딥러닝 실습 환경 설정 : conda + pytorch + jupyter

Knowledge Engineering Lab, Korea University

딥러닝 실습을 위해 필요한 것

IDE
신경망 프레임워크
연산 라이브러리
프로그래밍 언어
이론

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실습 환경 설정 단계

1. conda (miniconda) 설치
2. conda 가상 환경 추가 + pytorch 설치
3. jupyter 실행

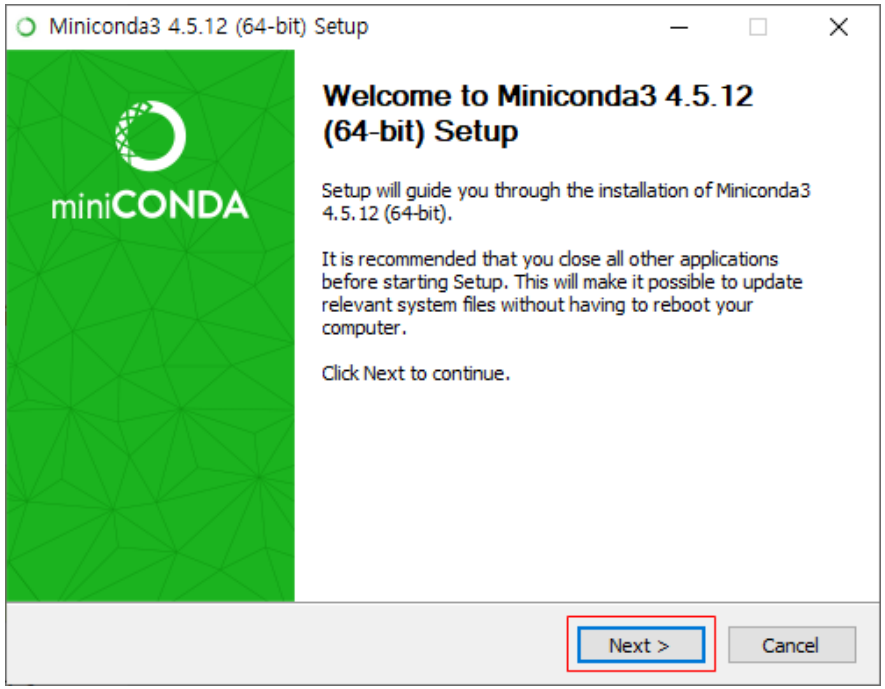
1. Conda (miniconda) 설치

- https://conda.io/en/latest/miniconda.html

Miniconda

	Windows	Mac OS X	Linux
Python 3.7	64-bit (exe installer) 32-bit (exe installer)	64-bit (bash installer) 64-bit (.pkg installer)	64-bit (bash installer) 32-bit (bash installer)
Python 2.7	64-bit (exe installer) 32-bit (exe installer)	64-bit (bash installer) 64-bit (.pkg installer)	64-bit (bash installer) 32-bit (bash installer)

1. Conda (miniconda) 설치



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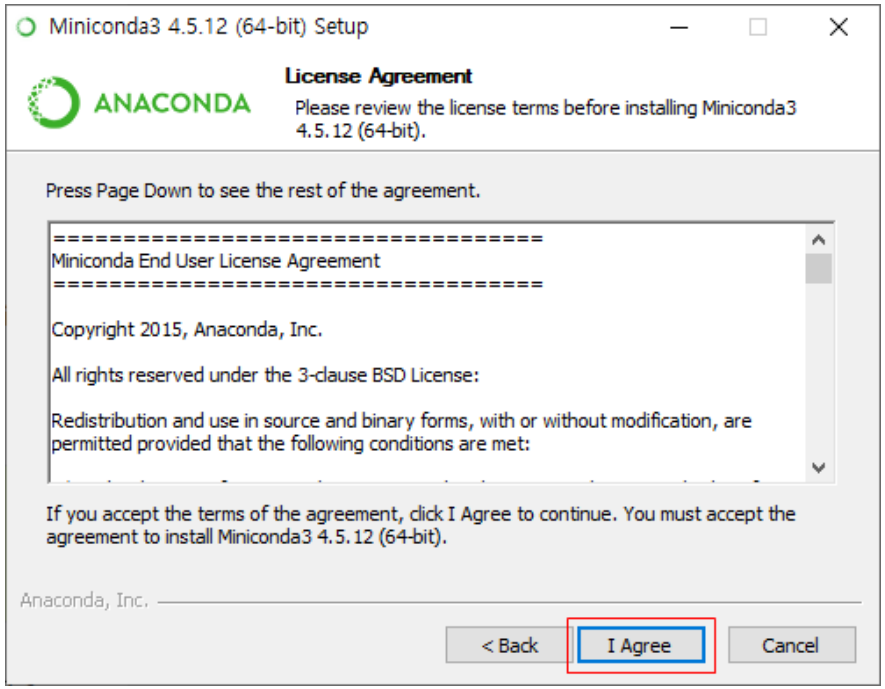

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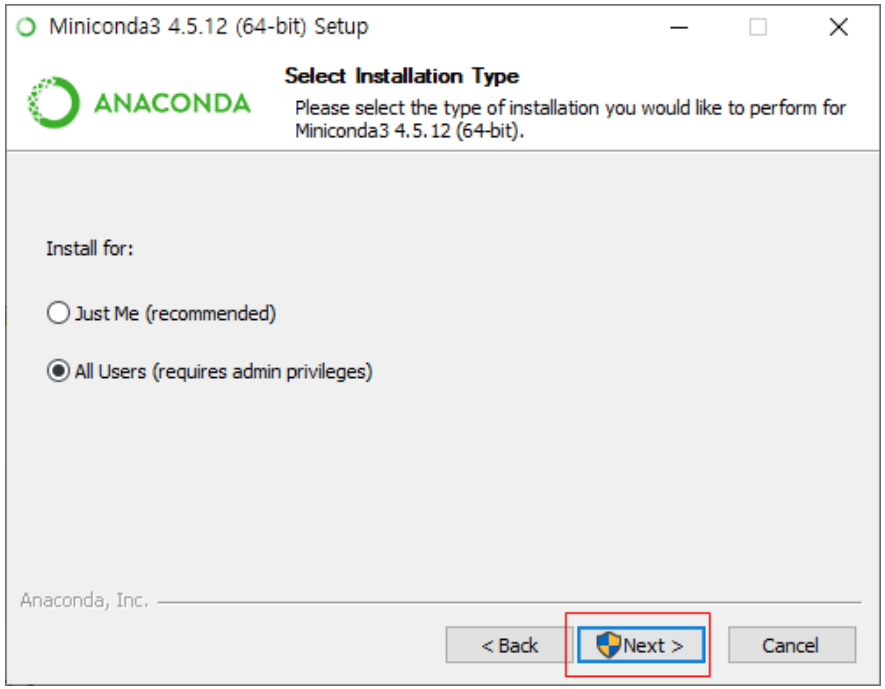
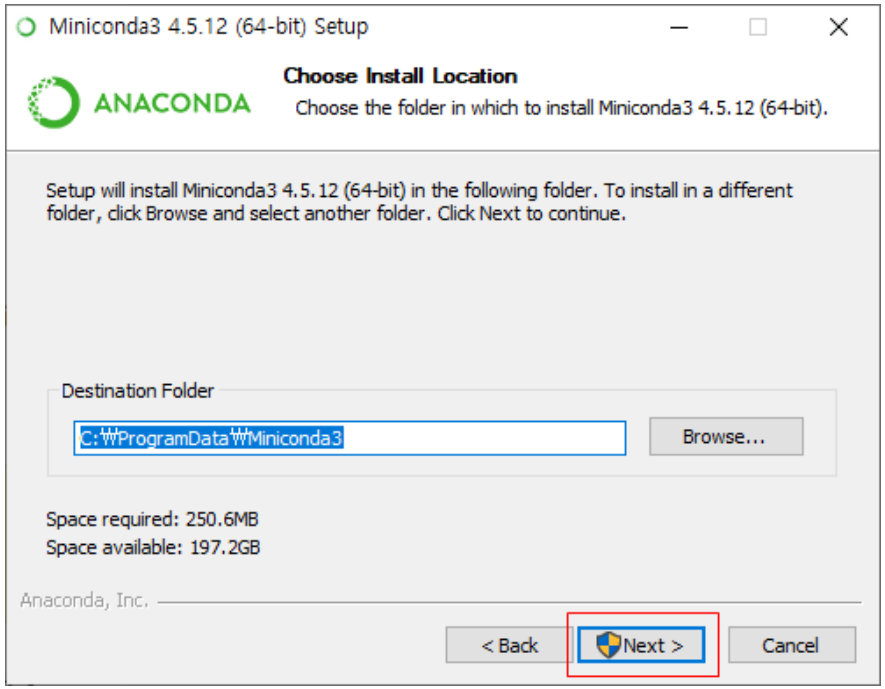


1. Conda (miniconda) 설치



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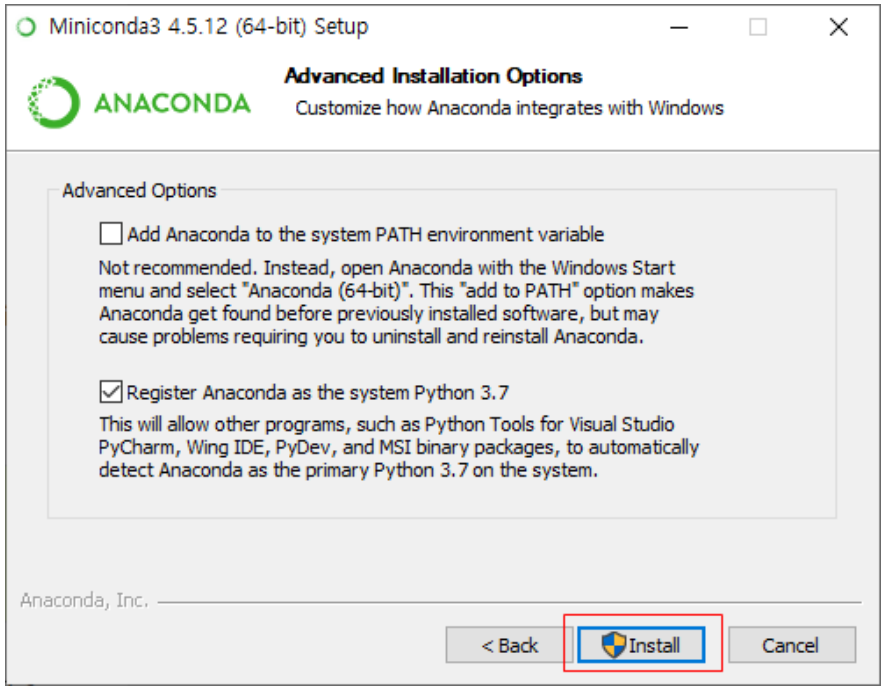

