

# Practice Session - Model Selection and CNN

Principles of Deep Learning (AI502/IE408/IE511)

Yuheon Song & Seungwoo Kim (UNIST AIGS)



Contact: [ai502deeplearning@gmail.com](mailto:ai502deeplearning@gmail.com)

# Announcement

- **Two** assignments will be given today.
  - (1) Model Selection and (2) Modern CNN
- Please submit your assignment via Github Classroom - detailed instructions will be given at the end of the class.
- Assignments are due **next Sunday (9/25) 11:59PM**.
- Recorded videos for today's session will only be shared for those who could not attend the class - conference, COVID-19, reserve forces (예비군)
  - Please submit a document of absence.
- **Recorded videos will only available for 24 hours, and cannot be downloaded.**

# Assignment

- **Do not change and add** any cell without cell marked with **(Assignment)**.
- **Do not change** pytest.py in your repository.
- To get points, all parts given in each assignment must work.
- Points are given separately for each assignment.
  - Assignment 1 (10points) - <https://classroom.github.com/a/D-4MTn7f>
  - Assignment 2 (10points) - <https://classroom.github.com/a/7XnlvPdy>
  - Please refer to **page 6** for further instructions.

# Assignment 1 - Model Selection

Please complete two empty parts marked with (Assignment)

1. (Assignment)  $K$ -fold cross validation
  - Write your code loop in `k_fold_data` function
  - Do not use any external library
2. (Assignment) Activation function with implementing forward and backward step
  - Implement forward and backward methods in `swish` activation function class

# Assignment 2 - Modern CNN

Please complete two empty parts marked with (Assignment)

1. (Assignment) Custom Dataset for sports classification task.
  - Please construct your own dataset by following the instructions.
  - Do not use `torch.utils.data.ImageFolder` for building dataset.
2. (Assignment) SimpleCNN
  - Please build a CNN by following the instructions.
3. (Assignment) `train()`, `validate()`
  - Please complete the `train()` and `validate()` methods discussed in practice session.

Please execute and don't modify or change the last cell - this cell is for autograding.

# **Guidelines for submitting assignment**

1. Click the assignment url below.
  - You can see the following roster page.
  - Choose your name on identifiers.
  - Identifier is set by your <LAST\_NAME FIRST\_NAME>.
  - Once you register, then it will automatically create later assignment repo.

- Assignment 1 URL :

<https://classroom.github.com/a/D-4MTn7f>

- Assignment 2 URL :

<https://classroom.github.com/a/7XnlvPdy>

Join the classroom:

**UNIST-LIM-Lab-course-classroom-AI502-IE408-IE511**

To join the GitHub Classroom for this course, please select yourself from the list below to associate your GitHub account with your school's identifier (i.e., your name, ID, or email).

Can't find your name? [Skip to the next step →](#)

Identifiers		
ABEL WORKU	TESSEMA	>
Antoon	Jenniskens	>
DAGNACHEW TESSEMA	AMBAYE	>
ELDOR	FOZILOV	>
Elkhan	Ismayilzada	>
GAURAV SAHA		>
Ilyas	Kabimoldayev	>



## 2. Accept the assignment.

- Your (private) repository will be created.
- The ownership will be given after the semester (you cannot remove the assignment repo).

UNIST-LIM-Lab-course-classroom-AI502-IE408-IE511

### Accept the assignment — **k-fold-test-colab**


Once you accept this assignment, you will be granted access to the `k-fold-test-colab-seungwoos-test` repository in the [UNIST-LIM-Lab-course](#) organization on GitHub.

Accept this assignment

You're ready to go!

You accepted the assignment, **k-fold-test-colab**.

