YONSEI UNIVERSITY

[IIT4204] SW 프로젝트

Yonsei University 2021-02

About TAs

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Guide for this course

- Proficiency in **Python3** is required for this class.
  - All code and assignment will be in Python
- Middle-level familiarity with **NumPy** is required.
  - Array indexing, broadcasting, etc.
- **OpenCV** and **Matplotlib** will be used to image handle.
- **PyTorch** will be used as a Deep Learning framework.
- All Code will be implemented on Google **Colab**.
  - Most libraries are already installed.

Tutorial for Python3

- Python Official Tutorial
  - (Eng) https://docs.python.org/3/tutorial/
  - (Kor) https://docs.python.org/ko/3/tutorial/index.html
- Jump to Python
  - https://wikidocs.net/book/1

- If you need help, ask TAs

NumPy, OpenCV, Matplotlib

- The concept of multidimensional matrix will be used in the code frequently.
  - You need to be familiar with NumPy matrix operation, array indexing and broadcasting.
  - The same applies to PyTorch.
  - A brief tutorial of NumPy will be in the next class.
- OpenCV and Matplotlib will be covered whenever necessary.

PyTorch

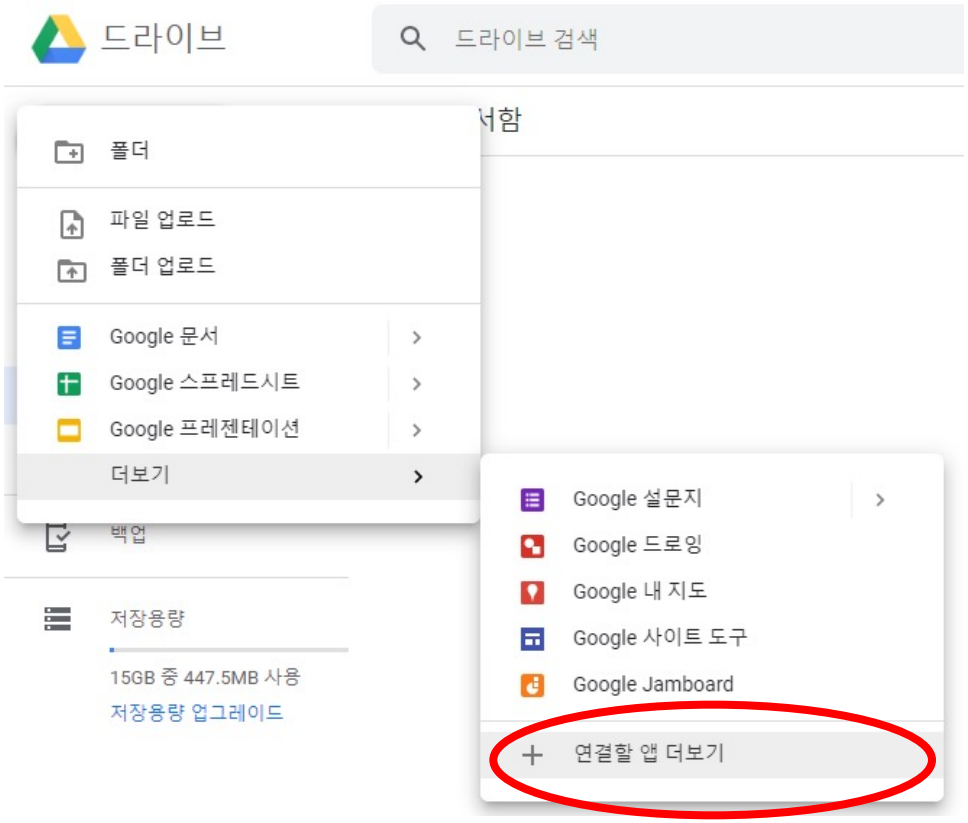
- PyTorch tutorial will be in the next class.
- It will be covered in the class, but it is recommended to prepare and review by yourself.
- PyTorch official Tutorial
  - https://pytorch.org/tutorials/
- All the functions and methods are listed in the Pytorch official document
  - https://pytorch.org/docs/stable/index.html

Installation Guide for Colab

- Free Jupyter environment
- Guide for Colab
  - https://colab.research.google.com/notebooks/welcome.ipynb#scrollTo=xitplqMNk_Hc
  - Various code snippets for Colab(e.g. connecting Google Drive storage, etc.)