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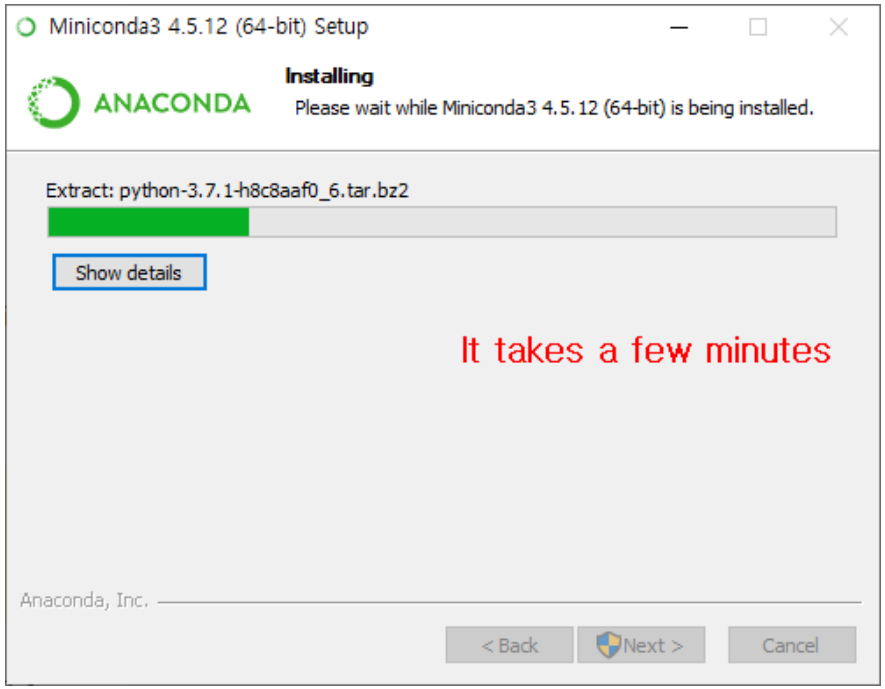


2. 가상 환경 추가 + pytorch 설치

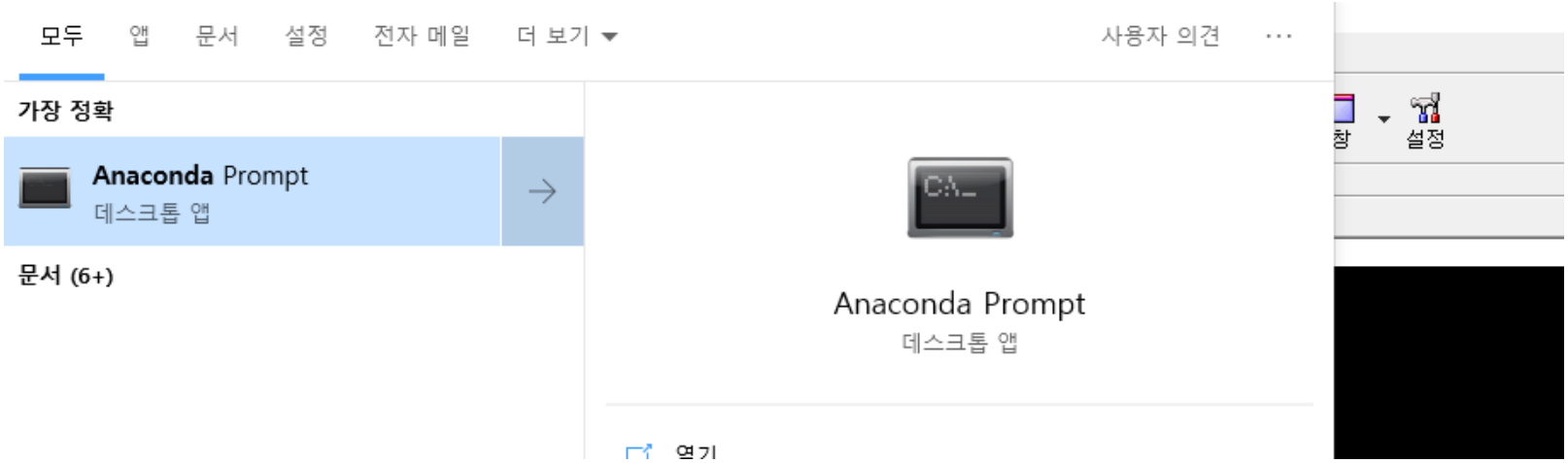
- Anaconda prompt 의 conda create 명령어로 가상 환경 추가

conda create --name [ENV_NAME] [-c CHANNEL] [PRE_INSTALL_PACKAGES]

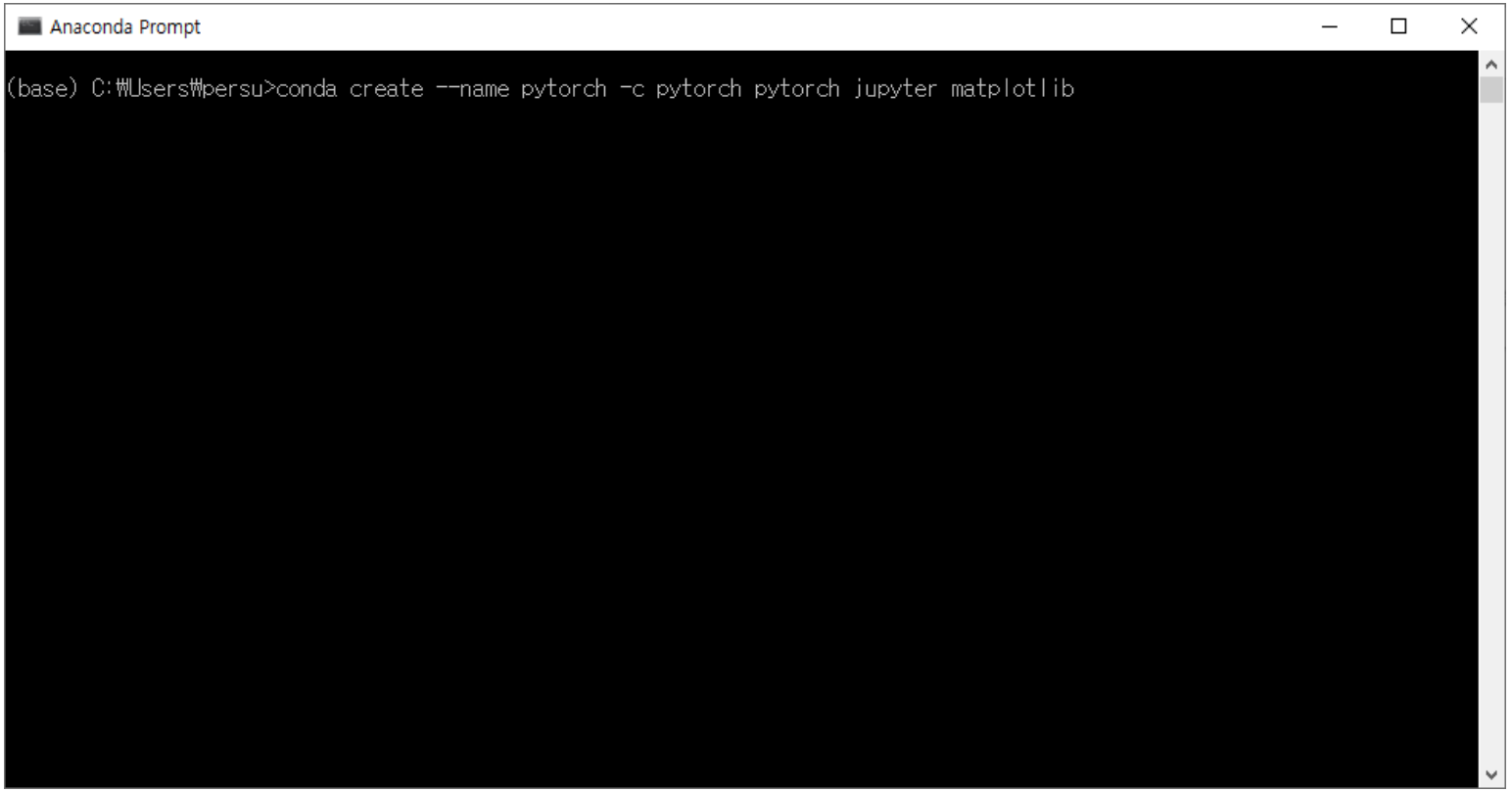
- ENV_NAME : pytorch
- CHANNEL : pytorch
- PRE_INSTALL_PACKAGES : pytorch jupyter matplotlib