Your assignment repository has been created:

 <https://github.com/UNIST-LIM-Lab-course/k-fold-test-colab-seungwoos-test>

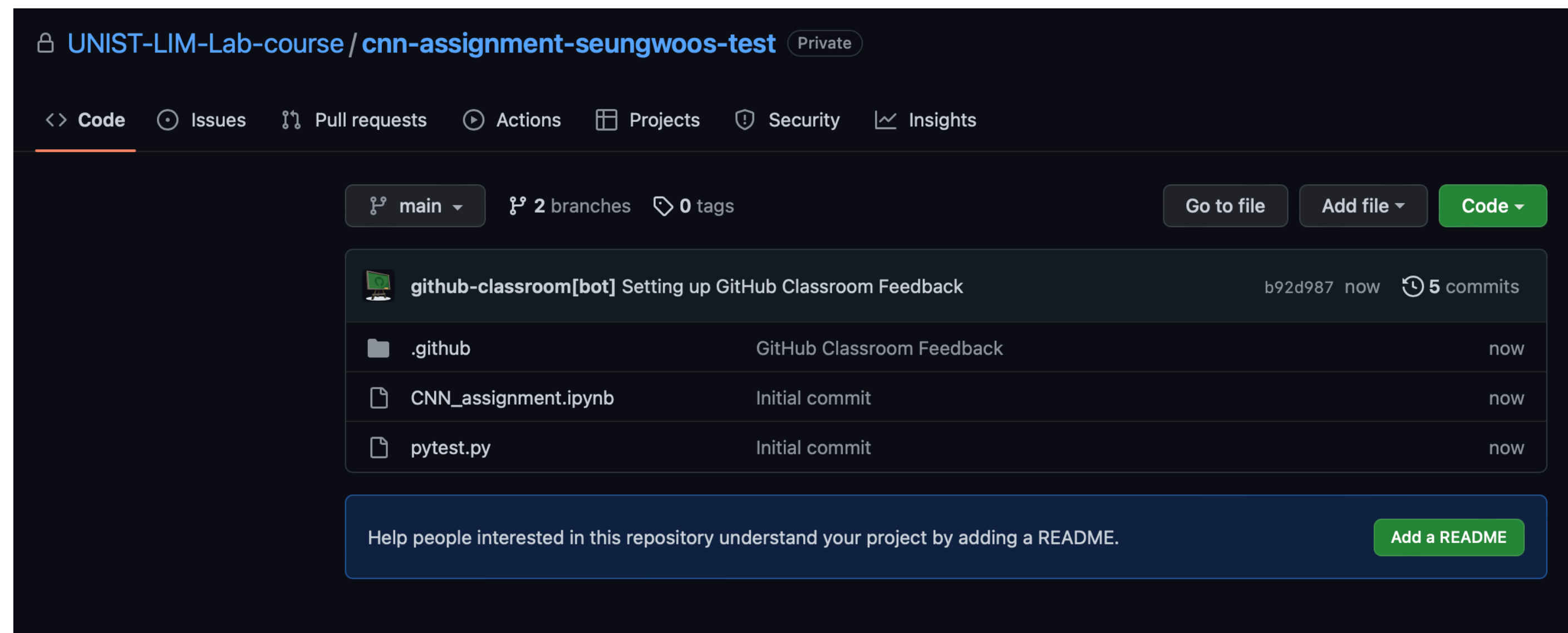
We've configured the repository associated with this assignment ([update](#)).

