

# Git + GitHub



# What is Git and GitHub?

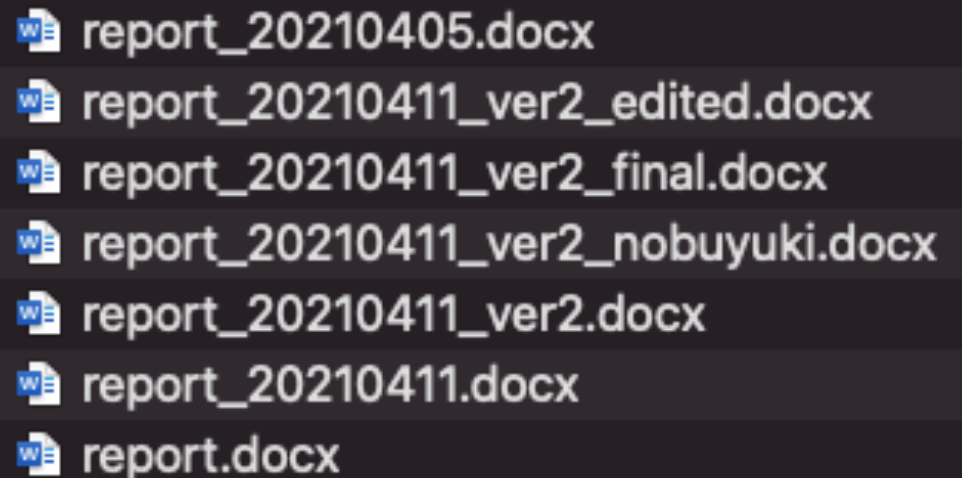
- Git is the most popular **version control system**
- Developed by the creator of Linux
- GitHub is an online service for git
  - Acquired by Microsoft



Linus Torvalds (Wikipedia)

# What is a Version Control System?

- **Version control system** manages the history of editing.
- Without version control system, its very difficult to tell the difference between the versions.



report\_20210405.docx  
report\_20210411\_ver2\_edited.docx  
report\_20210411\_ver2\_final.docx  
report\_20210411\_ver2\_nobuyuki.docx  
report\_20210411\_ver2.docx  
report\_20210411.docx  
report.docx

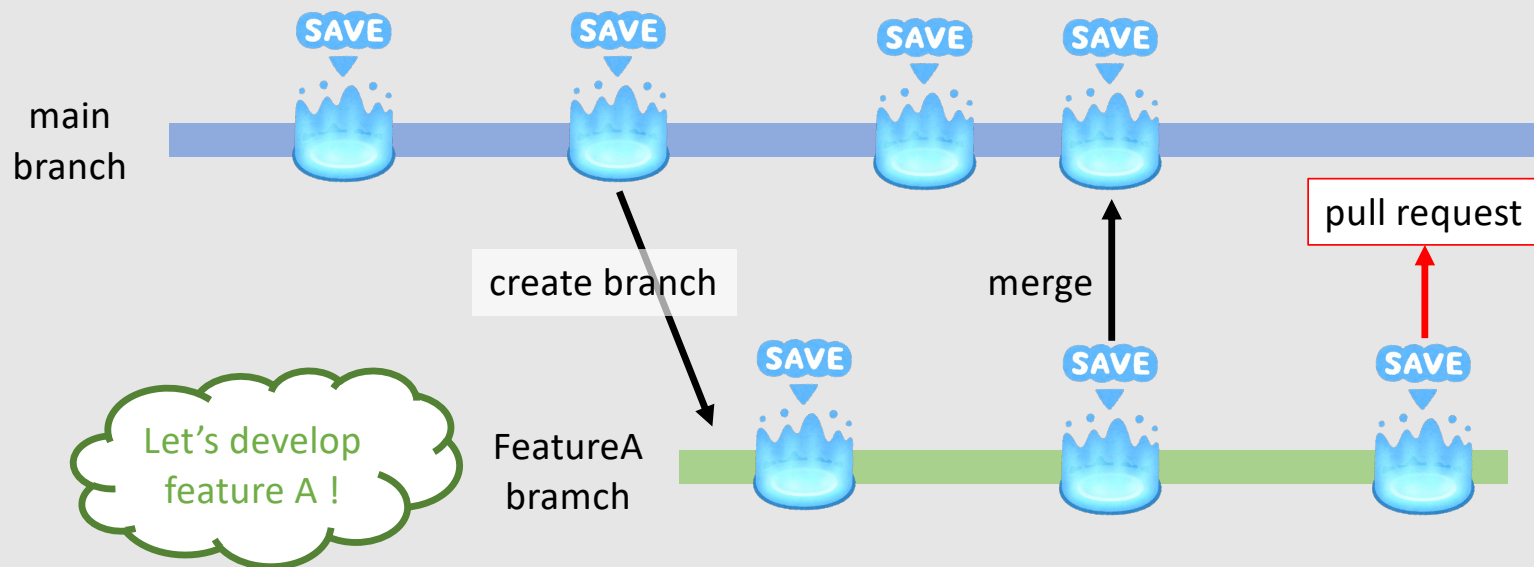
# What is “Repository”?