Installation Guide for Colab

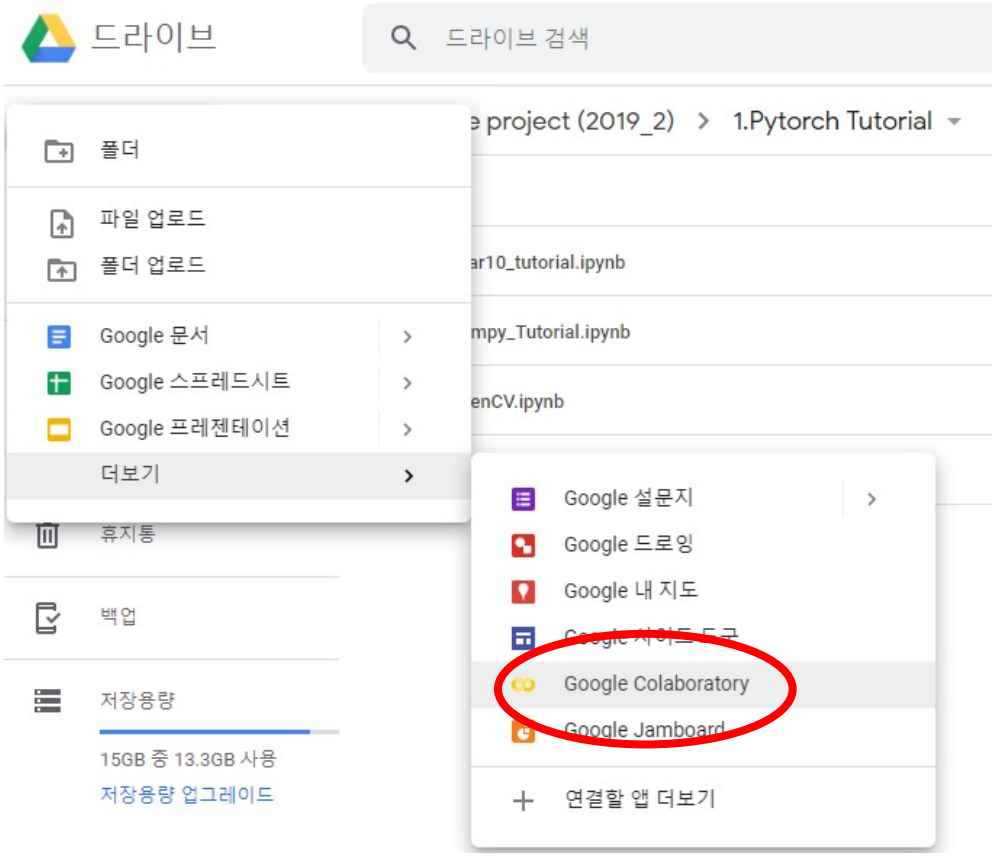
- Google Drive



Installation Guide for Colab

- Google Drive

Installation Guide for Colab



Installation Guide for Colab

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파일 수정 보기 삽입 런타임 도구 도움말

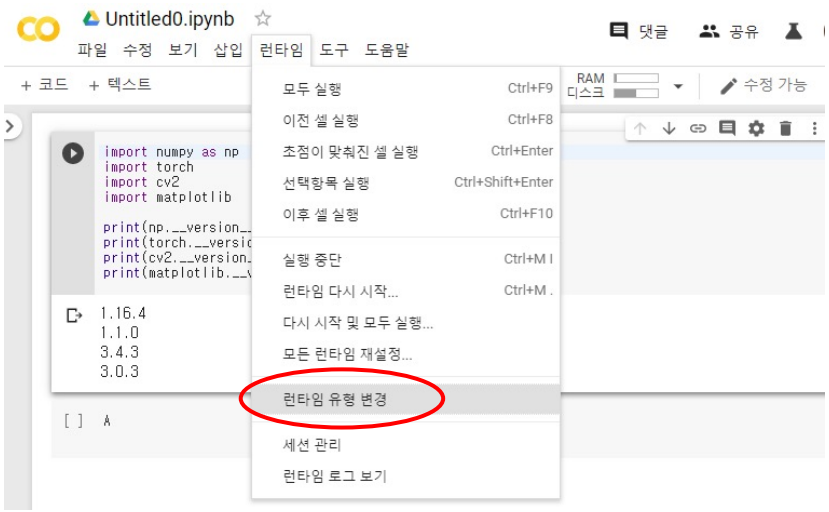
+ 코드 + 텍스트

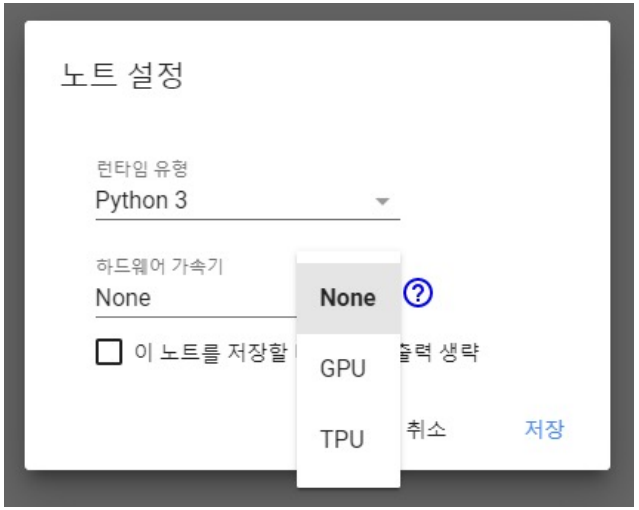
```
[1]  import numpy as np
