

Git + GitHub



What is Git and GitHub?

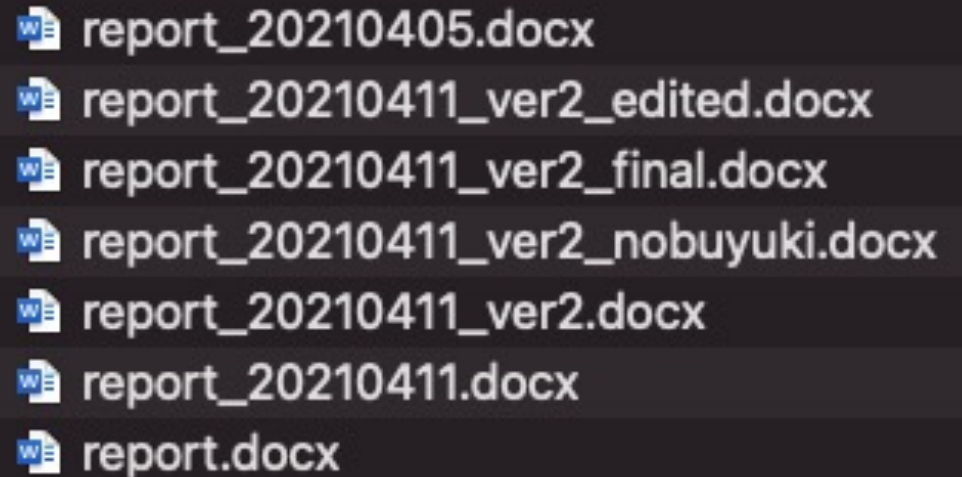
- Git is the most popular **version control system**
- Developed by the creator of Linux
- GitHub is an online service for git
 - Acquired by Microsoft



Linus Torvalds (Wikipedia)

What is a Version Control System?

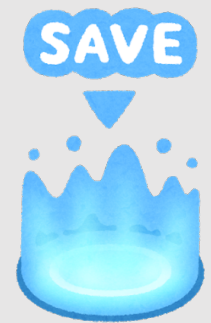
- **Version control system** manages the history of editing.
- Without version control system, its very difficult to tell the difference between the versions.



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

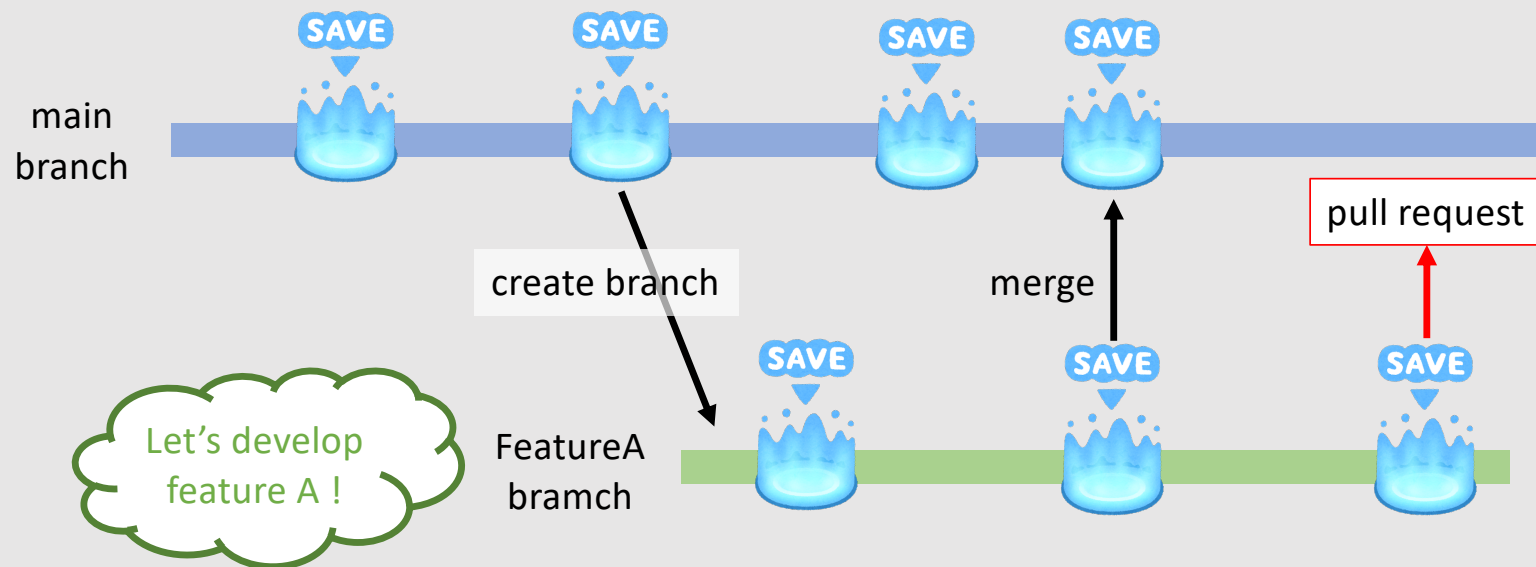
What is “Repository”?

