

# Student Guide to GitHub

## Copper Country Coders

### 2020

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## What is GitHub

GitHub is the version control system used as a standard by many coders and software developers around the world. But what's it for, you ask. Imagine you're writing a new video game and want to test out a couple of new feature ideas but aren't sure if they'll break your code. You could make a copy of your whole project and store it somewhere else, and then make your changes, but then you'd have a lot of copies sitting around on your computer. The idea of a version control system is that you can store your copies remotely, and if some change ever breaks your code, you can go back and get your old code back. This is a bit like how you save a report for school as you work on it, but if you accidentally delete a paragraph, you can click undo to get it back. GitHub is just the same thing, but on a bigger scale.

Why is CCCoders using GitHub? We have chosen to use GitHub as the means of communicating code and storing it at CCCoders for a few reasons. First, it's what programmers really use out in the world, so CCCoders students can have a head start and see what it's like. Secondly, it's a free, open source platform, so there is no associated charge and each student can sign up with just an email account. Three, it provides somewhere for students to back up their code so they can access it from home if they want to share what they're working on with friends and family. Finally, it provides an easy way for students without an email address to download code shared by their teachers.

To access GitHub and see what we're up to, visit <https://github.com/CCcoders/CurrentYear/>

## Rules of Using GitHub

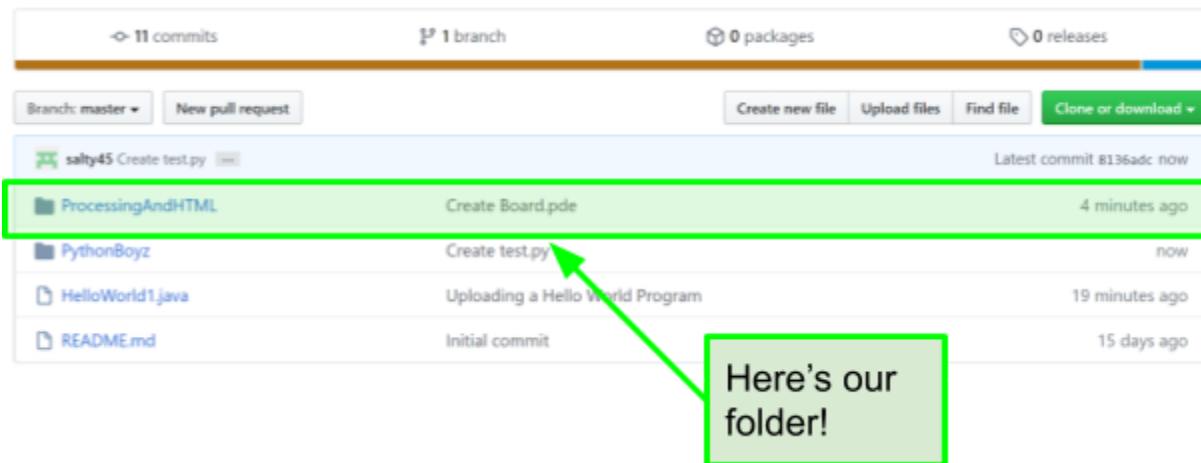
These are a few ground rules for using GitHub as a student. These are mostly common sense and respect, so please take a moment to familiarize yourself with them. Also, please keep in mind that your individual teachers may have more rules to add, depending on how your group's folder is set up.

1. Do not post code that you didn't write.
2. Do not modify or delete code that is not your own unless you have received permission from the code's owner.
3. Do not create new repositories
4. Only upload/download code as directed by your teacher.
5. If you don't know what a button does, please ask before clicking it.
6. Do not change settings. We have set GitHub up in a specific way to make it work for everyone in CCCoders.
7. If something seems like it isn't working for you, or you're unsure about something, ask your teacher.

## Downloading Code from GitHub

One of the main reasons we're using GitHub for CCCoders is to make it easy to access code your teachers want to share for each week. To get started doing this, go to the GitHub website <https://github.com/CCcoders/CurrentYear/> and locate your group's folder. Your teachers will have told you which folder it is. Then, click on the folder for this week's project. Below, we will work through an example to get code from a ProcessingAndHTML group project.