> conda create --name pytorch -c pytorch pytorch jupyter matplotlib

2. 가상 환경 추가 + pytorch 설치



2. 가상 환경 추가 + pytorch 설치



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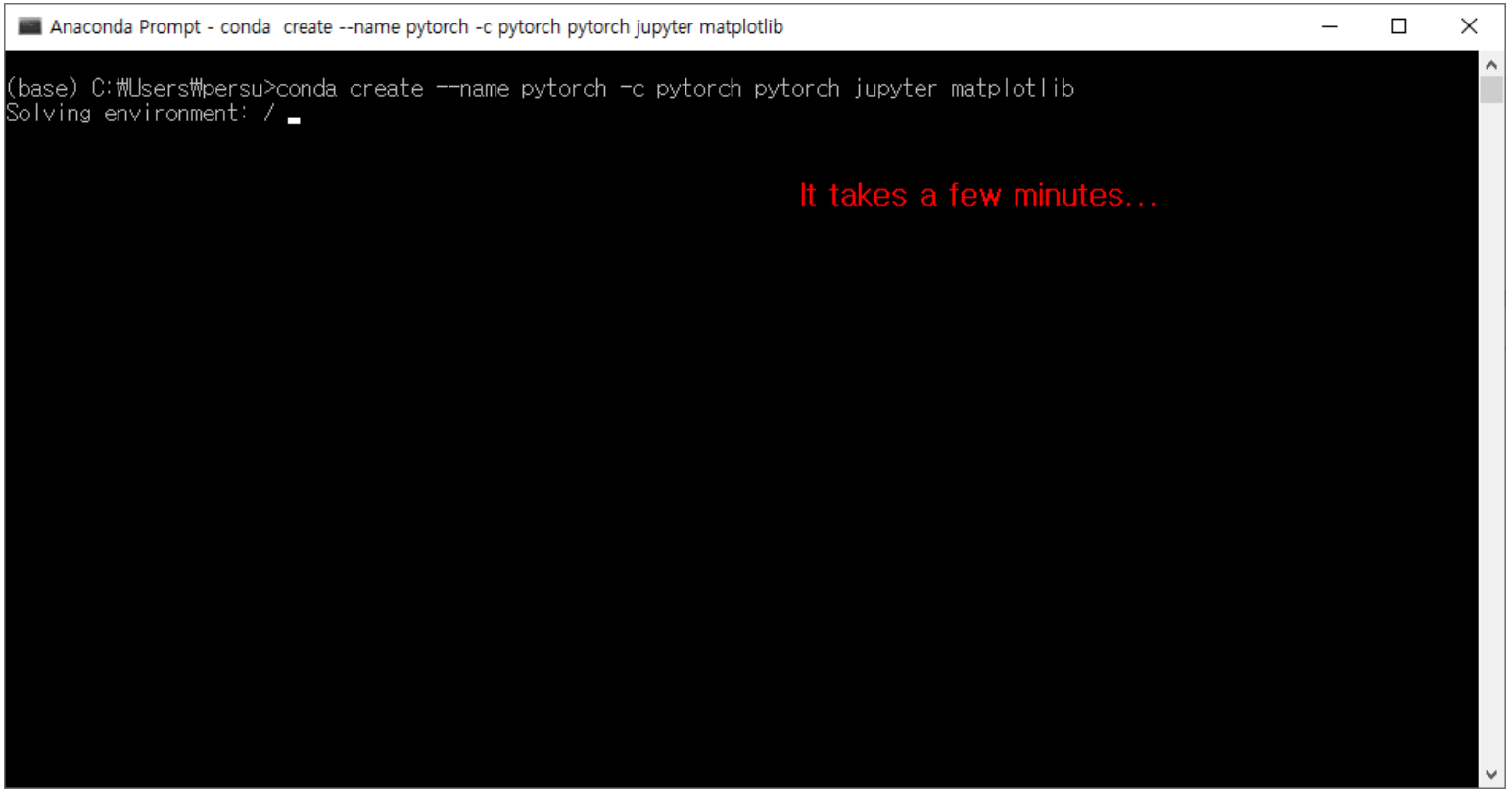

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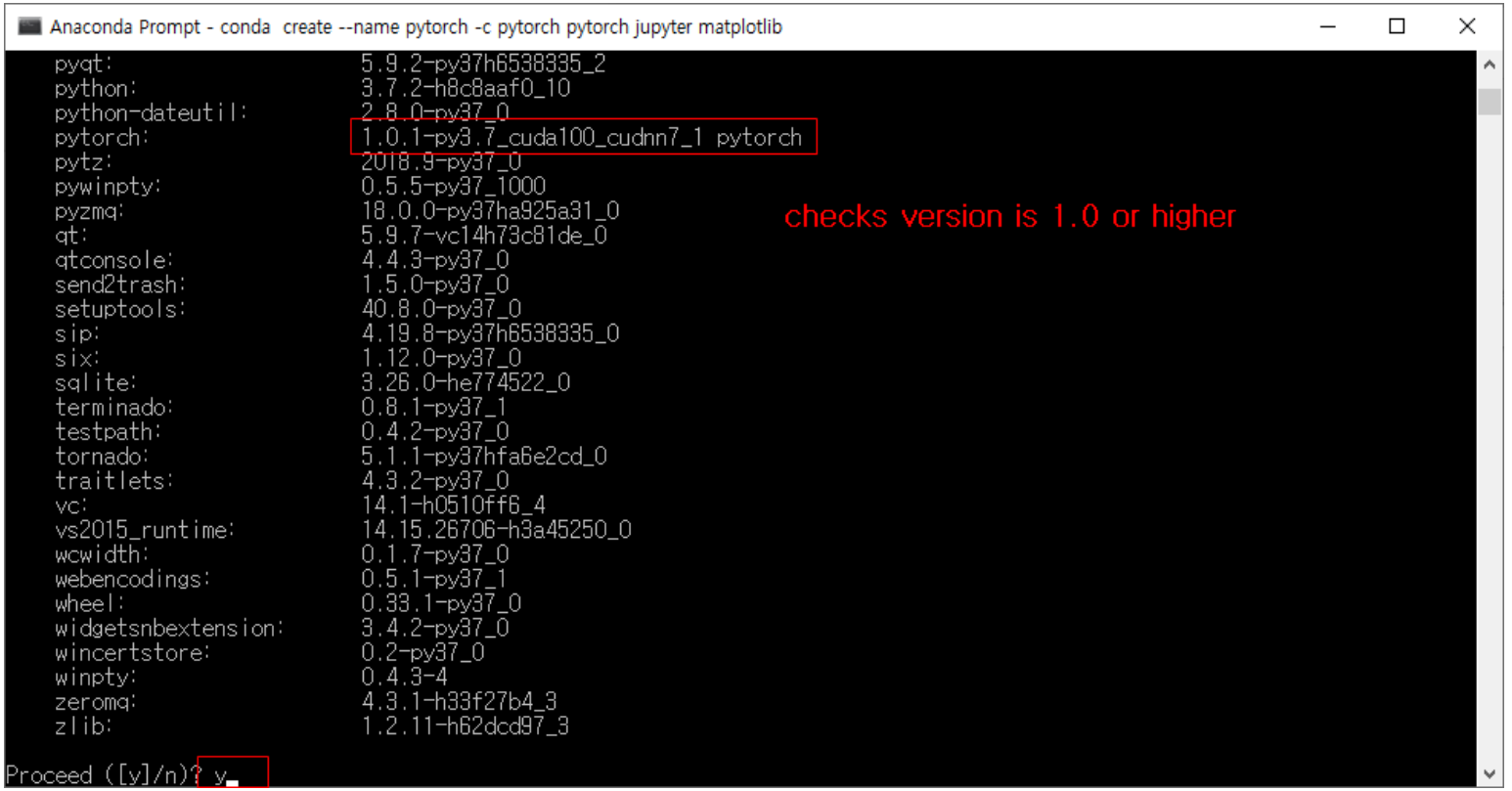

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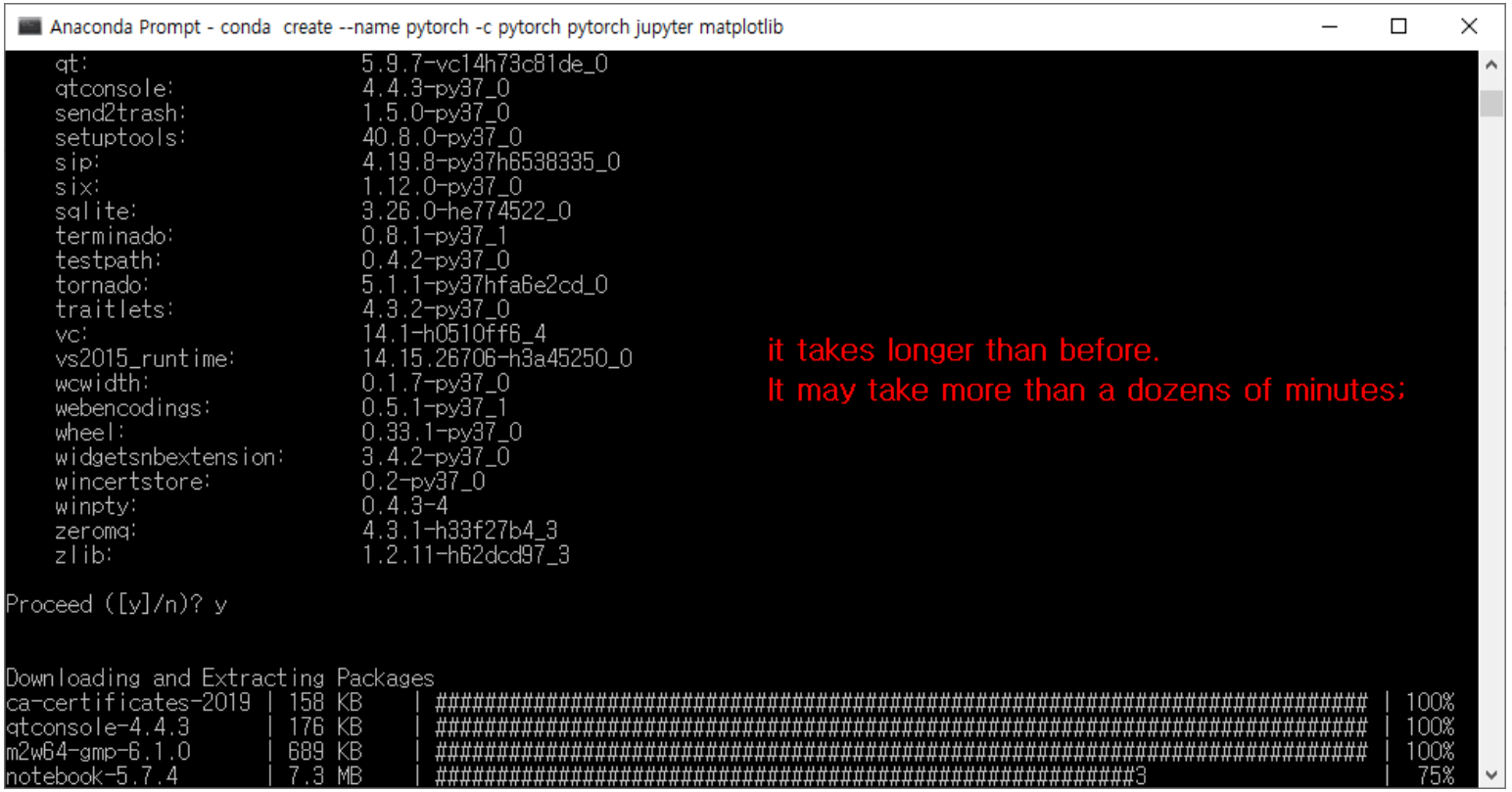