- **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)



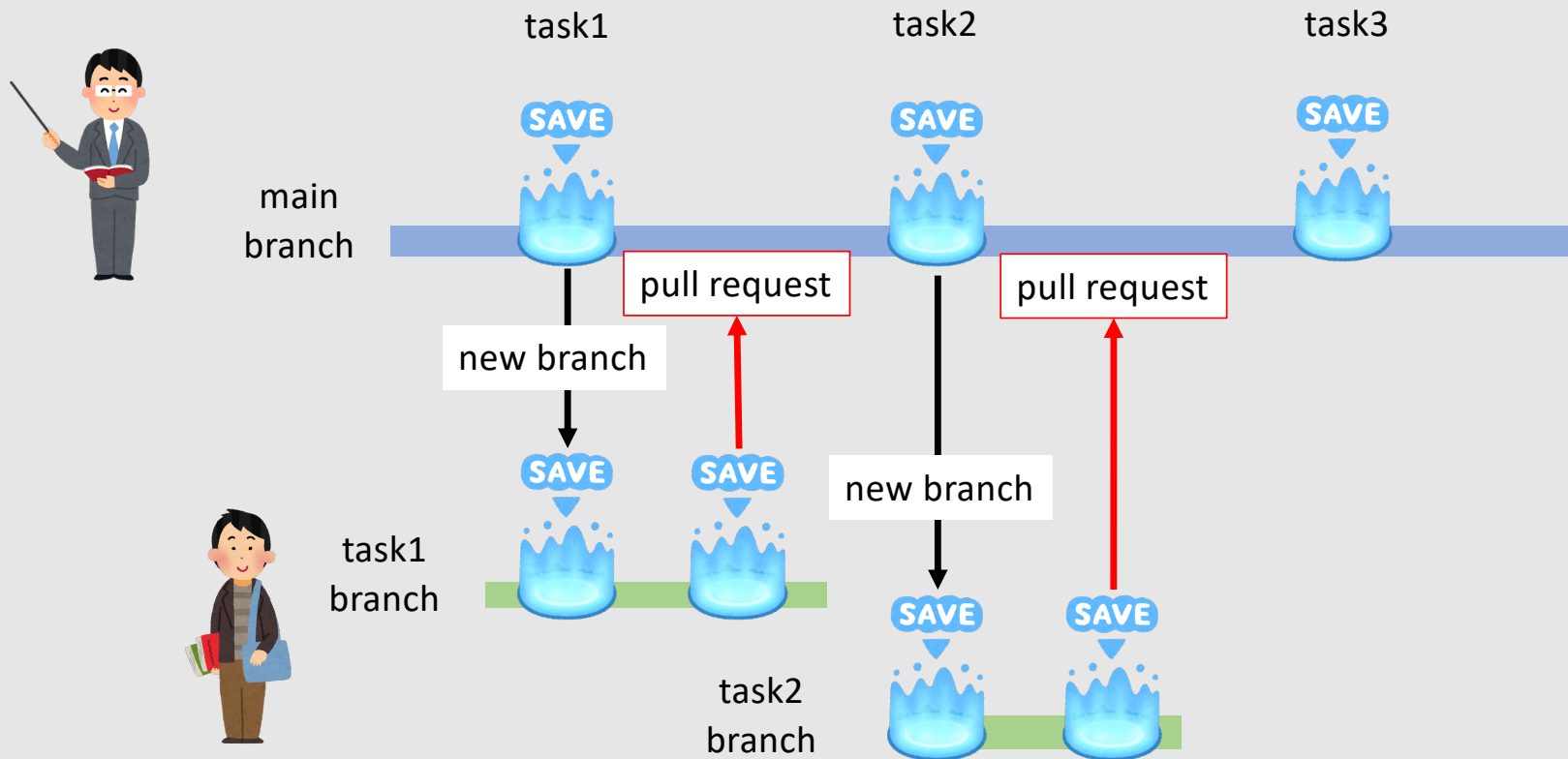
What is “Branch”?