Step 1: Find your group's folder and click on its name.

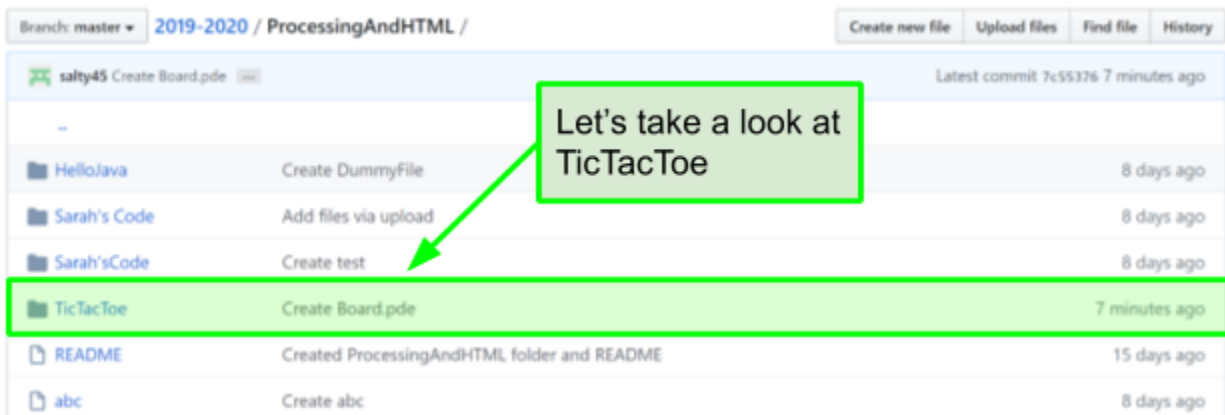


The screenshot shows a GitHub repository page for user 'salty45'. At the top, it displays '11 commits', '1 branch', '0 packages', and '0 releases'. Below this, there are buttons for 'Branch: master', 'New pull request', 'Create new file', 'Upload files', 'Find file', and 'Clone or download'. The main content is a list of folders and files:

| Folder/File       | Commit Message                  | Time           |
|-------------------|---------------------------------|----------------|
| ProcessingAndHTML | Create Board.pde                | 4 minutes ago  |
| PythonBoyz        | Create test.py                  | now            |
| HelloWorld1.java  | Uploading a Hello World Program | 19 minutes ago |
| README.md         | Initial commit                  | 15 days ago    |

A green box highlights the 'ProcessingAndHTML' folder, and a callout box with an arrow points to it, containing the text 'Here's our folder!'.

Step 2: Find the folder for your current project (or the folder with your name on it).



The screenshot shows a GitHub repository page for user 'salty45' at the path '2019-2020 / ProcessingAndHTML /'. It displays buttons for 'Create new file', 'Upload files', 'Find file', and 'History'. The main content is a list of folders and files:

| Folder/File  | Commit Message                              | Time          |
|--------------|---|---------------|
| ..           |   |               |
| Hello.java   | Create DummyFile                            | 8 days ago    |
| Sarah's Code | Add files via upload                        | 8 days ago    |
| Sarah'sCode  | Create test                                 | 8 days ago    |
| TicTacToe    | Create Board.pde                            | 7 minutes ago |
| README       | Created ProcessingAndHTML folder and README | 15 days ago   |
| abc          | Create abc                                  | 8 days ago    |

A green box highlights the 'TicTacToe' folder, and a callout box with an arrow points to it, containing the text 'Let's take a look at TicTacToe'.

Step 3: Click on a file to view it



The screenshot shows a GitHub repository page for user 'salty45' at the path '2019-2020 / ProcessingAndHTML / TicTacToe /'. It displays buttons for 'Create new file', 'Upload files', 'Find file', and 'History'. The main content is a list of files:

| File      | Commit Message   | Time           |
|-----------|------------------|----------------|
| ..        |                  |                |
| Board.pde | Create Board.pde | 10 minutes ago |

A green box highlights the 'Board.pde' file.