- **Repository** is a database storing document and its revision
  - Remote repository (GitHub)
  - Local repository
- **Commit** is registration of the edit
  - You can always go back to the committed status of document (It's similar to the save point of the RPG game)



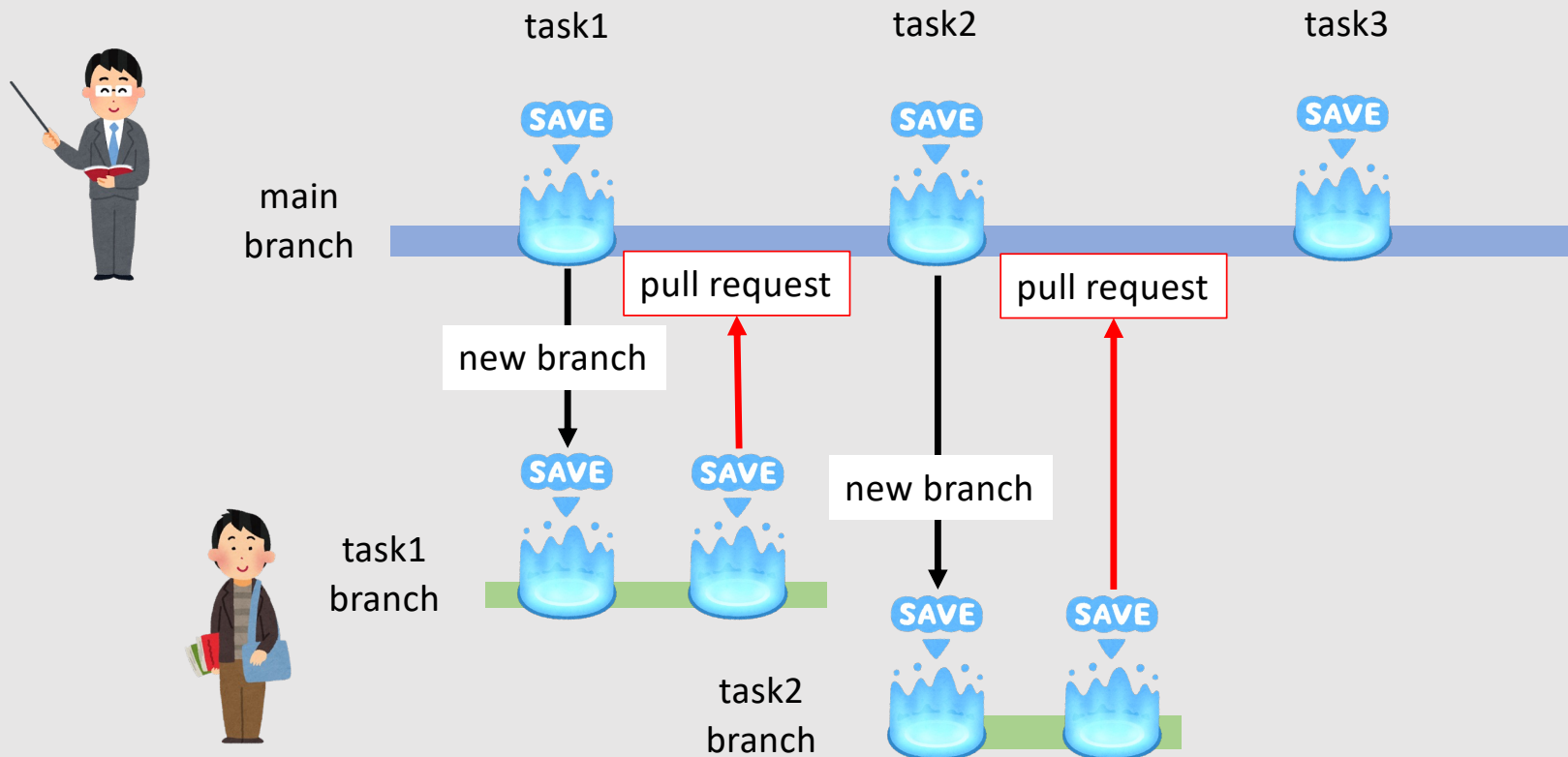
# What is “Branch”?