- **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



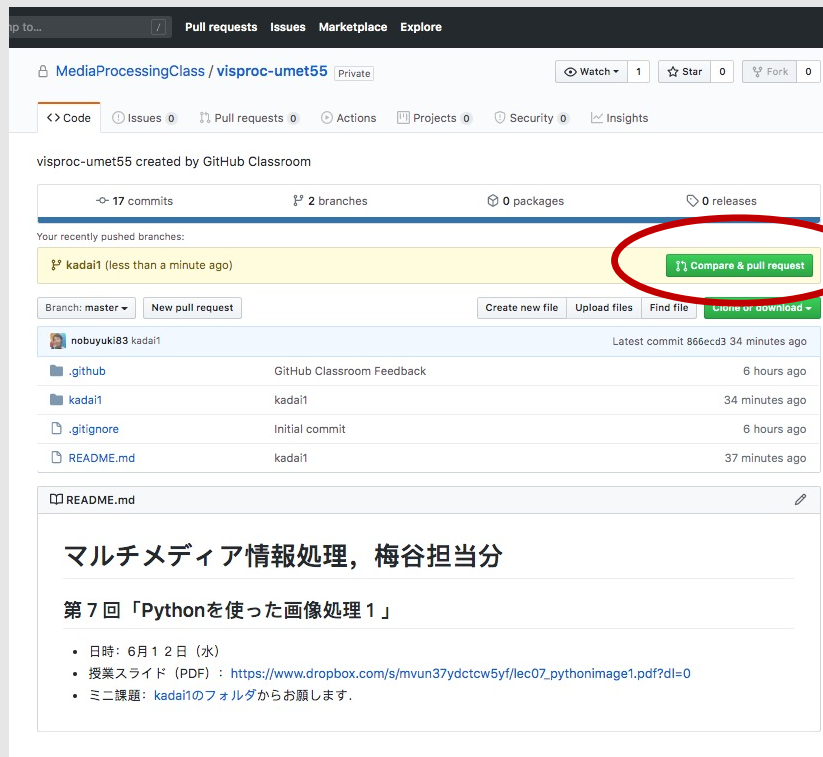
Branch Structure for the Repository

- Create brunch 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



The screenshot shows the GitHub repository page for 'MediaProcessingClass / visproc-umet55'. The repository has 17 commits, 2 branches, and 0 packages. A branch named 'kada1' is highlighted in yellow, with a red circle around the 'Compare & pull request' button. Below the branch list, there is a table of files and their commit history:

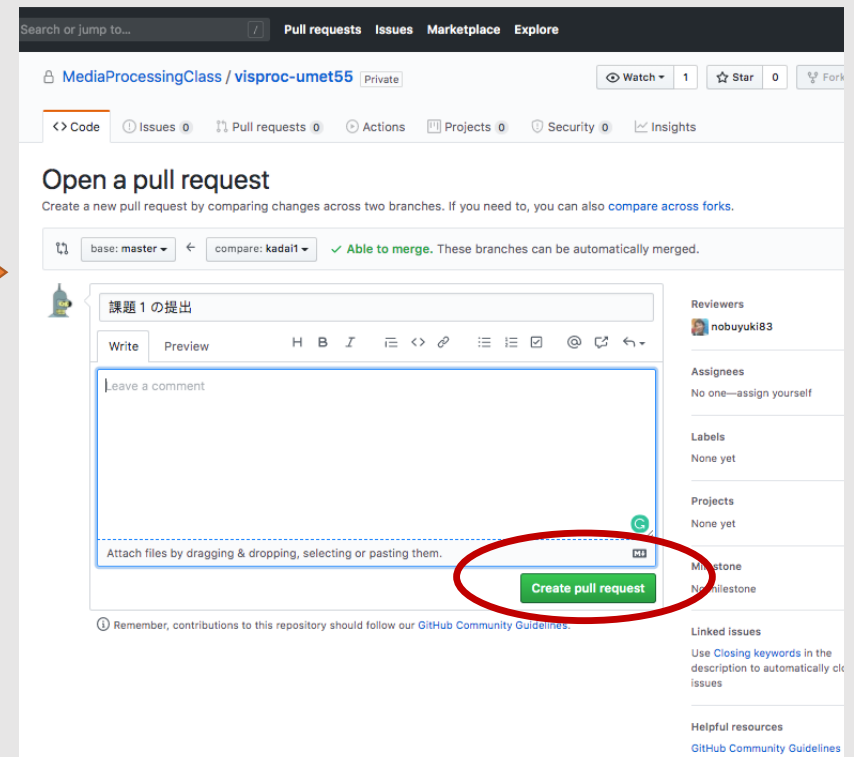
File	Commit	Time
.github	GitHub Classroom Feedback	6 hours ago
kada1	kada1	34 minutes ago
.gitignore	Initial commit	6 hours ago
README.md	kada1	37 minutes ago

Below the table, there is a section for the README.md file, which contains the following text:

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」

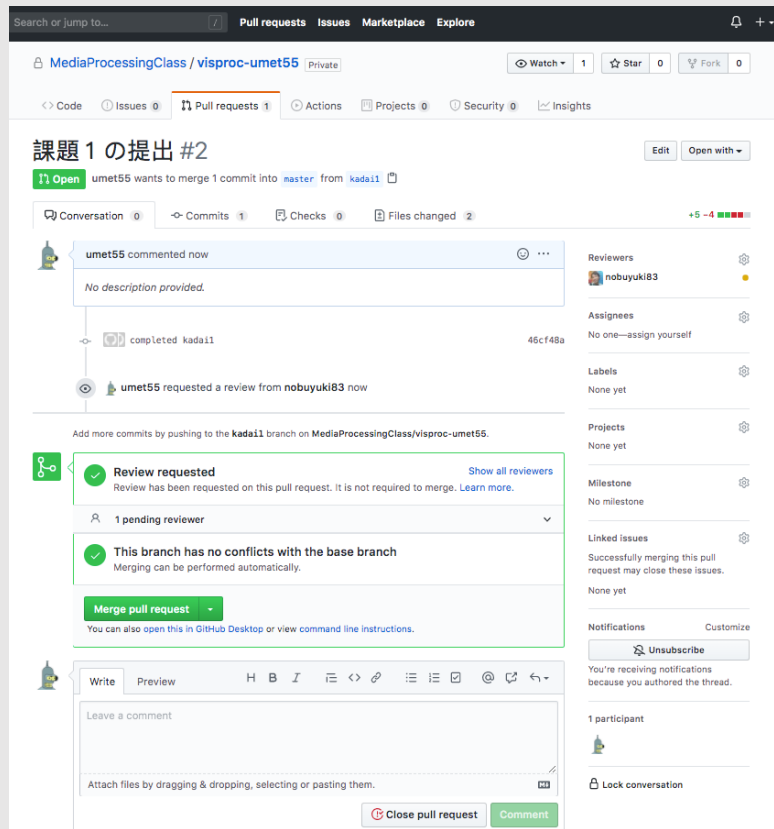
- 日時: 6月12日(水)
- 授業スライド(PDF): https://www.dropbox.com/s/mvun37ydtctw5yf/lec07_pythonimage1.pdf?dl=0
- ミニ課題: kada1のフォルダからお願いします。