You should see something like this:



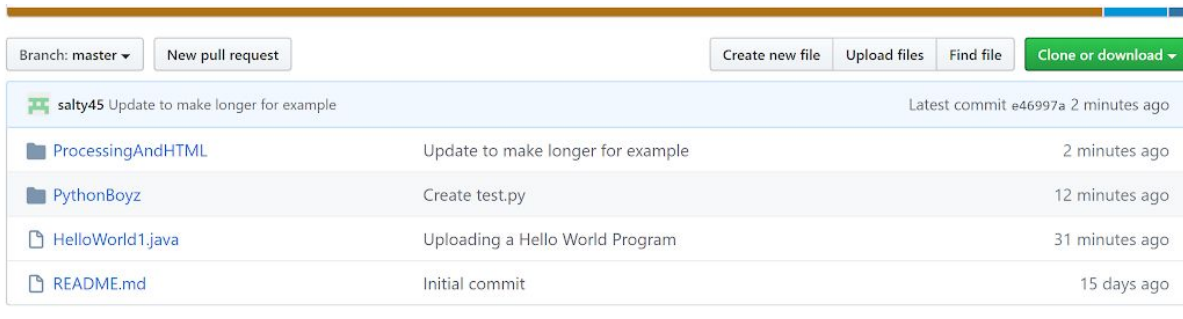
The screenshot shows a GitHub file view for 'Board.pde' in the '2019-2020 / ProcessingAndHTML / TicTacToe' repository. The file is on the 'master' branch. The commit message is 'Update to make longer for example' by user 'salty45' with commit hash 'e46997a' and timestamp 'now'. There is one contributor. The file statistics are 13 lines (12 sloc) and 215 Bytes. The code content is as follows:

```
1 void setup() {
2     size(900, 900);
3 }
4
5 void draw() {
6     // Draws the tic-tac-toe board
7     for (int i = 0; i < 3; i++) {
8         for (int j = 0; j < 3; j++) {
9             fill(255, 225, 178);
10            rect(i * 300, j * 300, 300, 300);
11        }
12    }
13 }
```

Step 4: Create a file on your computer with the same name as the one in GitHub. Then copy and paste the code in.

You have now successfully accessed the code.

Note: You might see a green “Clone or Download” button in the main folder.

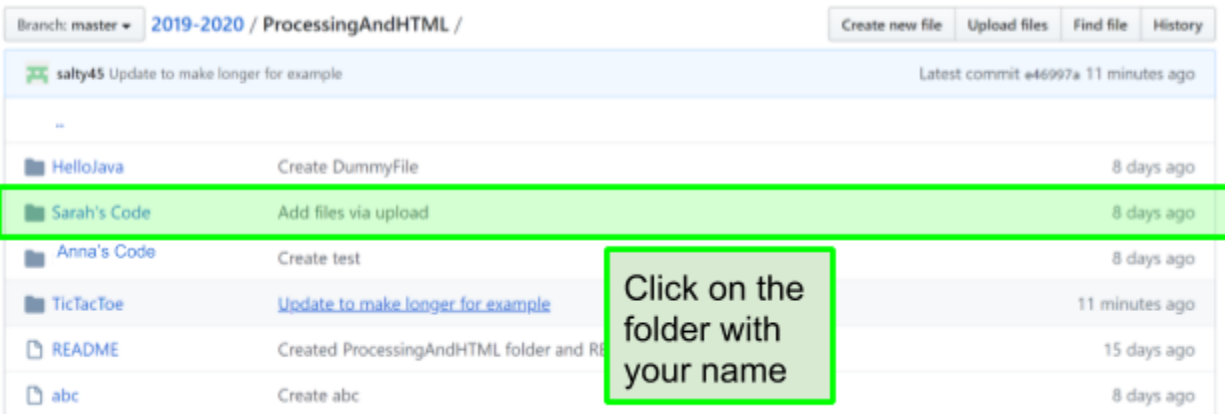


This isn't the best way to get your code because it will download the code for every group, not just your group. That's a lot of code to be downloading and searching through!