Your assignment was due on **Sep 15, 2022, 19:00 KST**

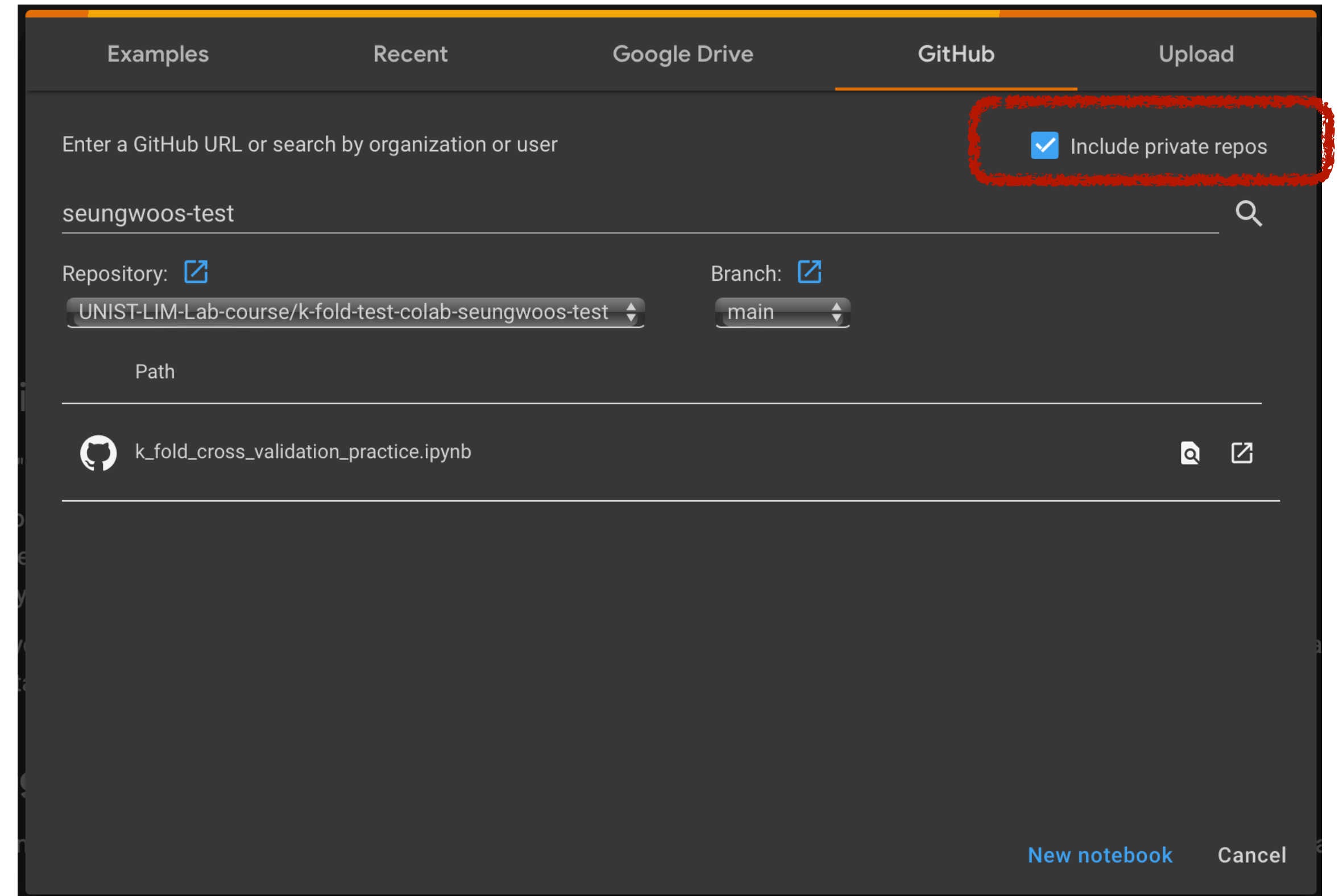
Please check the due date!