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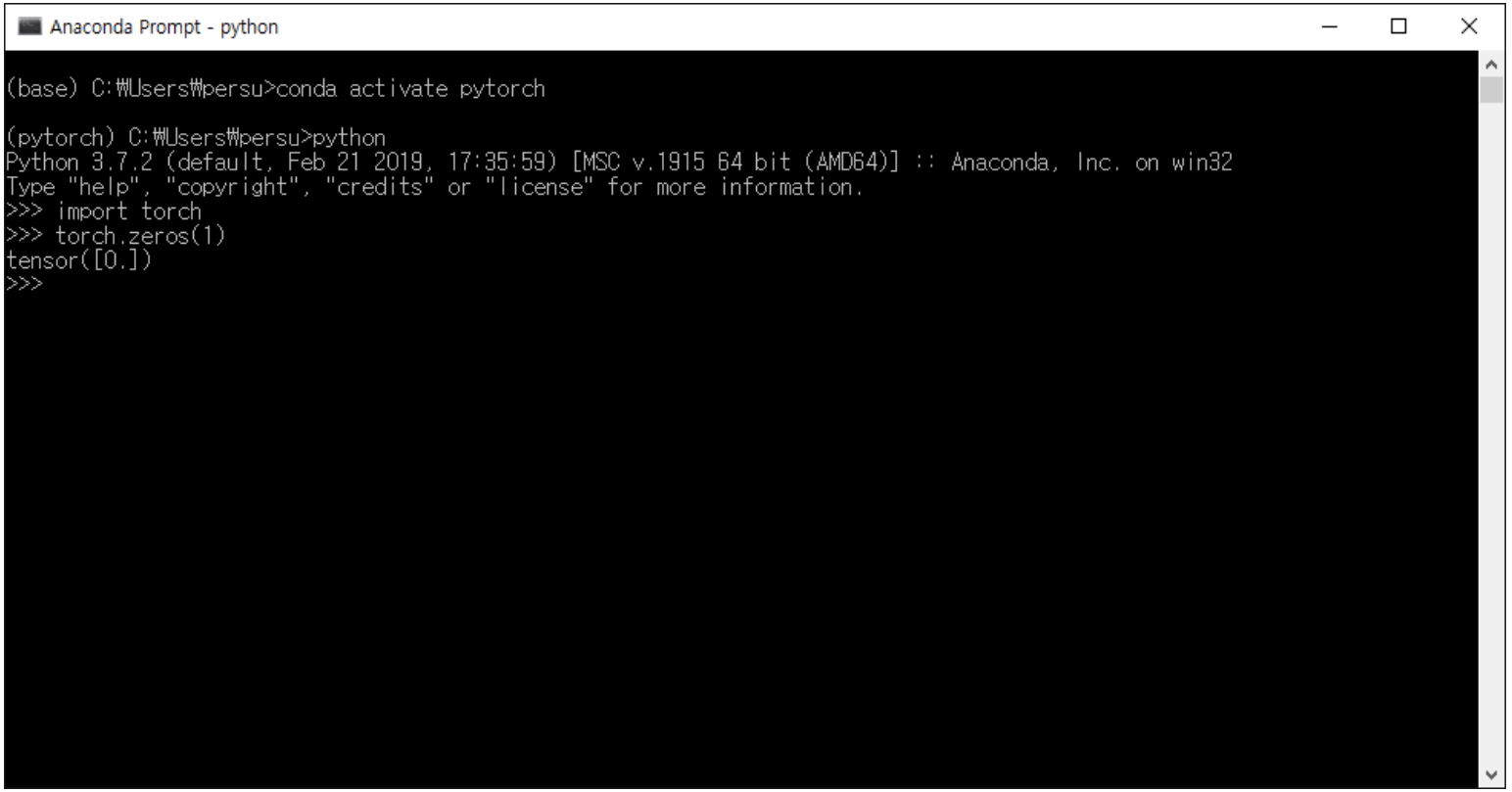
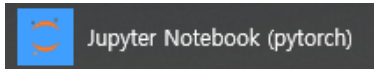


3. Jupyter 실행

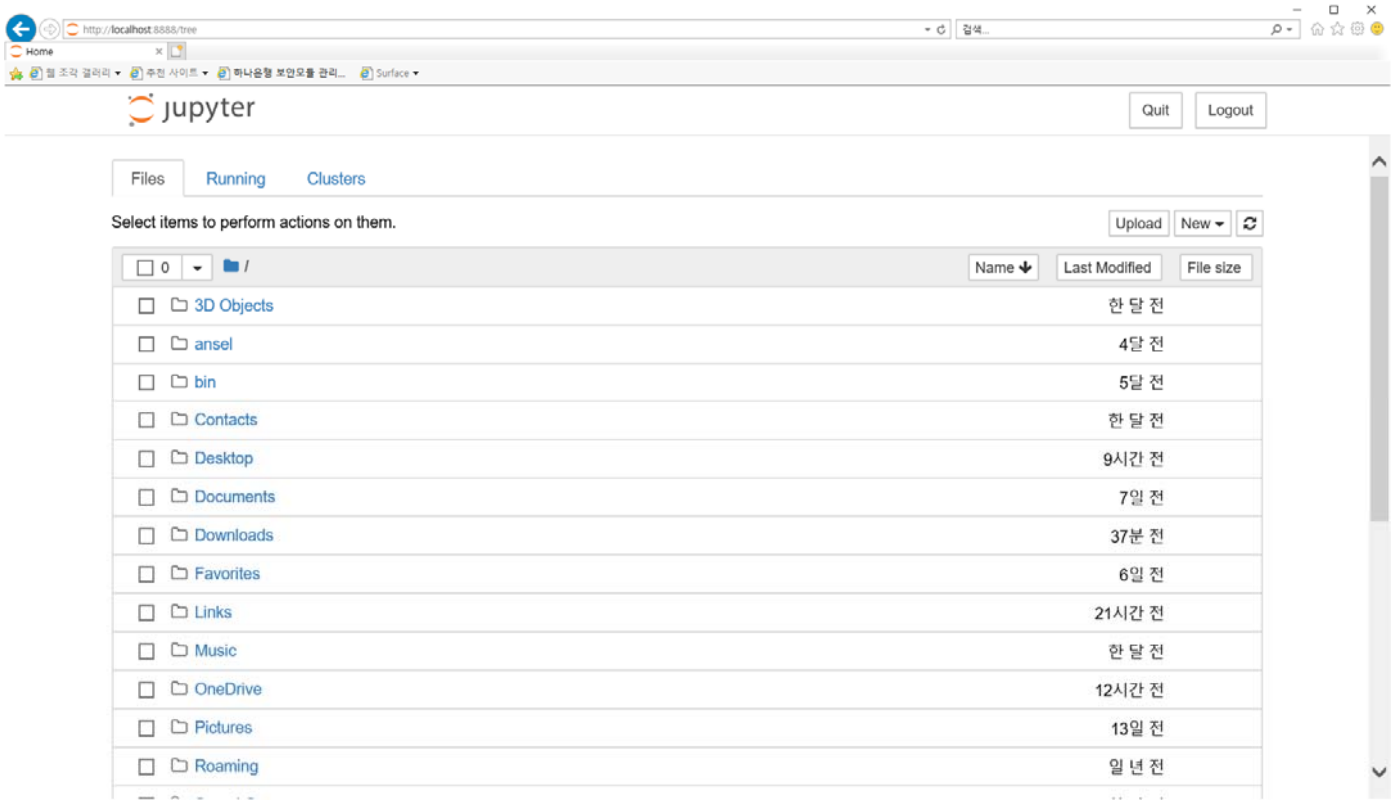
1. 바로가기 이용
   - 시작 -> “jupyter notebook (pytorch)” 실행 

