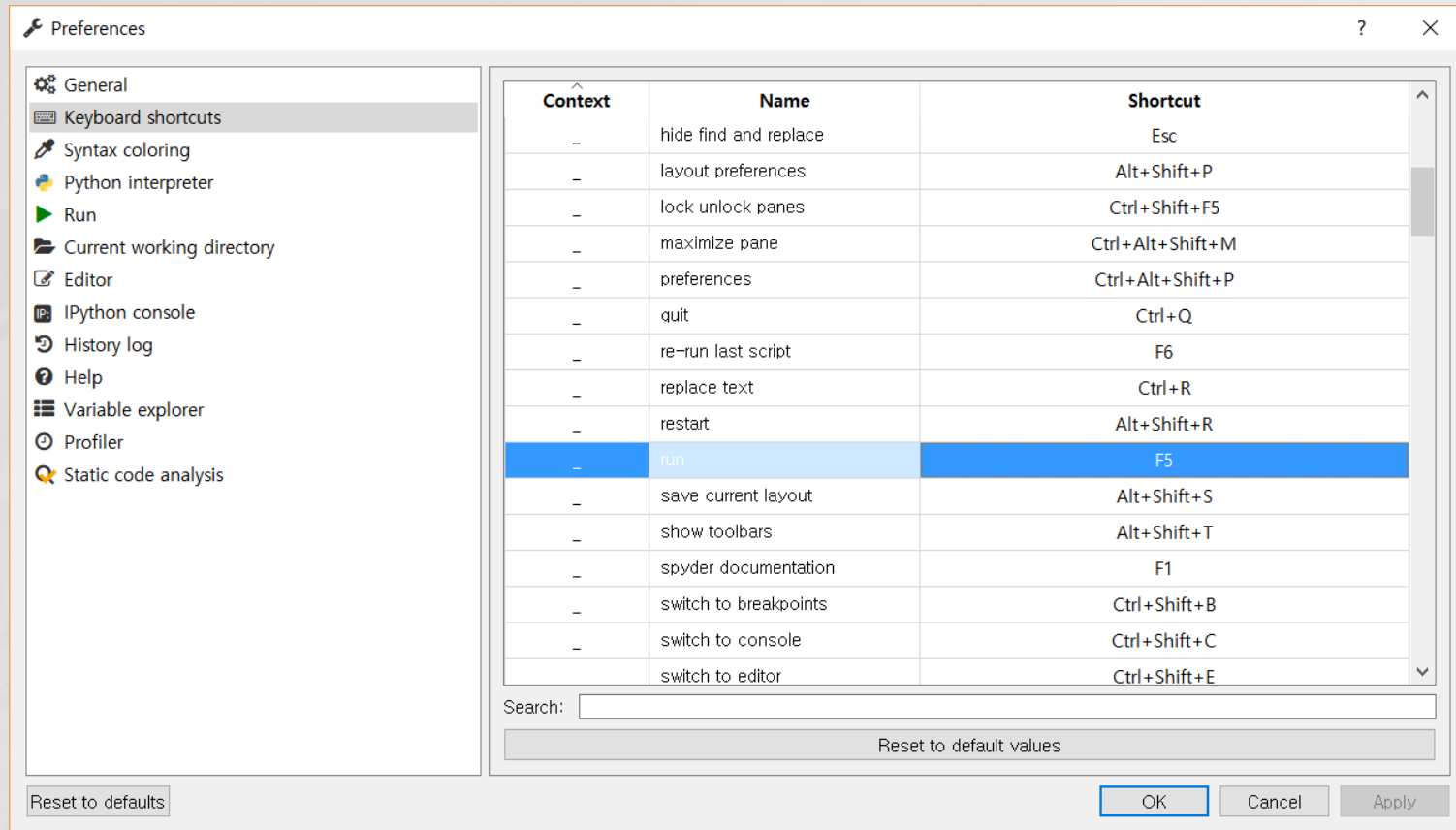
```
In [4]: import numpy as np
In [5]: dataset = np.array([1,2,3,4,5])
In [6]: avg = dataset.mean()
In [7]: print('avg=', avg)
avg= 3.0
In [8]:
```

The status bar at the bottom indicates the current state: Permissions: RW, End-of-lines: CRLF, Encoding: UTF-8, Line: 12, Column: 19, Memory: 83%.