- **Branch** is an independent line of development
- Branch can be **merged** later to the original branch
- “**pull request**” is to ask other people to merge



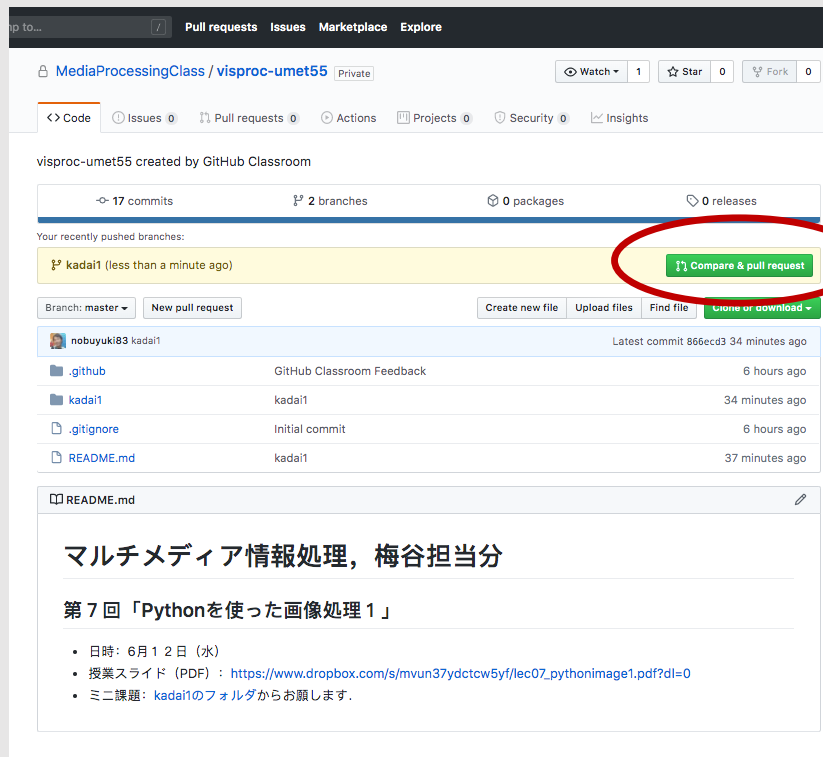
# Branch Structure for the Repository

- Create branch for each task



# Make a Pull Request for Submission

- Create branch for each task (e.g., “task1”)
- After creating branch, you can make a pull request



MediaProcessingClass / visproc-umet55 Private

17 commits 2 branches 0 packages 0 releases

Your recently pushed branches:

- kada1 (less than a minute ago) **Compare & pull request**

Branch: master New pull request Create new file Upload files Find file Clone or download

nobuyuki83 kada1 Latest commit 866ecd3 34 minutes ago

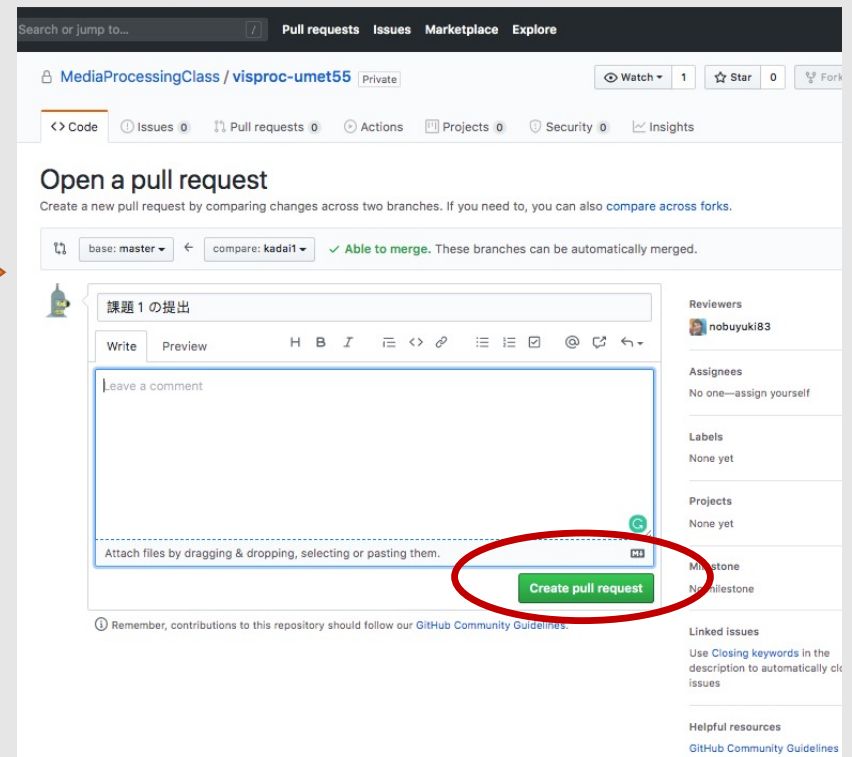
.github	GitHub Classroom Feedback	6 hours ago
kada1	kada1	34 minutes ago
.gitignore	Initial commit	6 hours ago
README.md	kada1	37 minutes ago

README.md

## マルチメディア情報処理, 梅谷担当分

### 第7回「Pythonを使った画像処理1」

- 日時: 6月12日(水)
- 授業スライド(PDF): [https://www.dropbox.com/s/mvun37ydtctw5yf/lec07\\_pythonimage1.pdf?dl=0](https://www.dropbox.com/s/mvun37ydtctw5yf/lec07_pythonimage1.pdf?dl=0)
- ミニ課題: kada1のフォルダからお願します。



MediaProcessingClass / visproc-umet55 Private

## Open a pull request

Create a new pull request by comparing changes across two branches. If you need to, you can also compare across forks.

base: master ← compare: kada1 ✓ Able to merge. These branches can be automatically merged.

課題1の提出

Write Preview H B I ≡ <> @ ↶ ↷

Leave a comment

Attach files by dragging & dropping, selecting or pasting them.

**Create pull request**

Remember, contributions to this repository should follow our [GitHub Community Guidelines](#).