2. Anaconda prompt 이용
   - Anaconda prompt 실행
   - 가상 환경 변경

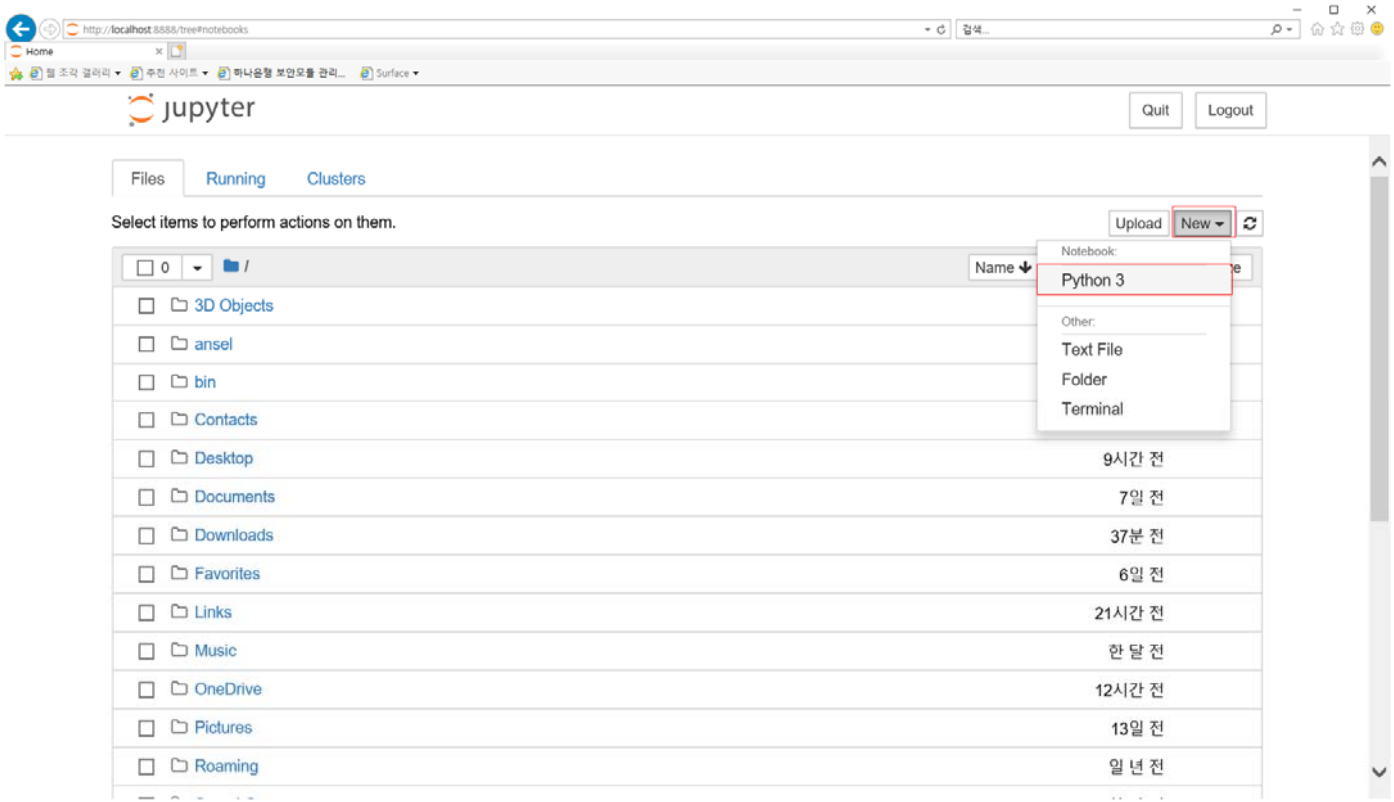
     > activate pytorch
   - 소스코드 폴더로 이동
   - Jupyter 실행

     > jupyter notebook

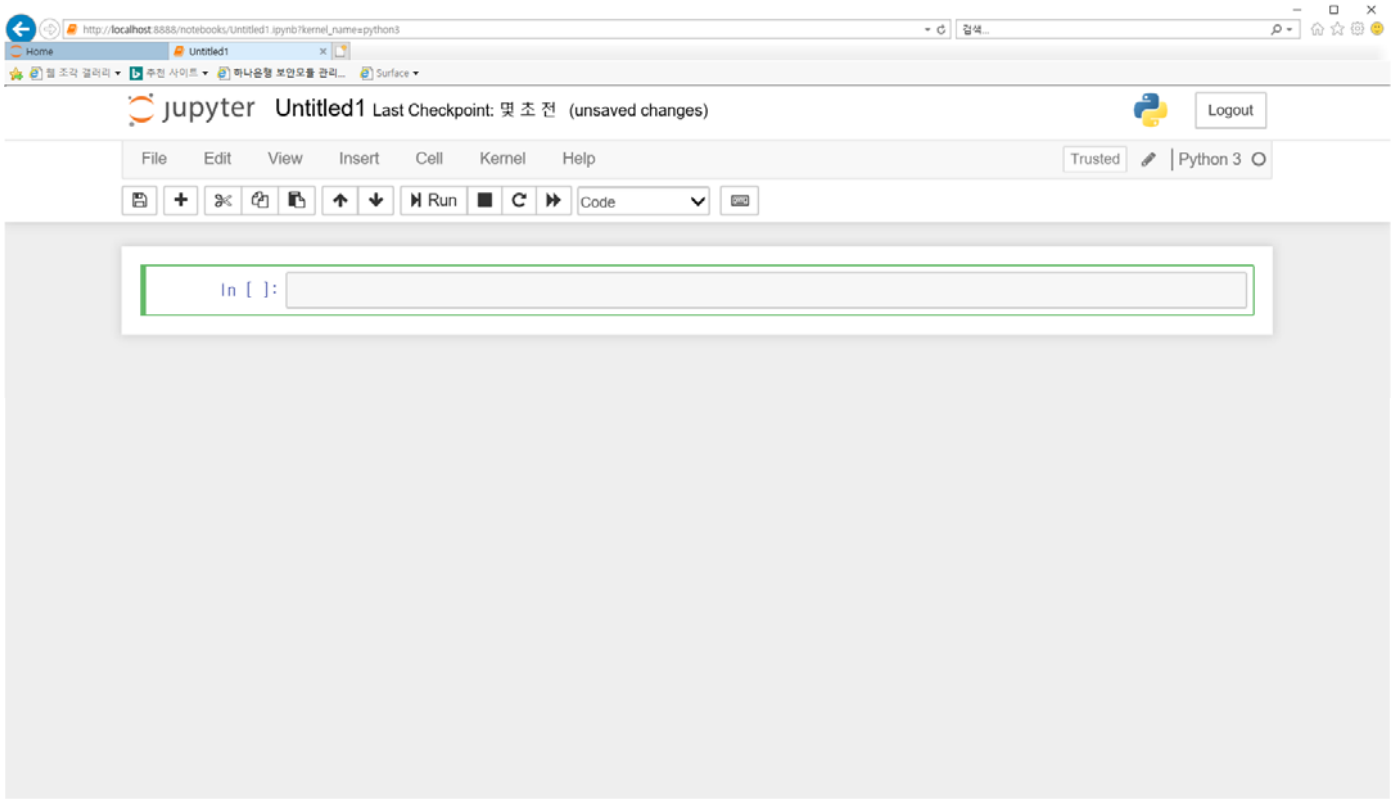
3. Jupyter 실행


http://localhost:8888/tree
Home
jupyter
Quit
Logout
Files
Running
Clusters
Select items to perform actions on them.
Upload
New
0
/
Name
Last Modified
File size
3D Objects 한 달 전
ansel 4달 전
bin 5달 전
Contacts 한 달 전
Desktop 9시간 전
Documents 7일 전
Downloads 37분 전
Favorites 6일 전
Links 21시간 전
Music 한 달 전
OneDrive 12시간 전
Pictures 13일 전
Roaming 일 년 전

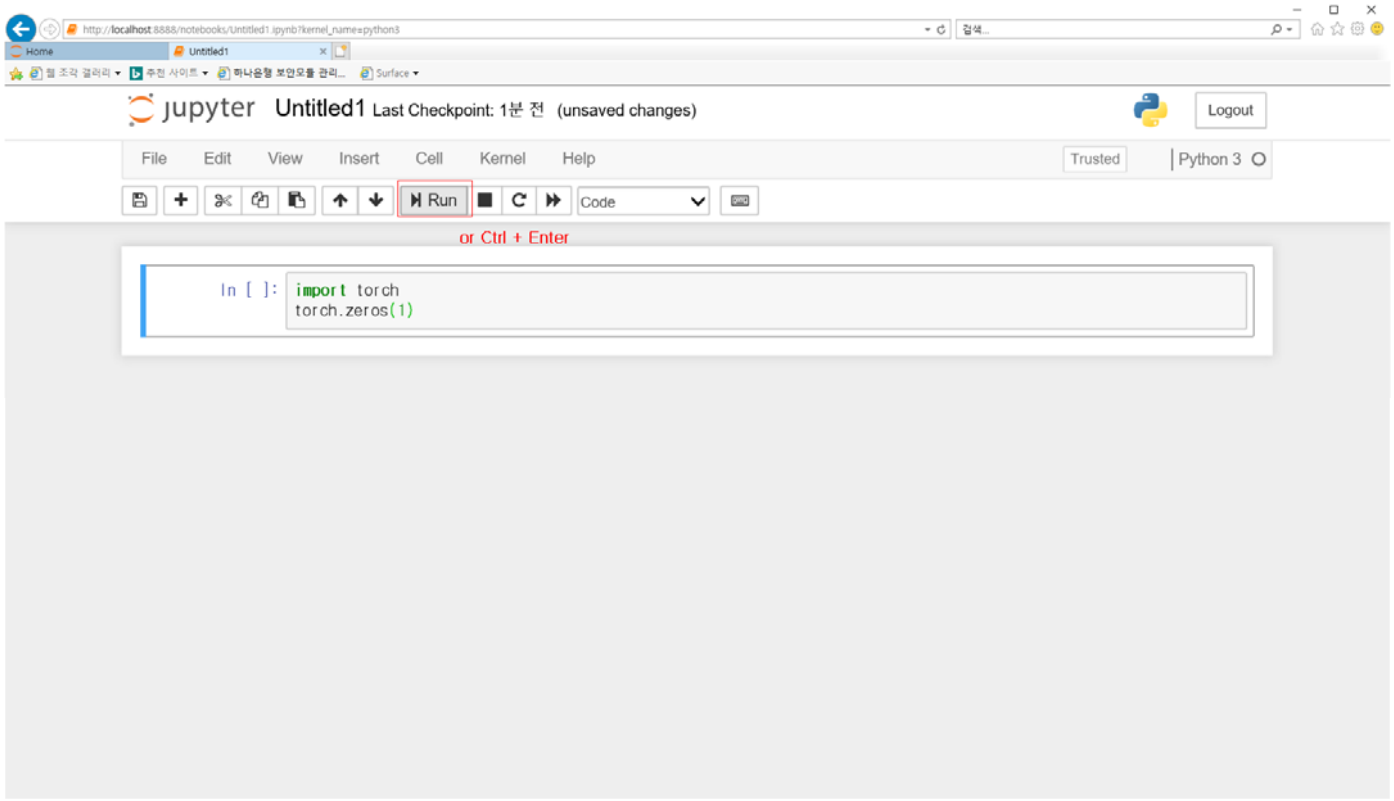
3. Jupyter 실행


http://localhost:8888/tree#notebooks
Home
jupyter
Quit
Logout
Files
Running
Clusters
Select items to perform actions on them.
Upload
New
Notebook:
Python 3
Other:
Text File
Folder
Terminal
Name
3D Objects
ansel
bin
Contacts
Desktop
9시간 전
Documents
7일 전
Downloads
37분 전
Favorites
6일 전
Links
21시간 전
Music
한 달 전
OneDrive
12시간 전
Pictures
13일 전
Roaming
일 년 전