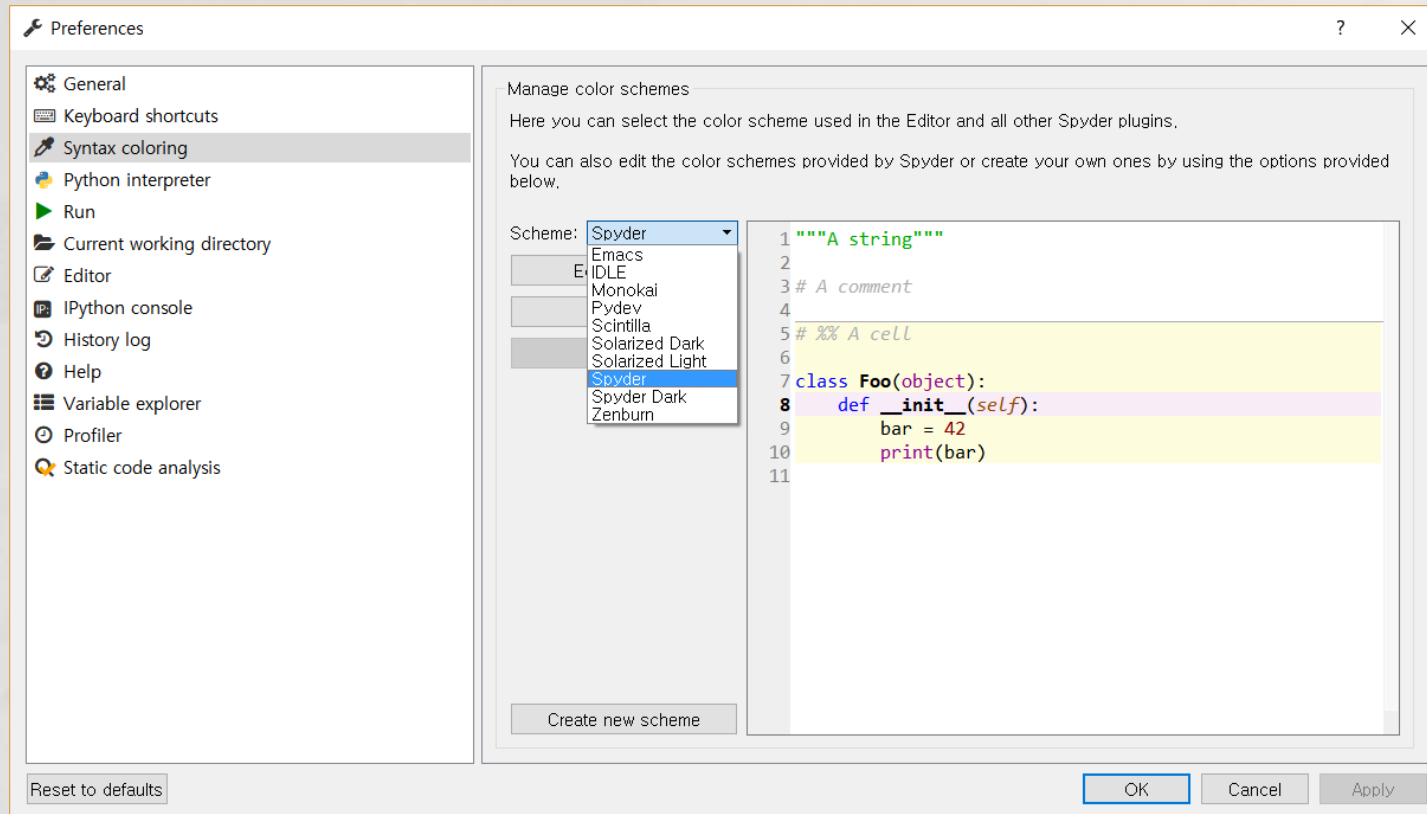
● Spyder 환경설정



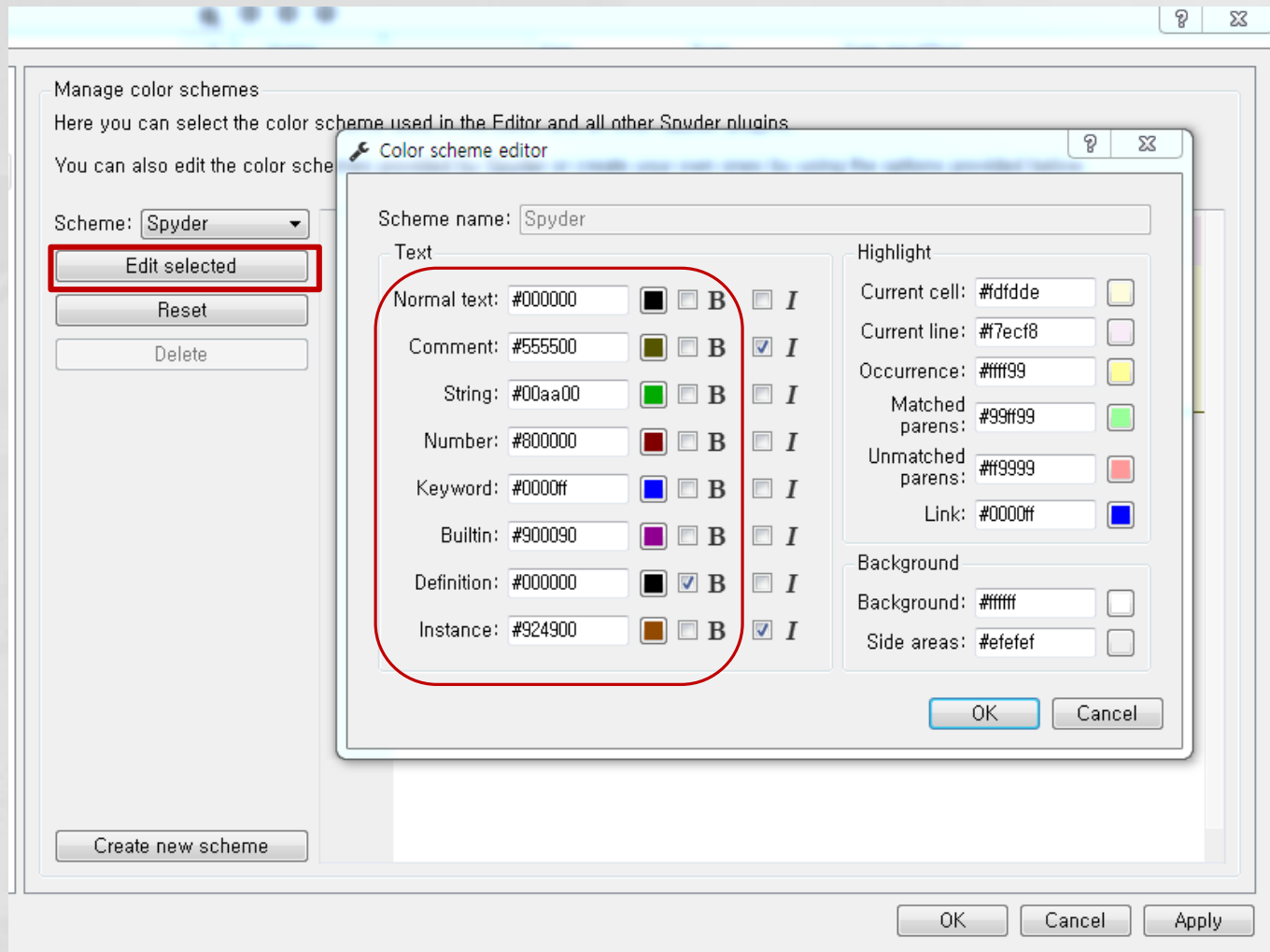
● 단축키 설정