     import torch
     import cv2
     import matplotlib

     print(np.__version__)
     print(torch.__version__)
     print(cv2.__version__)
     print(matplotlib.__version__)
```

```
1.16.4
1.1.0
3.4.3
3.0.3
```

Installation Guide for Colab





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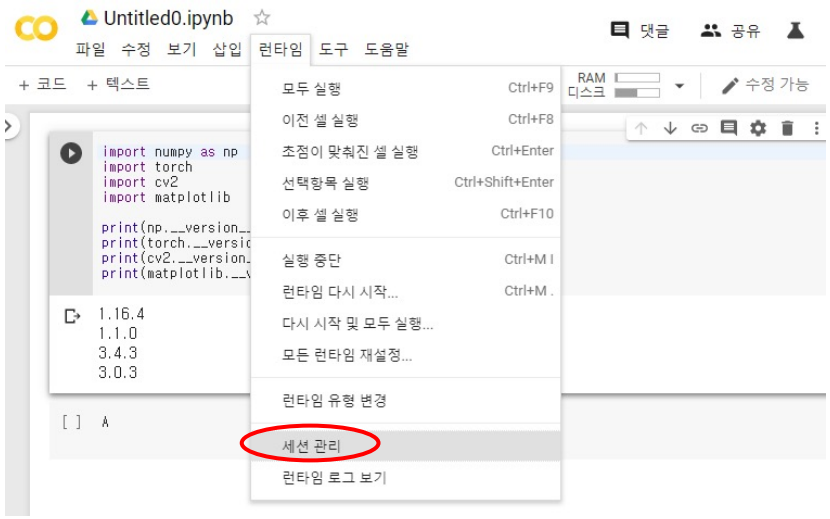

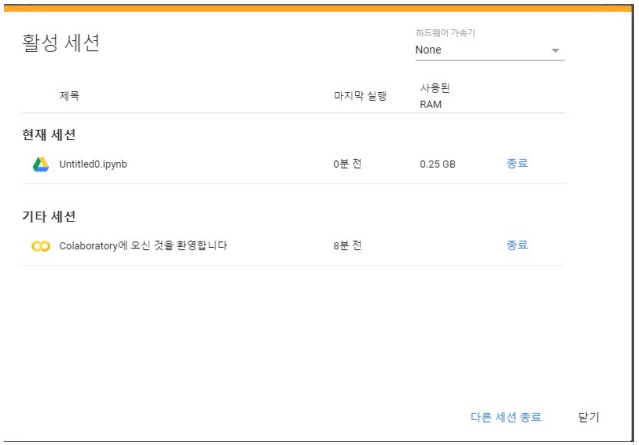

Q & A