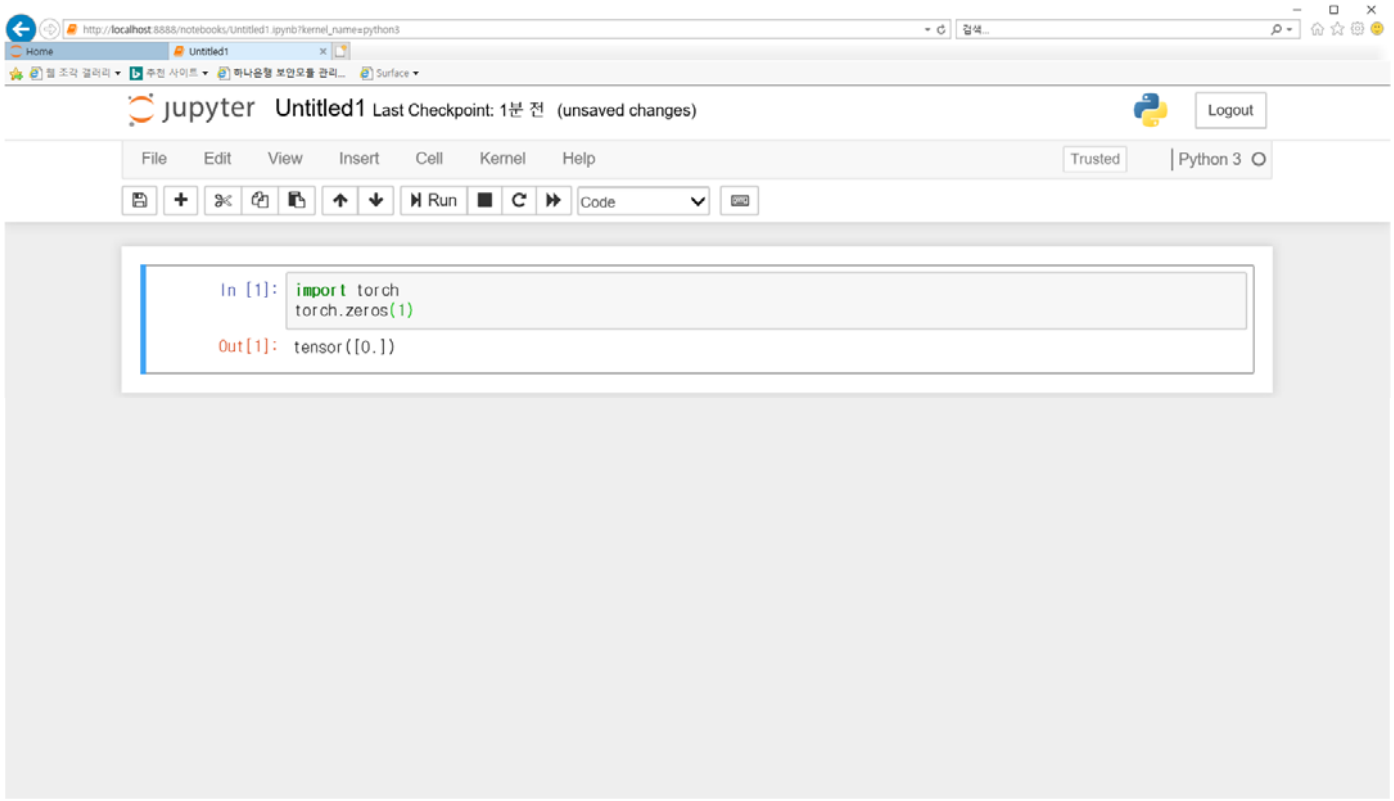
3. Jupyter 실행


jupyter
Untitled1
Last Checkpoint: 몇 초 전
(unsaved changes)
Logout
File
Edit
View
Insert
Cell
Kernel
Help
Trusted
Python 3
Run
Code
In [ ]:

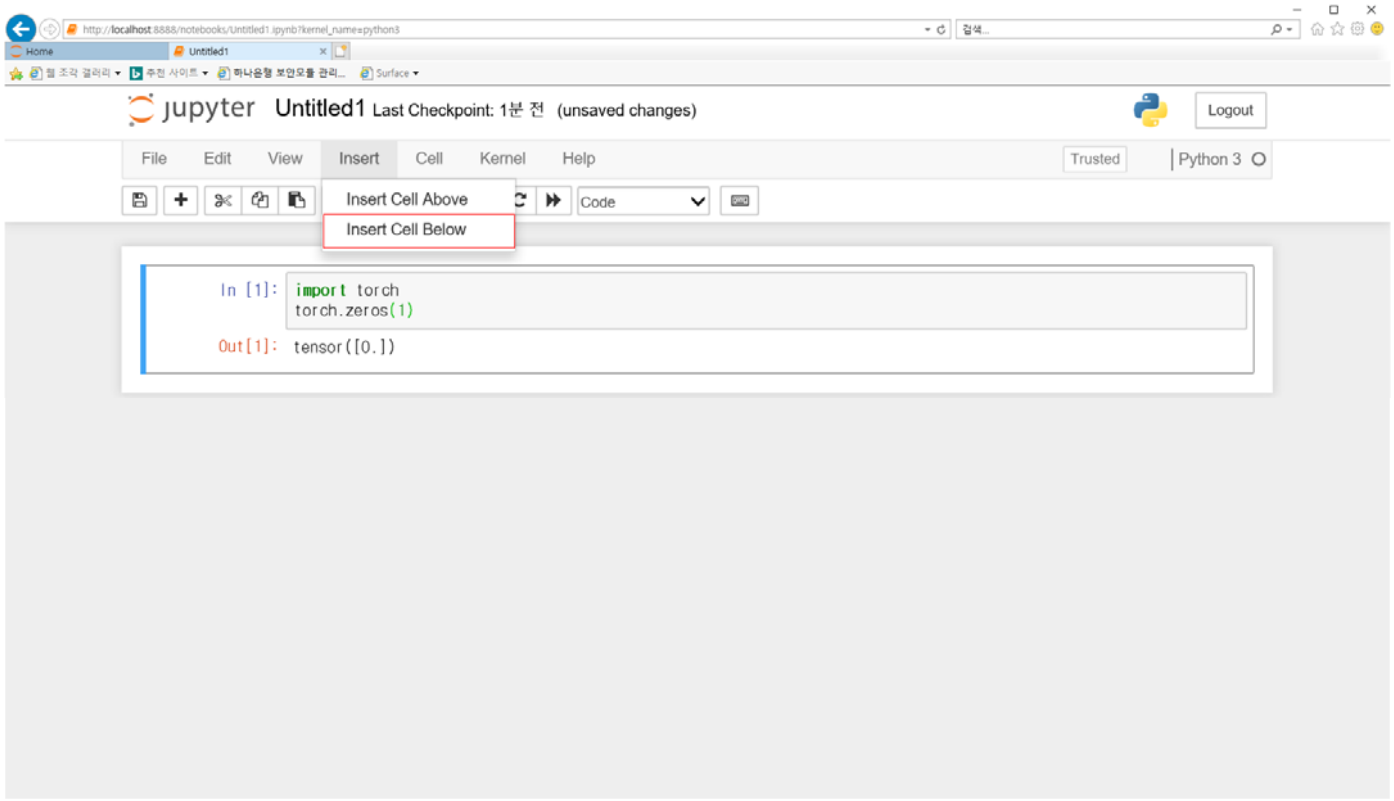
3. Jupyter 실행


jupyter
Untitled1
Last Checkpoint: 1분 전
(unsaved changes)
Logout
File
Edit
View
Insert
Cell
Kernel
Help
Trusted
Python 3
Run
Code
or Ctrl + Enter
In [ ]:
import torch
torch.zeros(1)