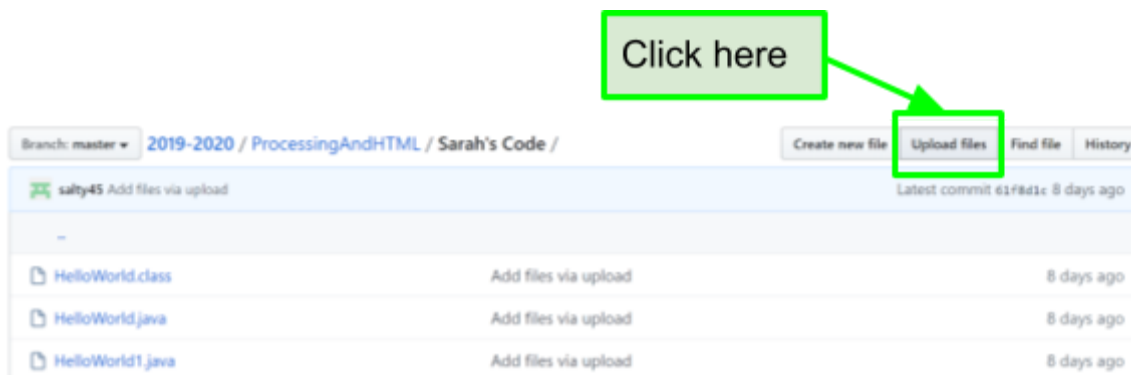
## Uploading Code to GitHub

Your teachers may want you to upload code to GitHub to share it with classmates or store it as a backup. Unless directed otherwise, you will want to upload code only to the folder that has your name on it.

Step 1: Find the folder with your name within your group's folder.