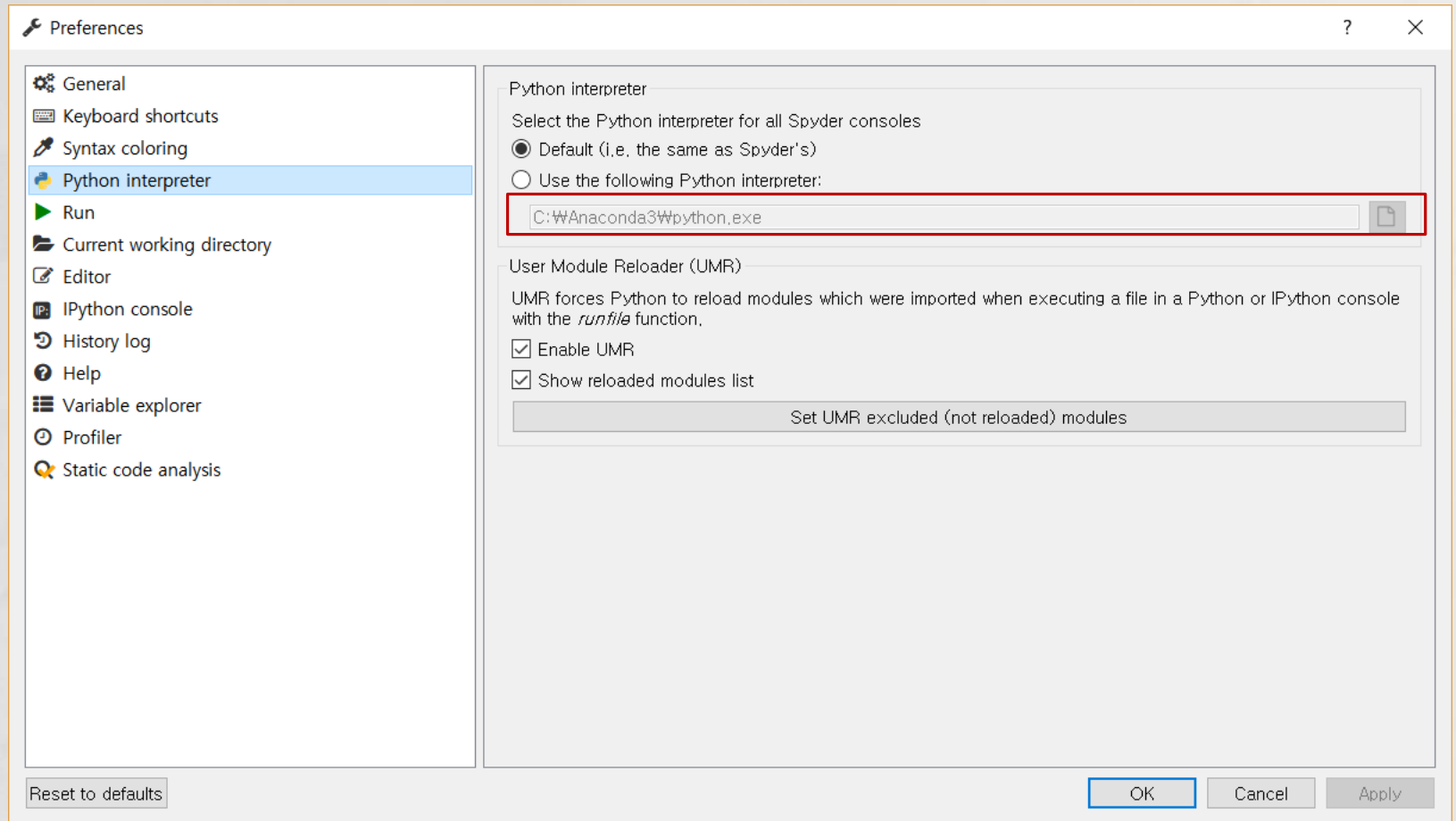
● Syntax coloring 설정



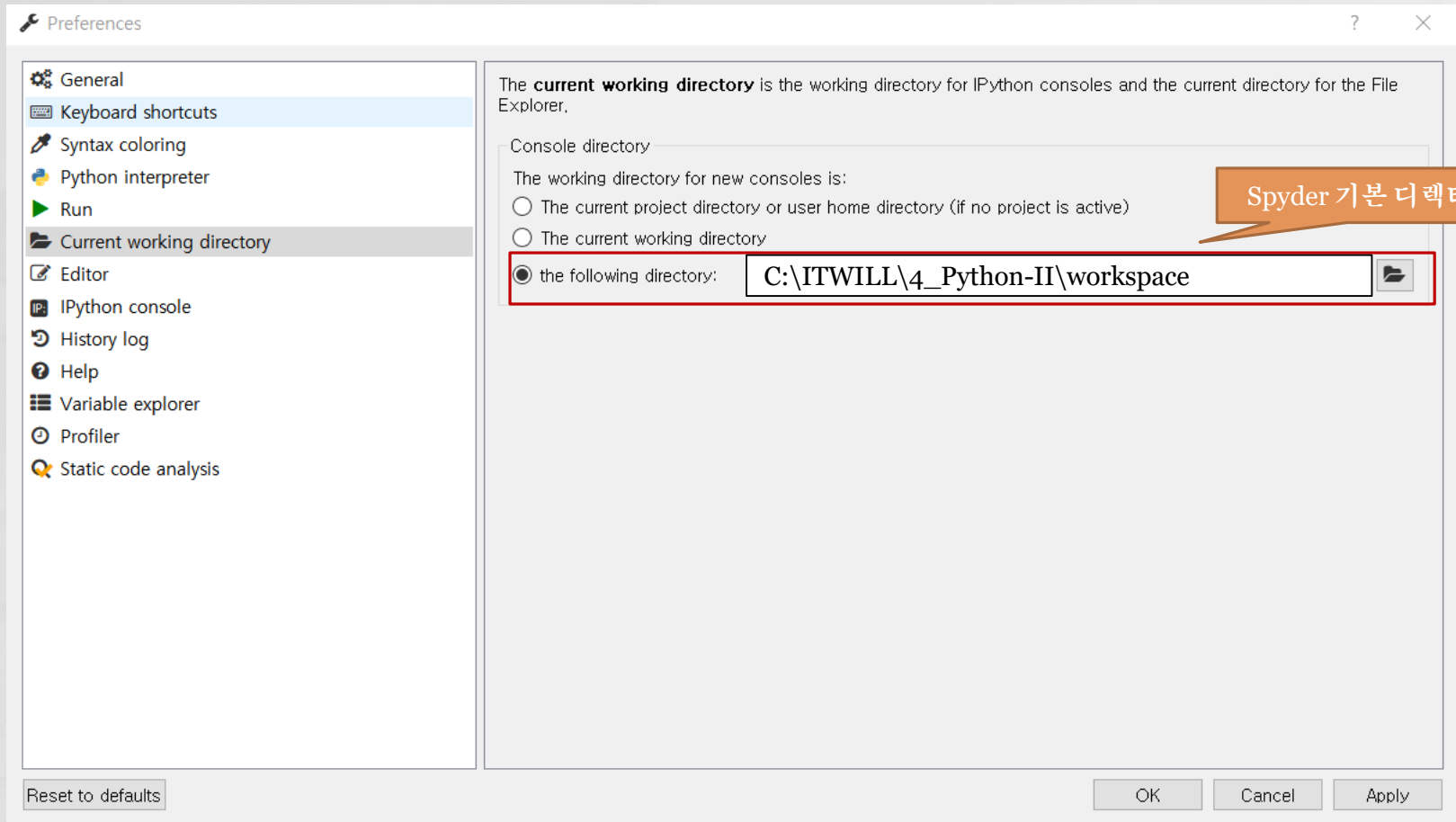
● Text 별 색상 변경



● Python interpreter 설정