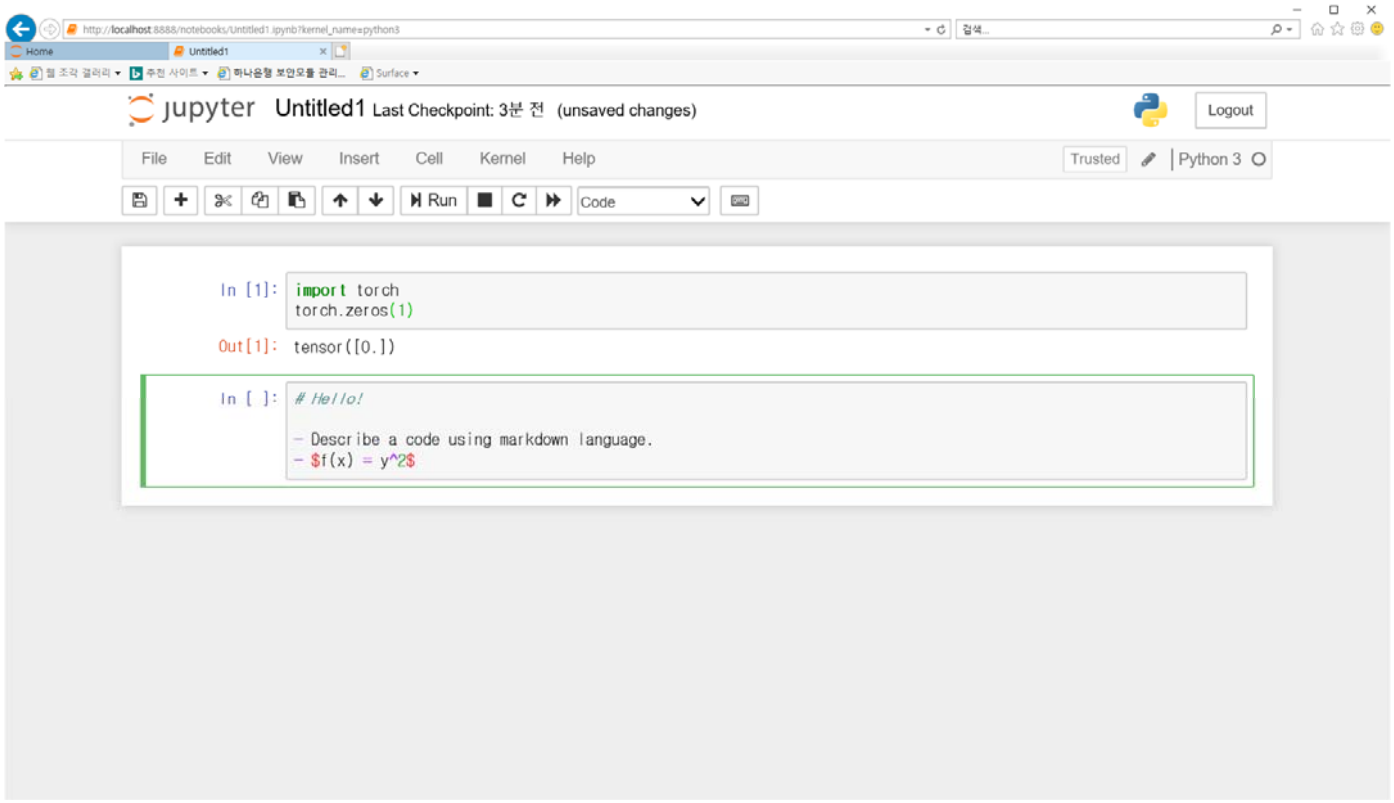
3. Jupyter 실행


jupyter
Untitled1
Last Checkpoint: 1분 전
(unsaved changes)
Logout
File
Edit
View
Insert
Cell
Kernel
Help
Trusted
Python 3
Run
Code
In [1]:
import torch
torch.zeros(1)
Out[1]:
tensor([0.])

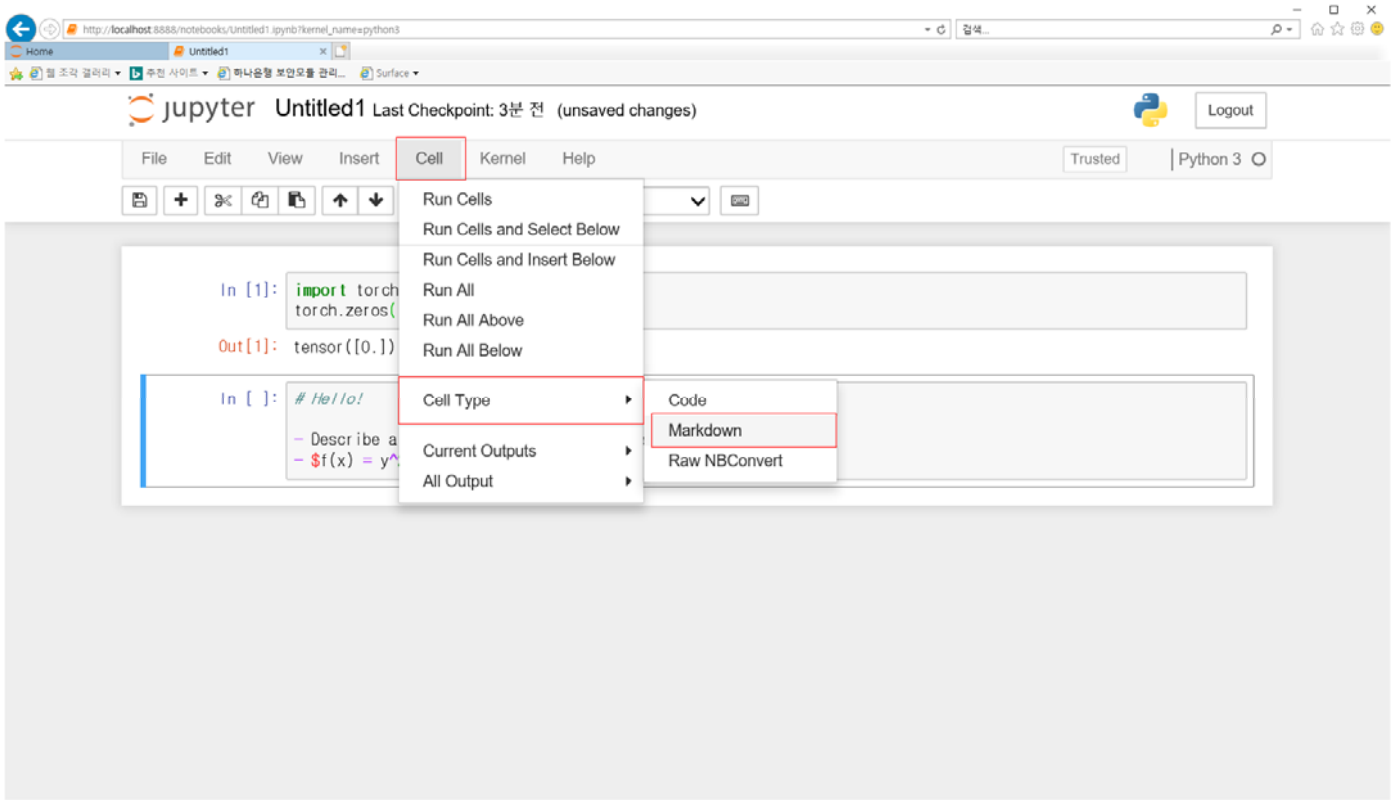
3. Jupyter 실행


jupyter
Untitled1
Last Checkpoint: 1분 전
(unsaved changes)
Logout
File
Edit
View
Insert
Cell
Kernel
Help
Trusted
Python 3
Insert Cell Above
Insert Cell Below
Code
In [1]:
import torch
torch.zeros(1)
Out[1]:
tensor([0.])

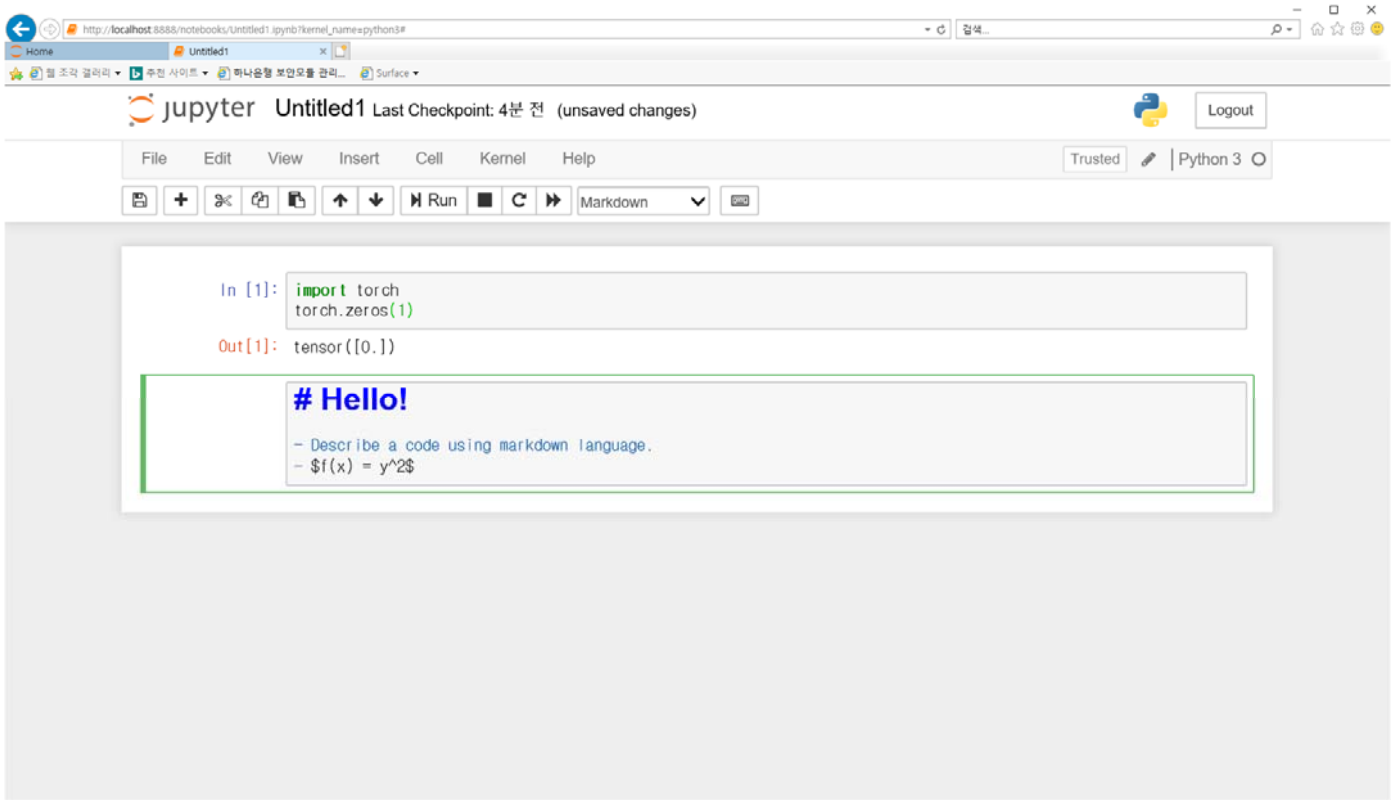
3. Jupyter 실행


jupyter Untitled1 Last Checkpoint: 3분 전 (unsaved changes)
Logout
File Edit View Insert Cell Kernel Help
Trusted
Python 3
Run
Code
In [1]:
import torch
torch.zeros(1)
Out[1]:
tensor([0.])
In [ ]:
Hello!
- Describe a code using markdown language.
- $f(x) = y^2$