Reviewers: nobuyuki83

Assignees: No one—assign yourself

Labels: None yet

Projects: None yet

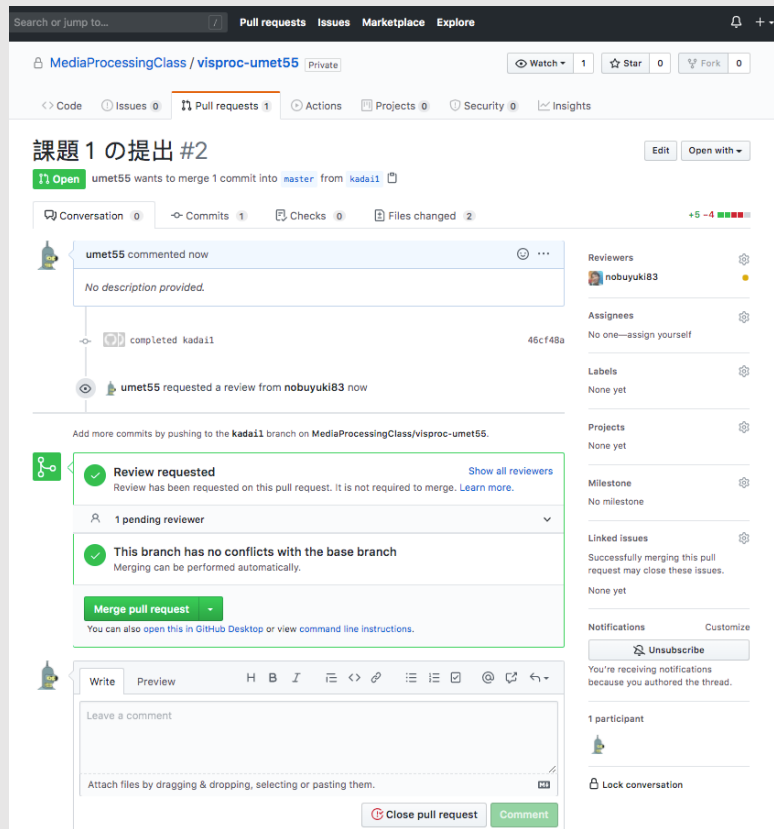
Milestone: No milestone

Linked issues: Use Closing keywords in the description to automatically click issues

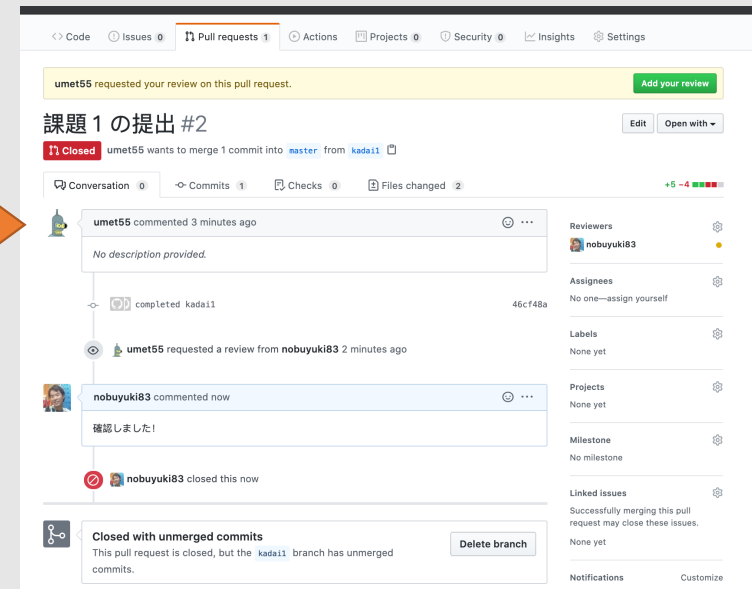
Helpful resources: GitHub Community Guidelines

# Instructor Closes Your Pull Request

- There might be comment from the instructor...



This screenshot shows a GitHub pull request page for a repository named 'MediaProcessingClass / visproc-umet55'. The pull request is titled '課題1の提出 #2' and is in an 'Open' state. A comment from 'umet55' is visible, stating 'No description provided.' Below the comment, there is a 'Review requested' notification and a 'Merge pull request' button. At the bottom of the page, there is a 'Close pull request' button.