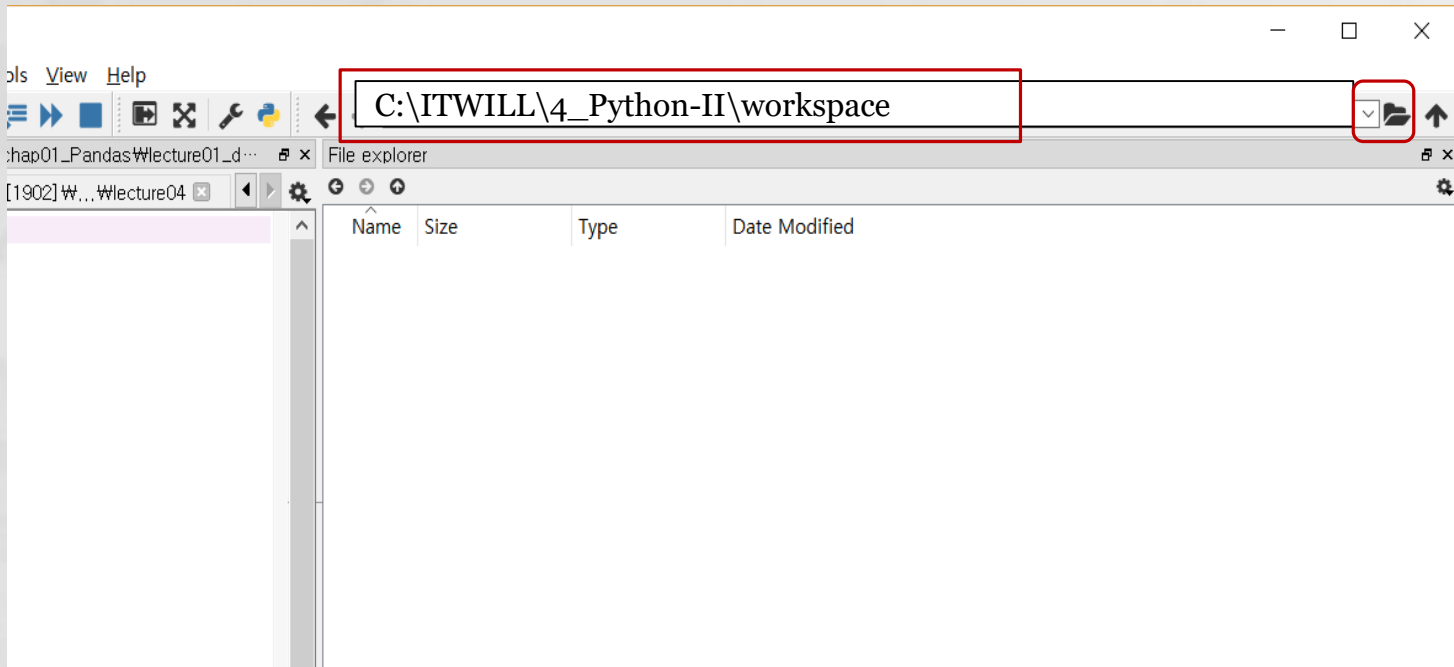


● Current working directory 설정



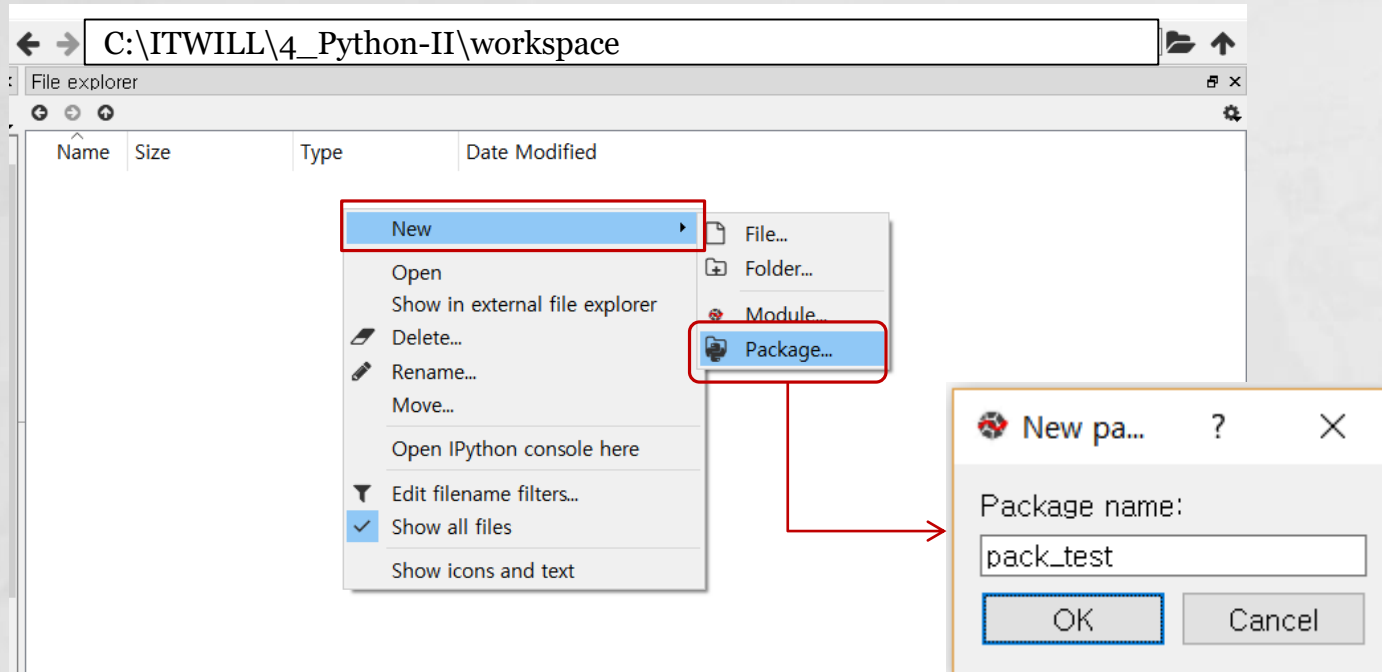
● Working directory 설정

Spyder 우측 상단의 '폴더' 모양 아이콘을 누르고 탐색기로 경로를 설정해주면 'Working directory'가 설정된다. 이와 같이 설정해주면 파일 저장이나 불러오기 작업이 편리하다.