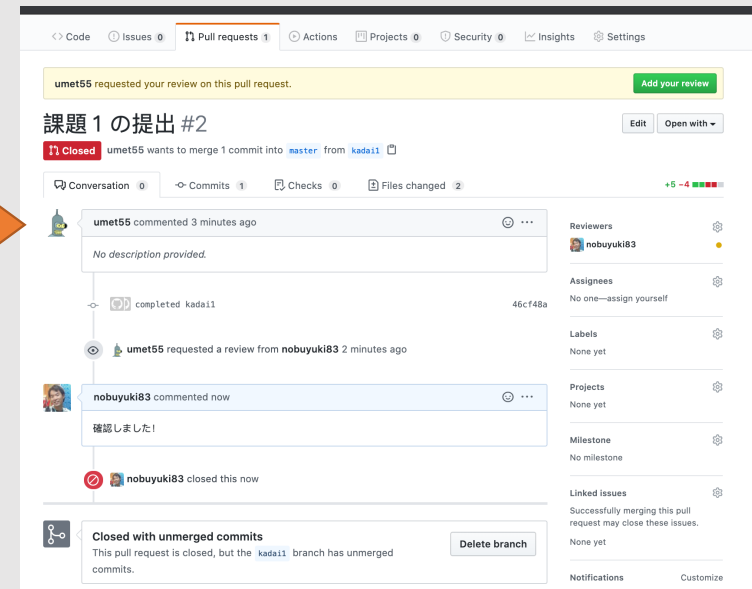
The screenshot shows the GitHub pull request creation page. The page title is 'Open a pull request'. The form is titled '課題1の提出'. The 'base' is set to 'master' and the 'compare' is set to 'kada1'. The status is 'Able to merge'. The form has a 'Write' tab selected, and a text area for 'Leave a comment'. A red circle is around the 'Create pull request' button at the bottom right of the form.

Instructor Closes Your Pull Request

- There might be comment from the instructor...



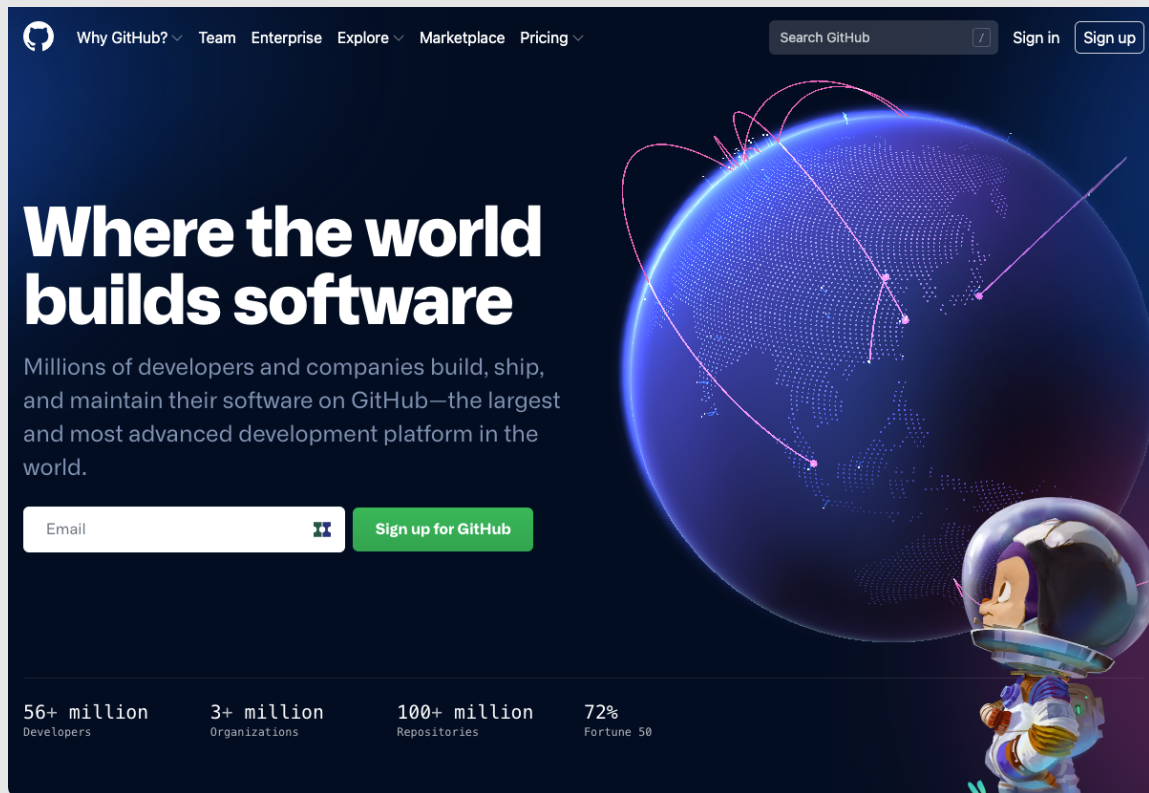
This screenshot shows a GitHub pull request titled "課題1の提出 #2" (Submission #2 for Topic 1). The pull request is from user "umet55" and is targeting the "master" branch of the repository "MediaProcessingClass/visproc-umet55". The pull request is currently in a "Review requested" state. A comment from user "umet55" is visible, stating "No description provided." The pull request is marked as "Open" and "umet55 wants to merge 1 commit into master from kada11". The interface includes a "Merge pull request" button and a "Close pull request" button.