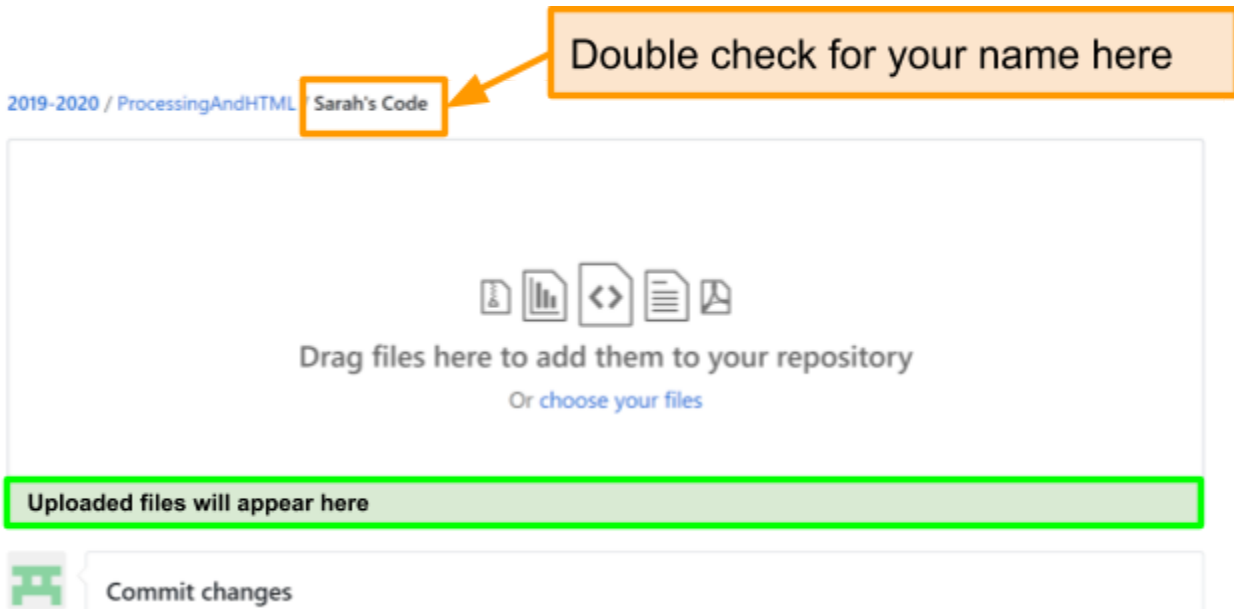


Step 2: Click Upload Files

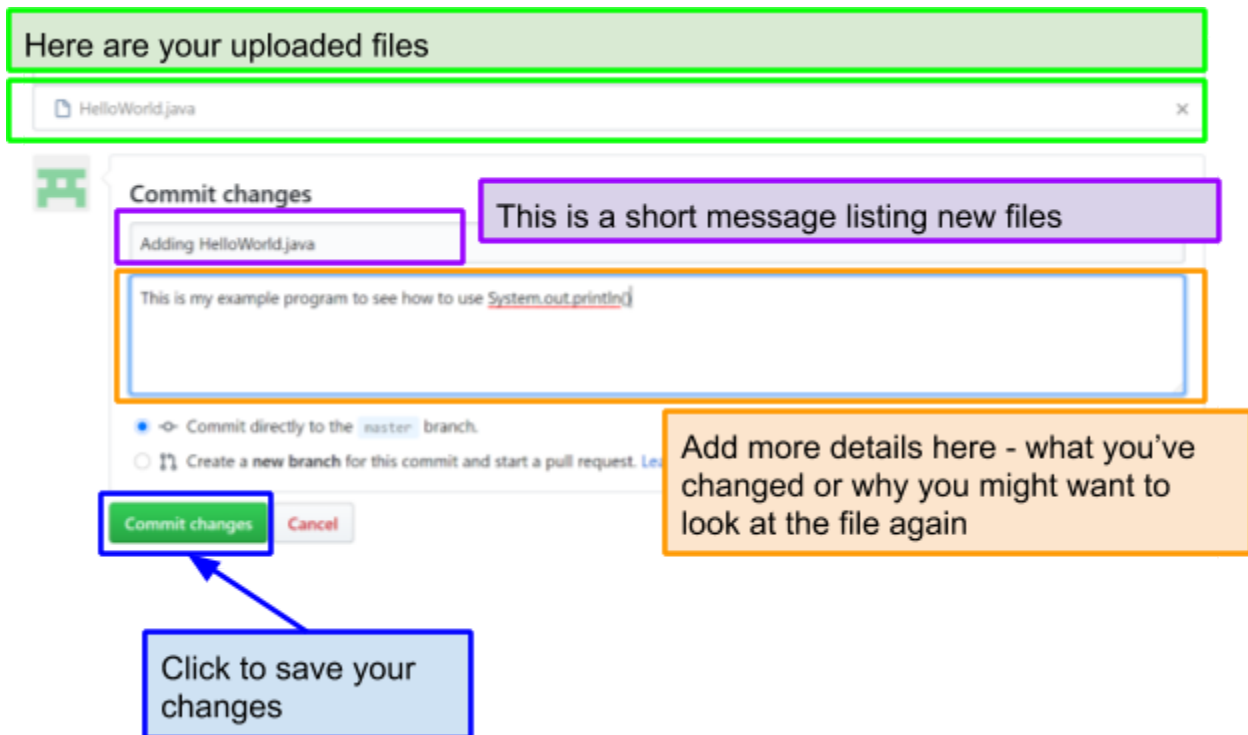


Step 3: Find where you stored the files you want to upload and decide if you need to upload a folder or a file. Some common locations to find your files are eclipse-workspace or IdeaProjects (for Java files) or Sketchbook (for Processing files). You might also have them stored on your Desktop.

Step 4: Drag and drop the files and folders you want to upload onto the background.



Step 5: Type in a short message saying what files you uploaded and what they're for. Then click "Commit Changes".



Your new files should now appear in your folder.

Note: if you need help or want to check that this is working, just ask your teacher(s).