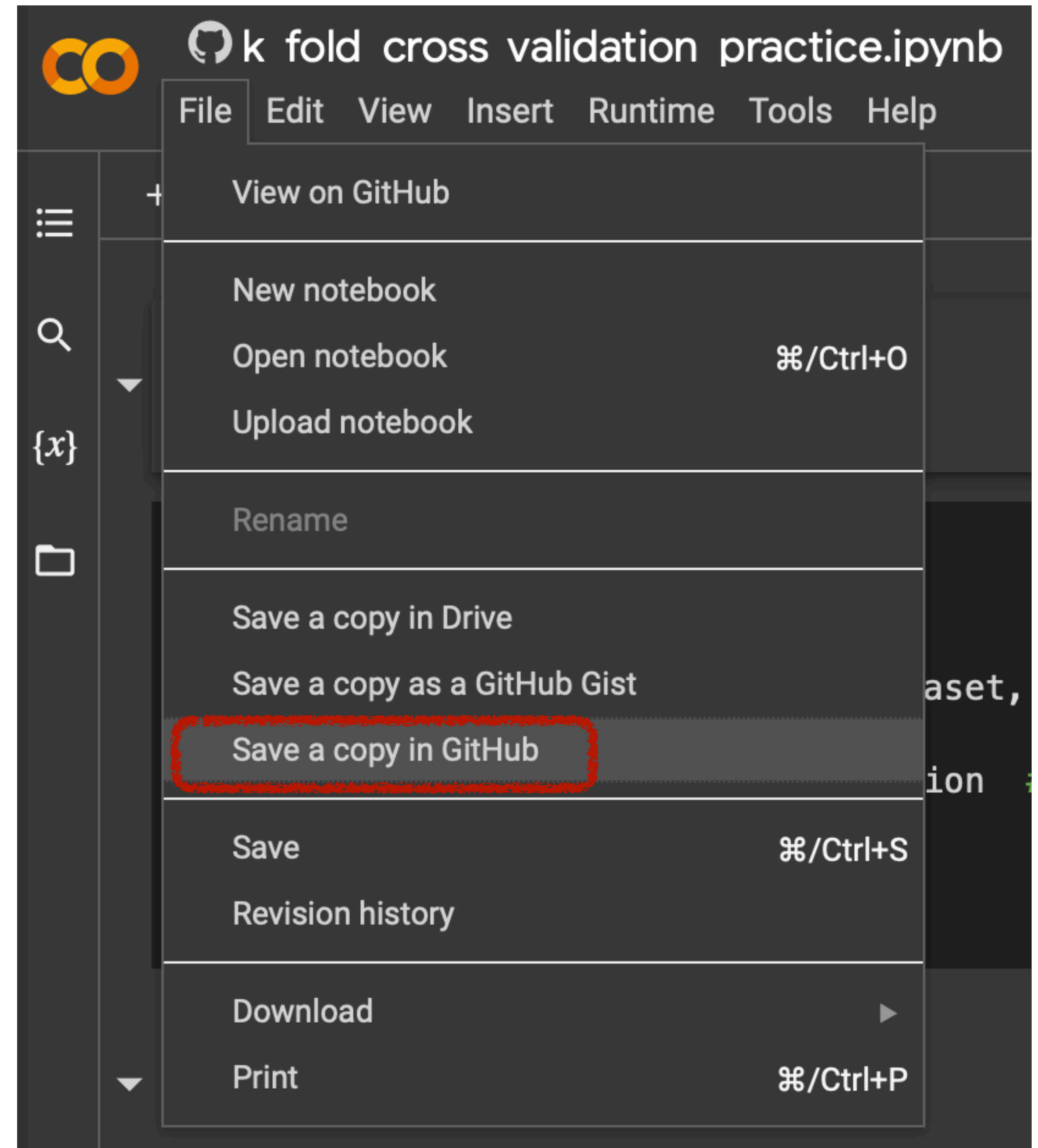
2. Accept the assignment.
- You can check the private repository on UNIST-LIM-Lab-course is made.
  - If you have problem joining Github Classroom, fill free to ask questions!



3. Go to [colab.research.google.com](https://colab.research.google.com) and open your assignment file.
- Make sure you should click include private repos.



4. After finishing assignment, please click **Save a copy in Github**.
- This will automatically commit on your assignment repo.
  - Grading will be done by your latest commit.



# Questions?

Only questions regarding Github Classroom will be accepted.

Contact: [ai502deeplearning@gmail.com](mailto:ai502deeplearning@gmail.com)