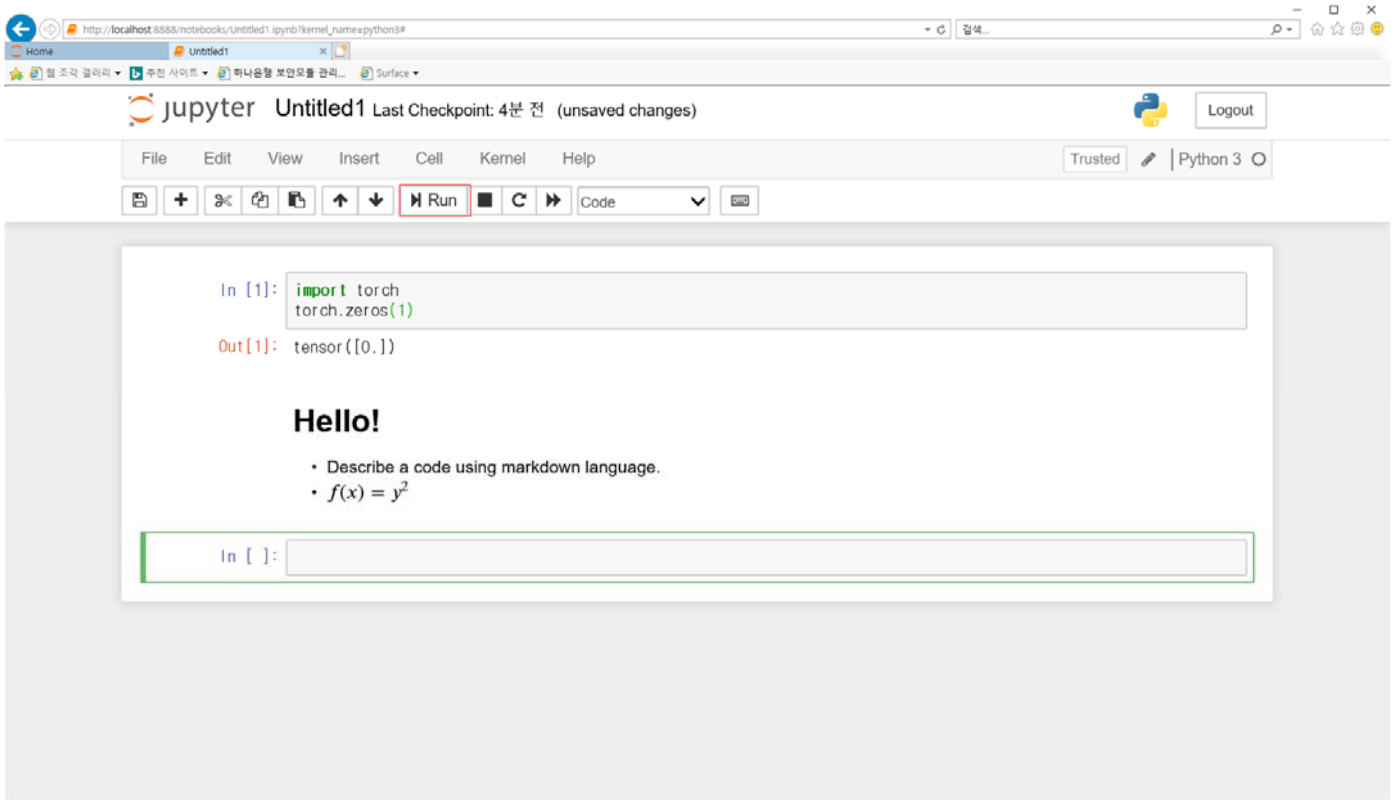
3. Jupyter 실행


jupyter Untitled1 Last Checkpoint: 3분 전 (unsaved changes)
Logout
File Edit View Insert Cell Kernel Help
Trusted
Python 3
Run Cells
Run Cells and Select Below
Run Cells and Insert Below
Run All
Run All Above
Run All Below
Cell Type
Current Outputs
All Output
Code
Markdown
Raw NBConvert
In [1]:
import torch
torch.zeros(
Out[1]: tensor([0.])
In [ ]:
Hello!
- Describe a
- $f(x) = y^

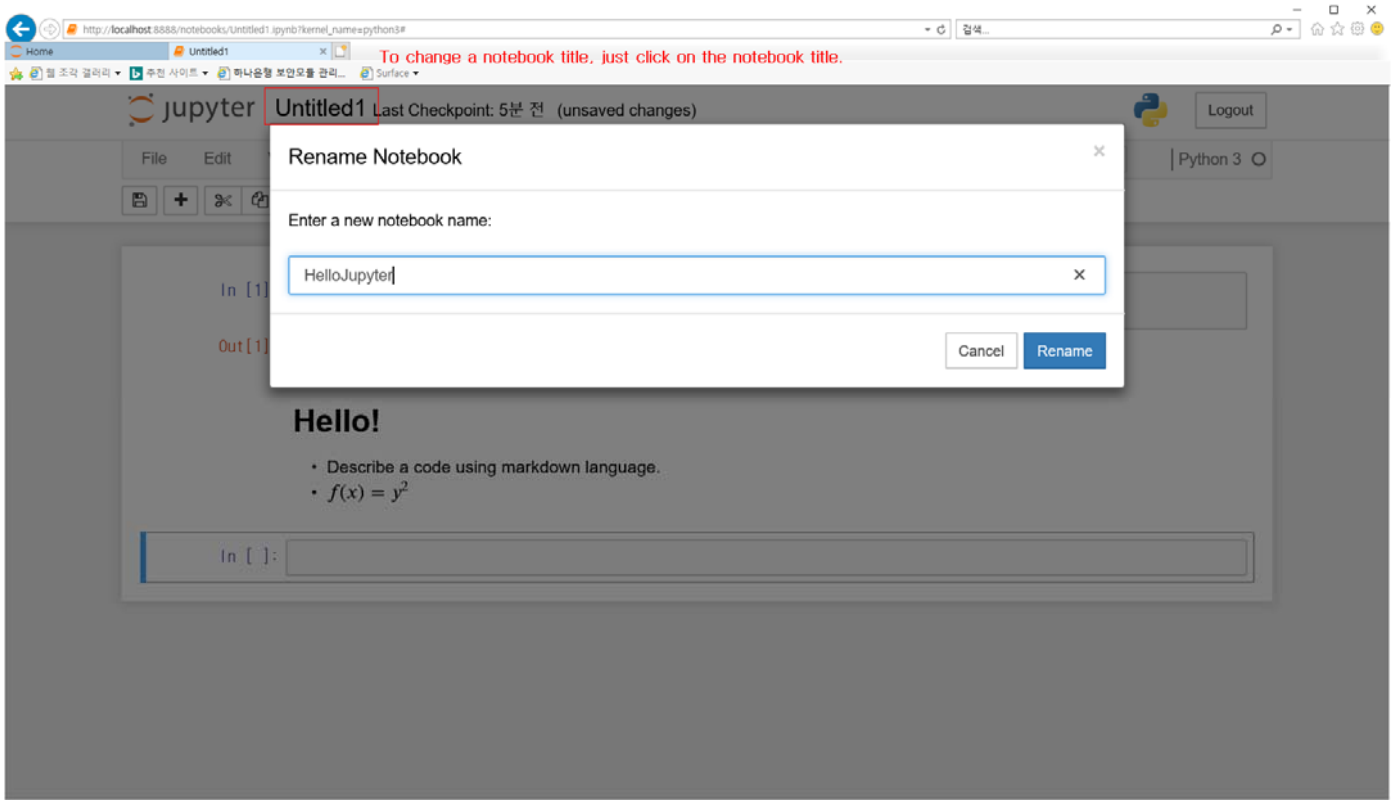
3. Jupyter 실행


jupyter Untitled1 Last Checkpoint: 4분 전 (unsaved changes)
Logout
File Edit View Insert Cell Kernel Help
Trusted
Python 3
Run
Markdown
In [1]:
import torch
torch.zeros(1)
Out[1]:
tensor([0.])
# Hello!
- Describe a code using markdown language.
- $f(x) = y^2$

3. Jupyter 실행


jupyter Untitled1 Last Checkpoint: 4분 전 (unsaved changes)
Logout
File Edit View Insert Cell Kernel Help
Trusted
Python 3
Run
Code
In [1]:
import torch
torch.zeros(1)
Out[1]:
tensor([0.])
Hello!
Describe a code using markdown language.
$f(x) = y^2$
In [ ]:

3. Jupyter 실행


To change a notebook title, just click on the notebook title.
jupyter
Untitled1
Last Checkpoint: 5분 전 (unsaved changes)
Logout
File
Edit
Python 3
Rename Notebook
Enter a new notebook name:
HelloJupyter
Cancel
Rename
In [1]:
Out[1]:
Hello!
Describe a code using markdown language.
$f(x) = y^2$
In [ ]:

Appendix 1 : 라이브러리 추가

1. Anaconda prompt 이용

   > activate pytorch

   > conda install [PACKAGE NAME]

2. Jupyter 이용

```
! pip install [PACKAGE NAME]
```

Appendix 2 : Cuda 지원 확인

```
import torch

torch.zeros(1).cuda()
```

Appendix 2 : Cuda 지원 확인 (O)

import torch

torch.zeros(1).cuda()

```
>>> torch.zeros(1).cuda()
tensor([0.], device='cuda:0')
```

Appendix 2 : Cuda 지원 확인 (X)

import torch

torch.zeros(1).cuda()