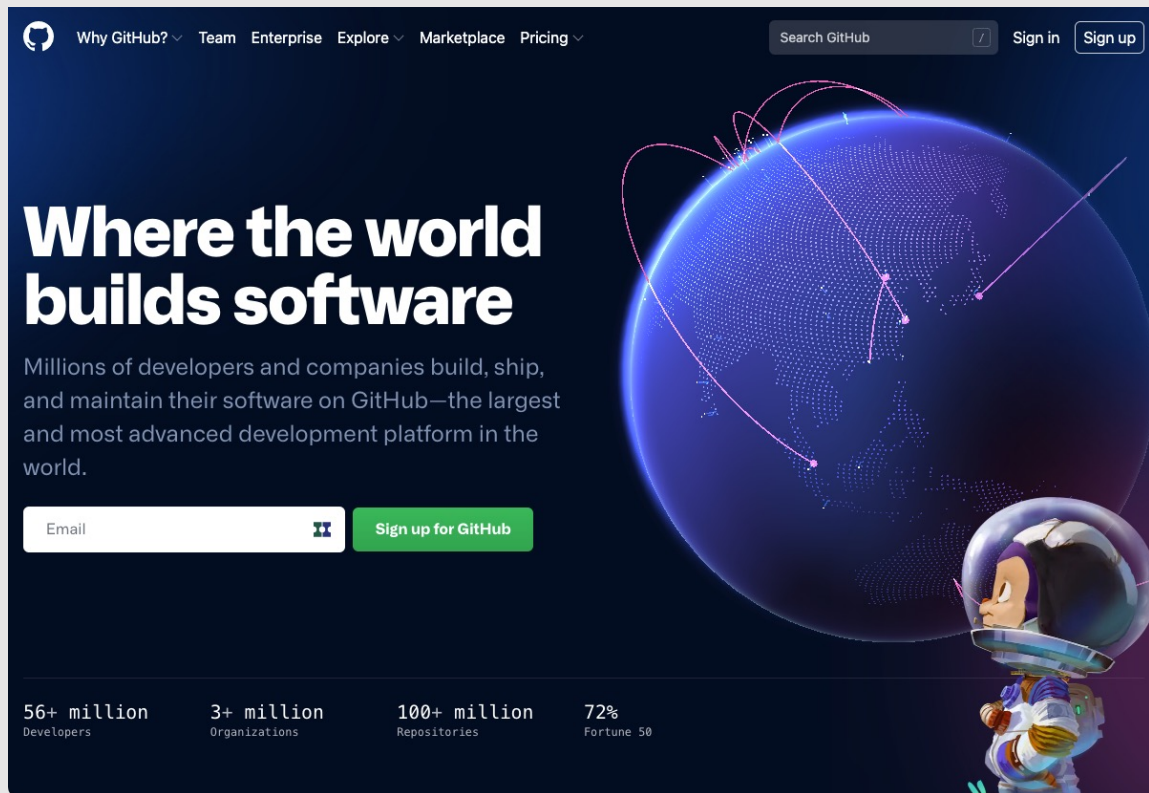


This screenshot shows the same GitHub pull request page, but now it is in a 'Closed' state. A yellow banner at the top indicates 'umet55 requested your review on this pull request.' The pull request title is '課題1の提出 #2'. A comment from 'umet55' is visible, stating 'No description provided.' Below the comment, there is a 'Closed with unmerged commits' notification and a 'Delete branch' button.



# Create a GitHub Account (if you don't have)

- GitHub will be your “facebook” as a software engineer

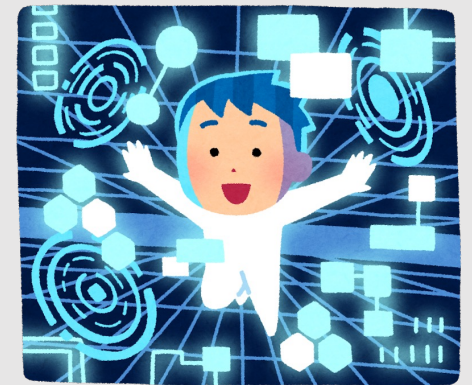


← sign up here!