This screenshot shows the same GitHub pull request, but it is now in a "Closed" state. A yellow banner at the top indicates "umet55 requested your review on this pull request." The pull request is titled "課題1の提出 #2" and is marked as "Closed". A comment from user "umet55" is visible, stating "No description provided." The pull request is marked as "Closed" and "umet55 wants to merge 1 commit into master from kada11". The interface includes a "Delete branch" button and a "Close pull request" button.

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

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

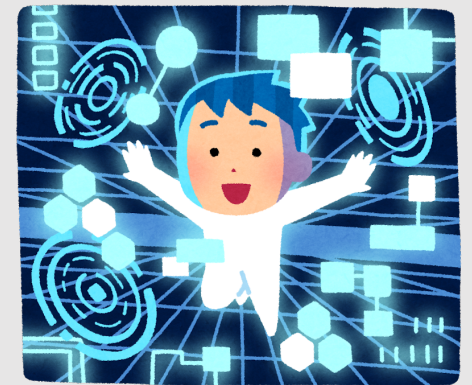


← sign up here!

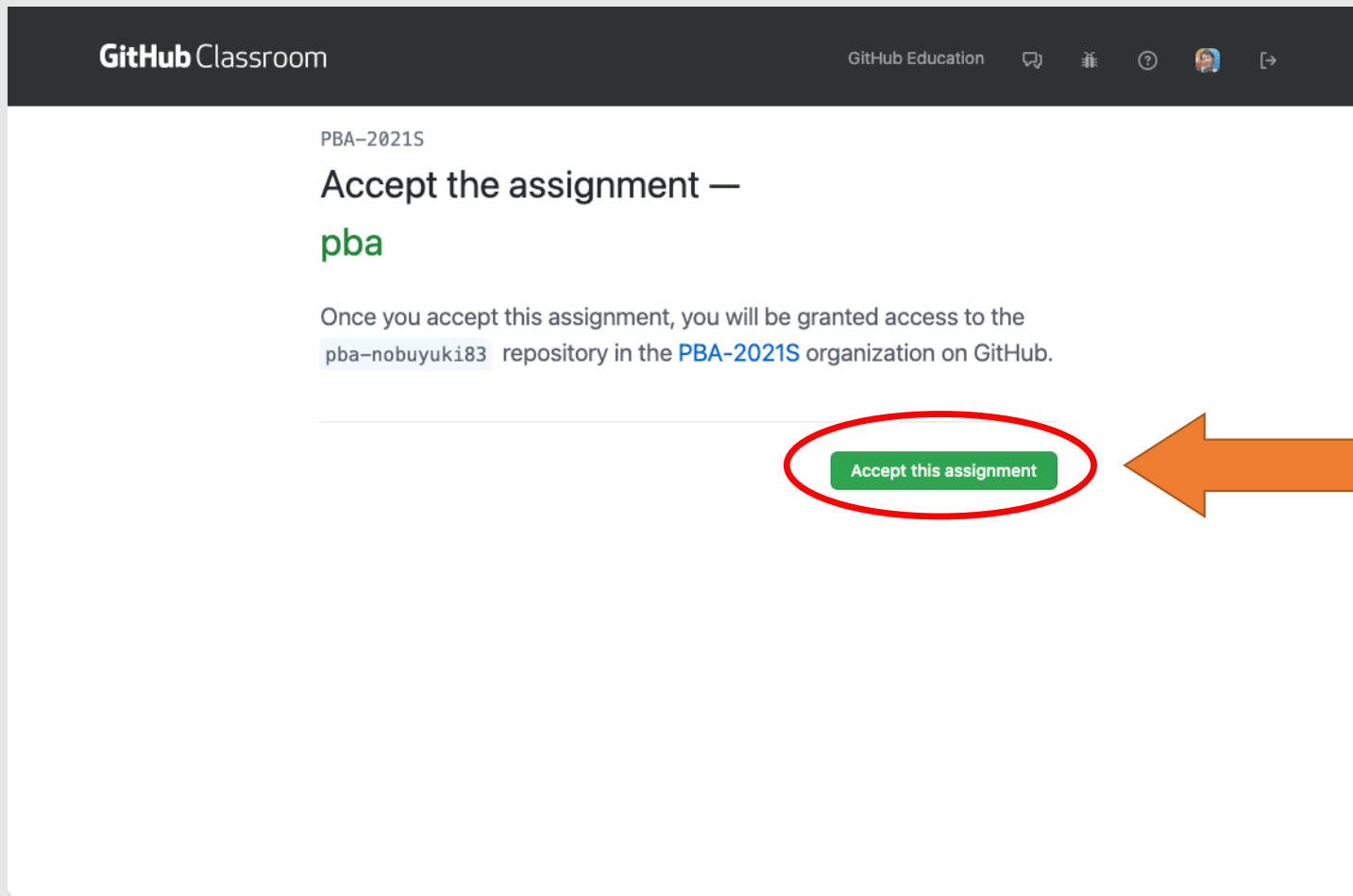
Let's Make the Class's GitHub Repository

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

https://classroom.github.com/a/*****



Press the green button “Accept this assignment”