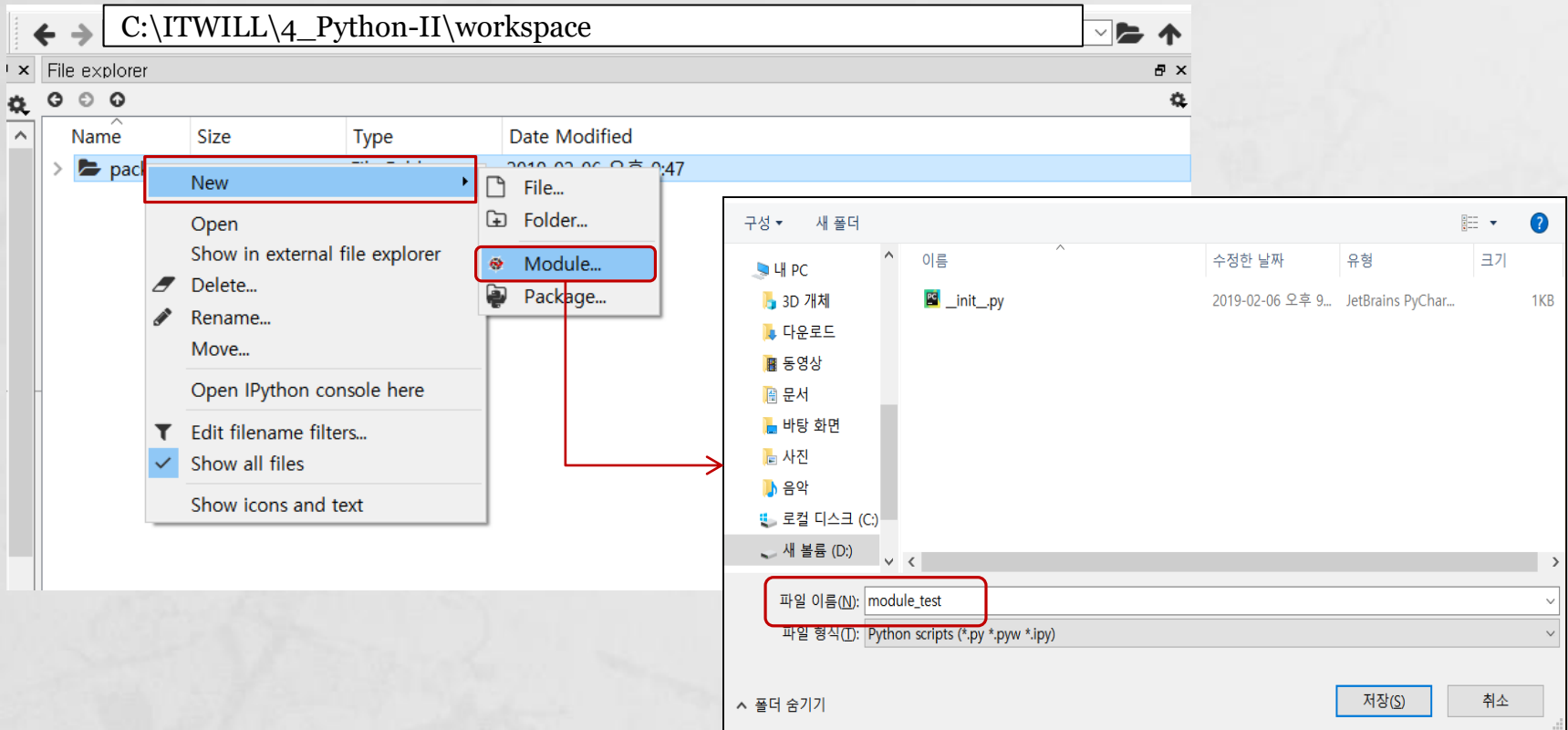
● packages 만들기

Python의 Package는 동일한 모듈(module)을 묶어주는 역할을 한다.



● module 만들기

module은 Python의 파일이며, *.py 형식으로 만들어진다.



● module 작성 및 실행

Spyder (Python 3.6)

File Edit Search Source Run Debug Consoles Projects Tools View Help

Editor - D:\PythonAnalysis\lecture\pack_test\module_test.py

File explorer

C:\ITWILL\4_Python-II\workspace

Name	Size	Type	Date Modified
__init__.py	1 bytes	py File	2019-02-06 오후 9:47
module_test.py	94 bytes	py File	2019-02-06 오후 9:49

```
1 # -*- coding: utf-8 -*-
2 """
3 Created on Wed Feb  6 21:49:49 2019
4
5 @author: jinsung
6 """
7
8 import numpy as np
9
10 lst = [1,2,3,4,5]
11
12 arr_lst = np.array(lst)
13 print(arr_lst)
14 print(type(arr_lst))
15
```

1

2

3

F5

3

IPython console

Console 1/A

```
if df.ix[idx, 'gender'] == 1 :

In [11]: runfile('D:/PythonAnalysis/lecture/pack_test/module_test.py', wdir='D:/PythonAnalysis/lecture/pack_test')
[1 2 3 4 5]
<class 'numpy.ndarray'>

In [12]: |
```

IPython console History log

Permissions: RW End-of-lines: CRLF Encoding: UTF-8 Line: 15 Column: 1 Memory: 70%

● cell 작성 및 실행

The screenshot shows the Spyder Python IDE interface. The main editor window displays a Python script named `module_test.py`. The script includes a docstring, imports `numpy` and `pandas`, and creates a `DataFrame` object. A red box labeled '1' highlights the `import pandas as pd` line. A callout bubble labeled '2' with the text 'Ctrl + Enter' points to the `df = pd.DataFrame({'lst' :lst, 'lst2' : lst2})` line. The IPython console on the right shows the output of the execution, displaying the `DataFrame` structure and its type.

File explorer: C:\ITWILL\4_Python-II\workspace

File explorer table:

Name	Size	Type	Date Modified
__init__.py	1 bytes	py File	2019-02-06 오후 9:47
module_test.py	94 bytes	py File	2019-02-06 오후 9:49