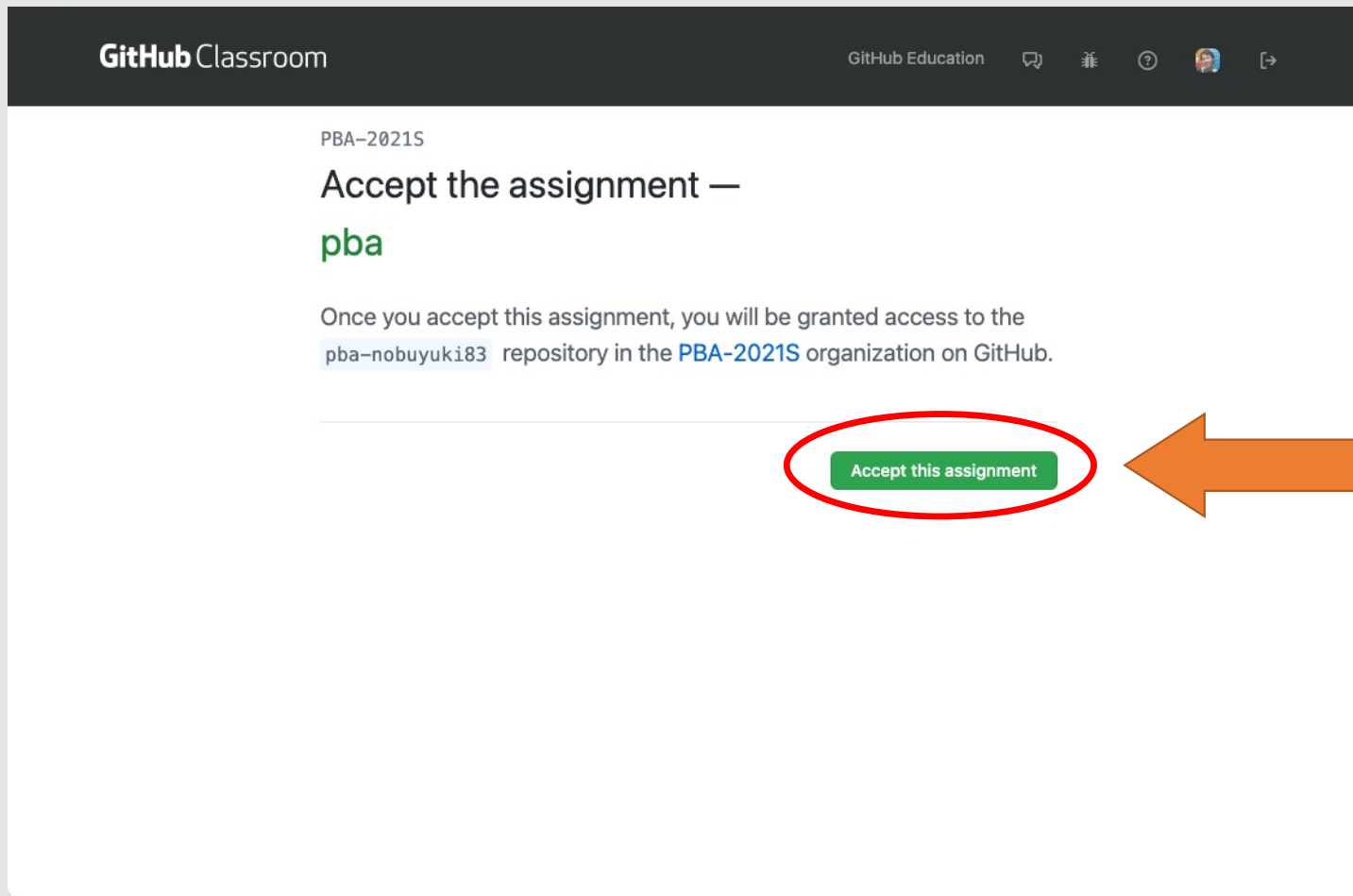
# Let's Make the Class's GitHub Repository

- Each student create their own private repository using GitHub classroom.