GitHub Classroom GitHub Education

PBA-2021S

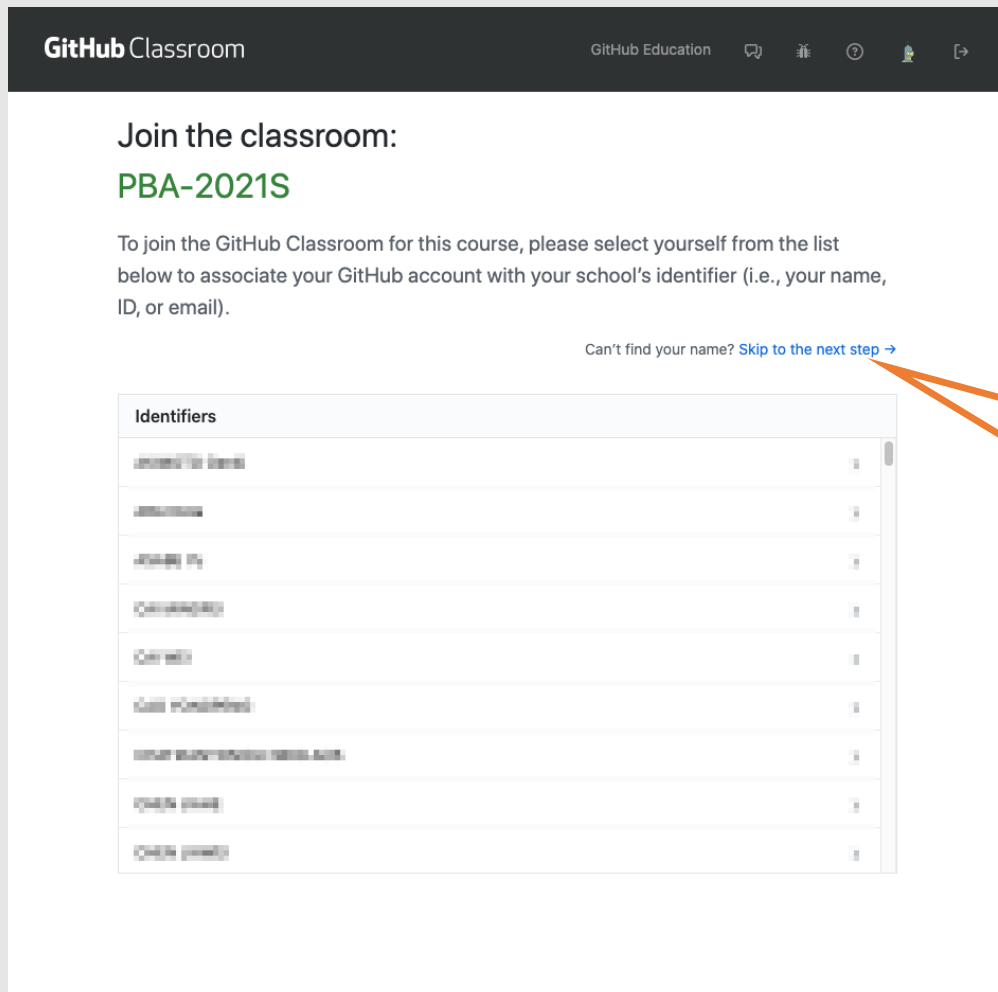
Accept the assignment —

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).

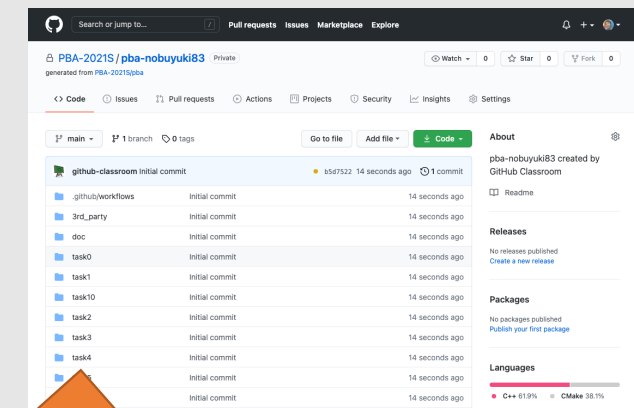
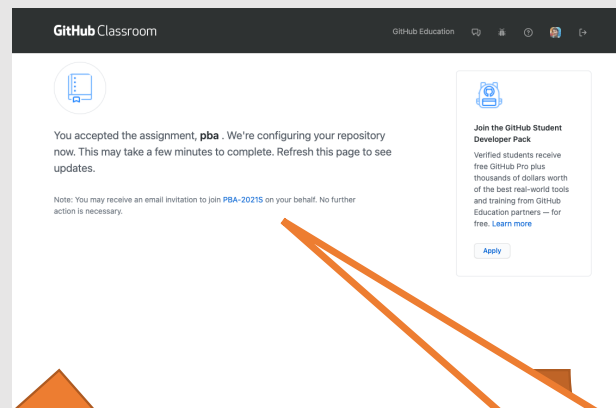
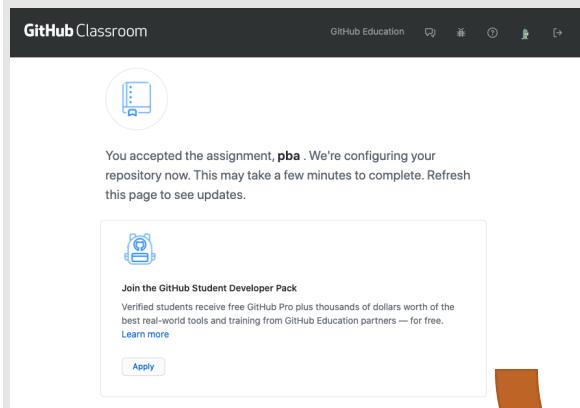
Can't find your name? [Skip to the next step →](#)

Identifiers
AMERSON, David
AMERSON, David
AMERSON, David
AMERSON, David
AMERSON, David
AMERSON, David
AMERSON, David
AMERSON, David
AMERSON, David
AMERSON, David
AMERSON, David

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)