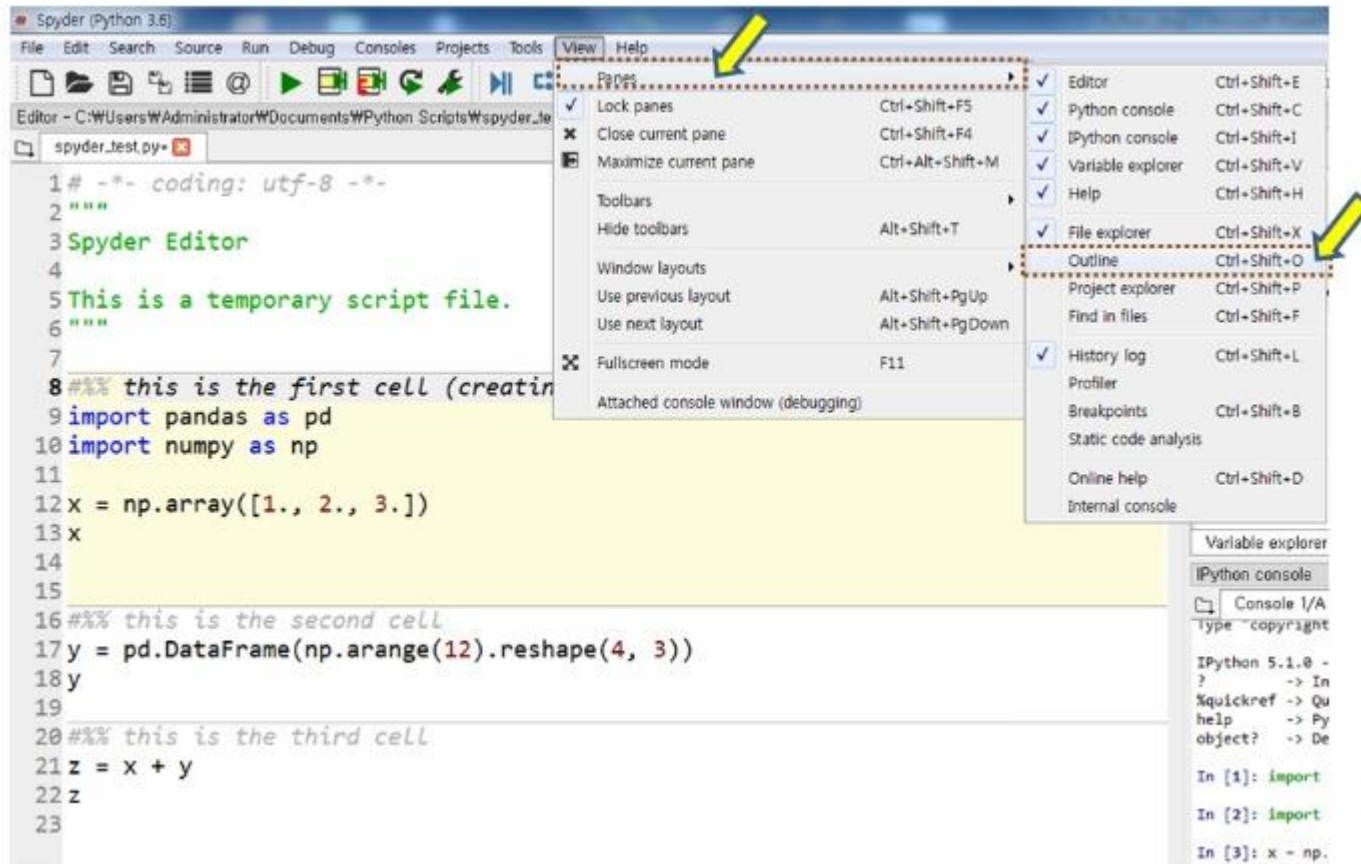
IPython console:

```
...: df = pd.DataFrame({'lst' :lst, 'lst2' : lst2})
...: print(df)
...: print(type(df))
lst lst2
0 1 2
1 2 3
2 3 4
3 4 5
4 5 6
<class 'pandas.core.frame.DataFrame'>

In [14]:
```

Permissions: RW | End-of-lines: CRLF | Encoding: UTF-8 | Line: 17 | Column: 20 | Memory: 87%

● Spyder outline[cell 보기]



● Spyder outline

The screenshot displays the Spyder Python IDE interface. The main editor window shows a Python script named `module_test.py` with the following content:

```
1 # -*- coding: utf-8 -*-
2 """
3 Created on Wed Feb 6 21:49:49 2019
4
5 @author: jinsung
6 """
7
8 import numpy as np
9
10 lst = [1,2,3,4,5]
11
12 arr_lst = np.array(lst)
13 print(arr_lst)
14 print(type(arr_lst))
15
16 """
17 import pandas as pd
18 lst2 = [2,3,4,5,6]
19 df = pd.DataFrame({'lst' :lst, 'lst2' : lst2})
20 print(df)
21 print(type(df))
22
23 """
```

The Outline pane on the right side of the editor shows the project structure. The file `module_test.py` is highlighted with a red box. The File explorer pane on the far right shows the following table:

Name	Size	Type	Date Modified
pack_test		File Folder	2019-02-06 오후 9:49
__init__.py	1 bytes	py File	2019-02-06 오후 9:47
module_test.py	329 bytes	py File	2019-02-06 오후 10:10

The IPython console at the bottom shows the following output:

```
Python 3.6.4 [Anaconda, Inc.] (default, Jan 16 2018, 10:22:32) [MSC
Type "copyright", "credits" or "license" for more information.

IPython 6.2.1 -- An enhanced Interactive Python.

In [1]:
```

폴더 vs 패키지 vs 모듈

The screenshot shows a Windows File Explorer window titled "File explorer" with the address bar set to "C:\ITWILL\4_Python-II\workspace". The main pane displays a list of files and folders. Annotations in orange speech bubbles provide definitions:

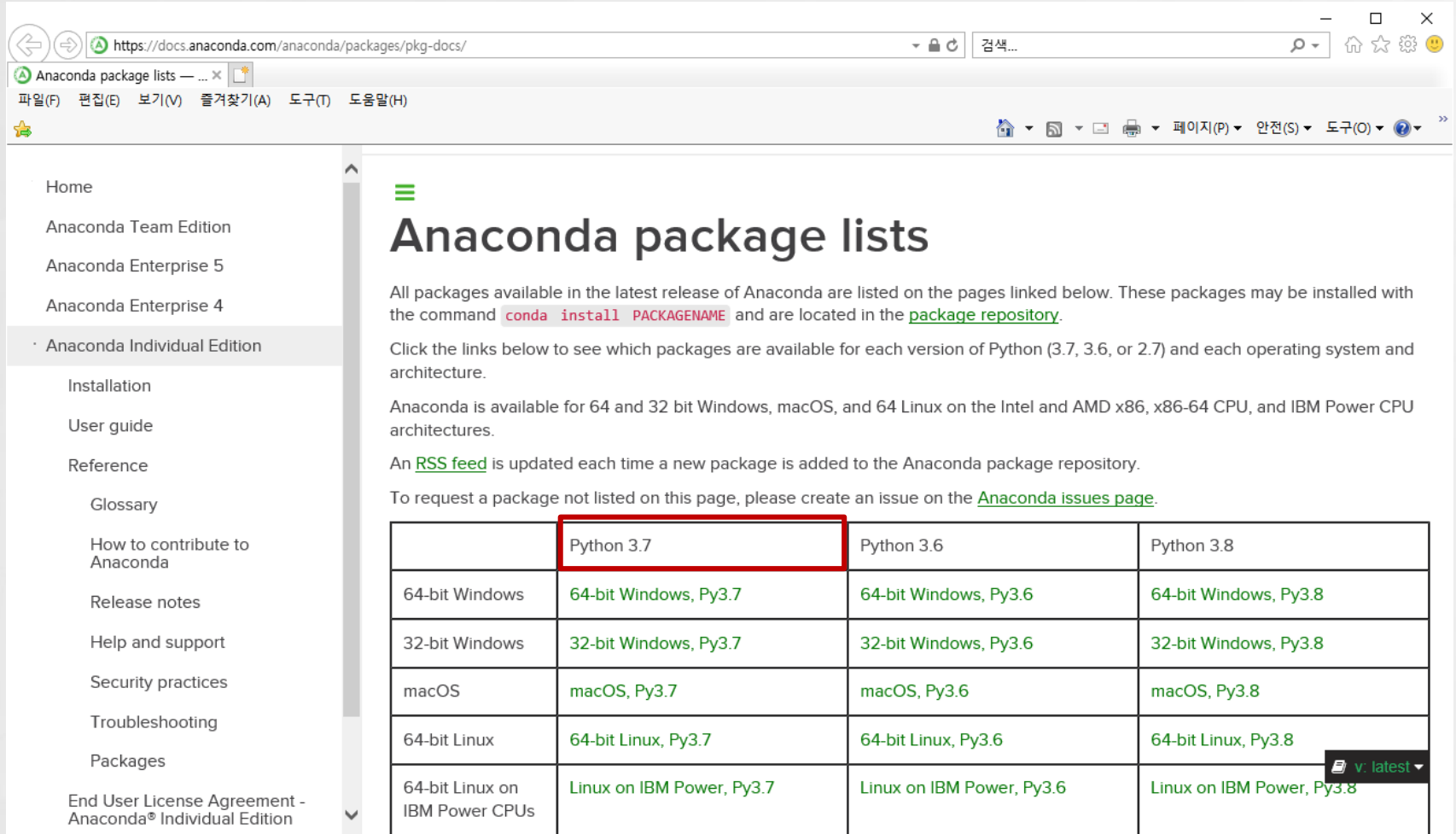
- 폴더 (Folder):** Points to the "workspace" folder.
- 패키지 : `__init__.py` 모듈 있음 (Package : module `__init__.py` exists):** Points to the "lecture01_ds" folder, which contains an `__init__.py` file.
- 모듈 : python 파일 (Module : python file):** Points to the `step01_Series.py` file within the "lecture01_ds" folder.

Name	Size	Type	Date Modified
lecture		File Folder	2019-05-03 오전 9:56
tools		File Folder	2019-05-03 오전 10:16
workspace		File Folder	2019-05-03 오전 11:17
chap01_Pandas		File Folder	2019-05-03 오후 12:43
data		File Folder	2019-05-03 오후 12:42
example		File Folder	2019-05-03 오후 12:42
lecture01_ds		File Folder	2019-05-03 오후 12:44
__init__.py	1 bytes	py File	2019-05-03 오후 12:39
step01_Series.py	477 bytes	py File	2019-05-03 오후 12:52
pack_test		File Folder	2019-05-03 오전 11:18
__init__.py		py File	2019-05-03 오전 11:17
module_test.py		py File	2019-05-03 오전 11:48

At the bottom of the window, there are tabs for "Help", "Variable explorer", and "File explorer", and an "IPython console" pane.

Anaconda Package docs

<https://docs.anaconda.com/anaconda/packages/pkg-docs/>



The screenshot shows a web browser window displaying the Anaconda package lists page. The browser's address bar shows the URL <https://docs.anaconda.com/anaconda/packages/pkg-docs/>. The page has a sidebar on the left with a navigation menu. The main content area features a heading "Anaconda package lists" and several paragraphs of text explaining how to install packages using the `conda install` command. A table follows, listing available packages for different operating systems and Python versions. The "Python 3.7" column header is highlighted with a red box. A small "v. latest" dropdown menu is visible in the bottom right corner of the table.

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Anaconda package lists

All packages available in the latest release of Anaconda are listed on the pages linked below. These packages may be installed with the command `conda install PACKAGENAME` and are located in the [package repository](#).

Click the links below to see which packages are available for each version of Python (3.7, 3.6, or 2.7) and each operating system and architecture.

Anaconda is available for 64 and 32 bit Windows, macOS, and 64 Linux on the Intel and AMD x86, x86-64 CPU, and IBM Power CPU architectures.

An [RSS feed](#) is updated each time a new package is added to the Anaconda package repository.

To request a package not listed on this page, please create an issue on the [Anaconda issues page](#).

	Python 3.7	Python 3.6	Python 3.8
64-bit Windows	64-bit Windows, Py3.7	64-bit Windows, Py3.6	64-bit Windows, Py3.8
32-bit Windows	32-bit Windows, Py3.7	32-bit Windows, Py3.6	32-bit Windows, Py3.8
macOS	macOS, Py3.7	macOS, Py3.6	macOS, Py3.8
64-bit Linux	64-bit Linux, Py3.7	64-bit Linux, Py3.6	64-bit Linux, Py3.8
64-bit Linux on IBM Power CPUs	Linux on IBM Power, Py3.7	Linux on IBM Power, Py3.6	Linux on IBM Power, Py3.8