[https://classroom.github.com/a/\\*\\*\\*\\*\\*](https://classroom.github.com/a/*****)



# Press the green button “Accept this assignment”



GitHub Classroom

GitHub Education

PBA-2021S

## Accept the assignment —

**pba**

Once you accept this assignment, you will be granted access to the `pba-nobuyuki83` repository in the `PBA-2021S` organization on GitHub.

[Accept this assignment](#)

# Choose Your Name from the List

GitHub Classroom

GitHub Education

Join the classroom:  
**PBA-2021S**

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).

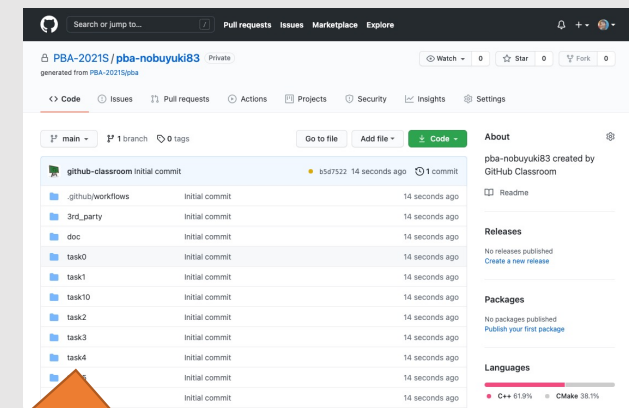
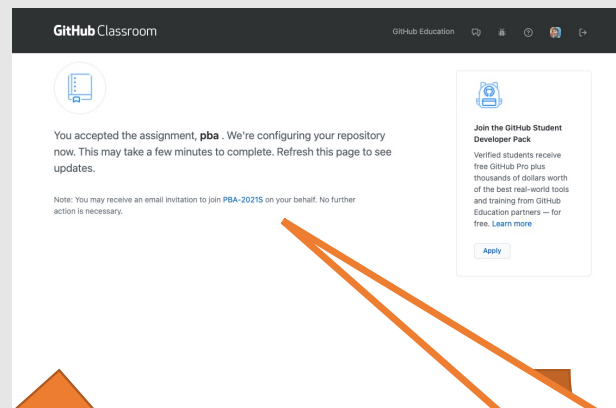
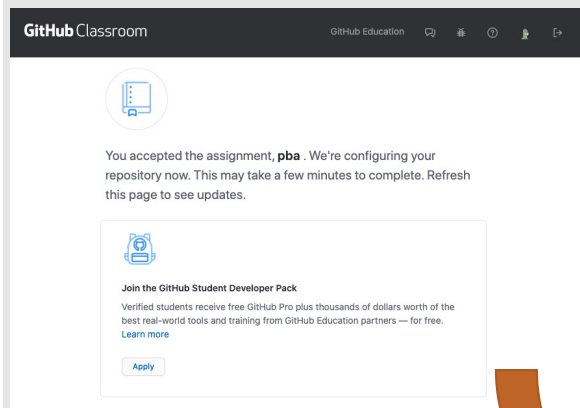
Can't find your name? [Skip to the next step ->](#)

Identifiers
XXXXXX@XXXX
XXXXXX
XXXXXX@XXXX
XXXXXX@XXXX
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XXXX@XXXXXX
XXXX@XXXXXX
XXXX@XXXX
XXXX@XXXX

If you cannot find your name in the list, go to this link and contact the instructor on Slack

# Your New Repository will be Created

- The name of the repo will be “pba-<username>”



Refresh this page after a while

go to the link here

# Git Best Practice

- Avoid Platform Dependency

- Use Cmake for C++



- Don't put intermediate files (automatically generated files)

- E.g., \*.obj, \*.proj, \*.sln, \*.so, \*.lib
- Use Out-of-source build
- Use ".gitignore" file to ignore specific type of files



- Use CI (continuous integration)

