# Git and GitHub Classroom for CS559

Part A – What it looks like to do a workbook

# GitHub Classroom (GIT crash course)

GitHub classroom creates a repository on GitHub for you

You must clone it to your computer Commit your work Push it back to GitHub

We clone the repository to grade it

This only makes sense if you understand GIT terminology and Have the right mental model of how GIT works

## Two parts to this "lecture"

### Part A – what you do to use Workbooks in class

requires you to understand GIT concepts might be easier to understand after you watch part B

### Part B – understanding GIT and GitHub classroom

important to understand what is going on much easier to motivate after you've seen part A important beyond class

## Getting the assignment... What you will do

# Warning

I will use the GIT terms and concepts first, and then explain it later

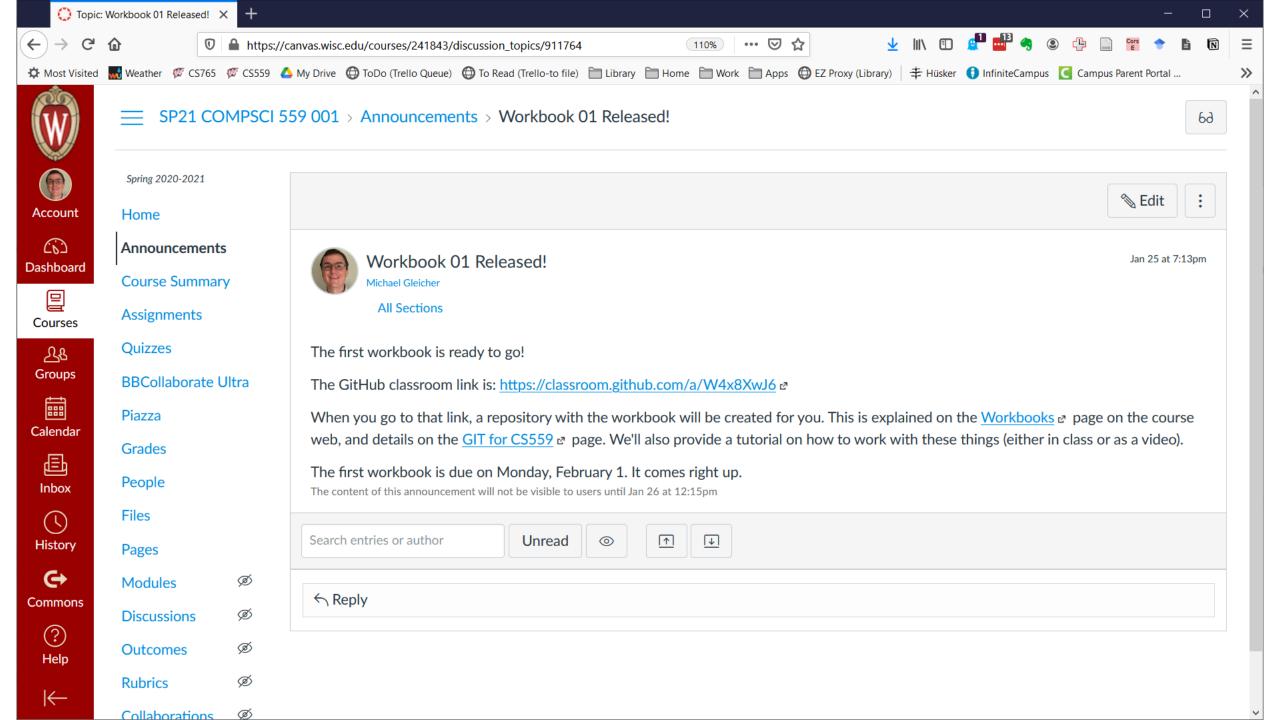
# Steps

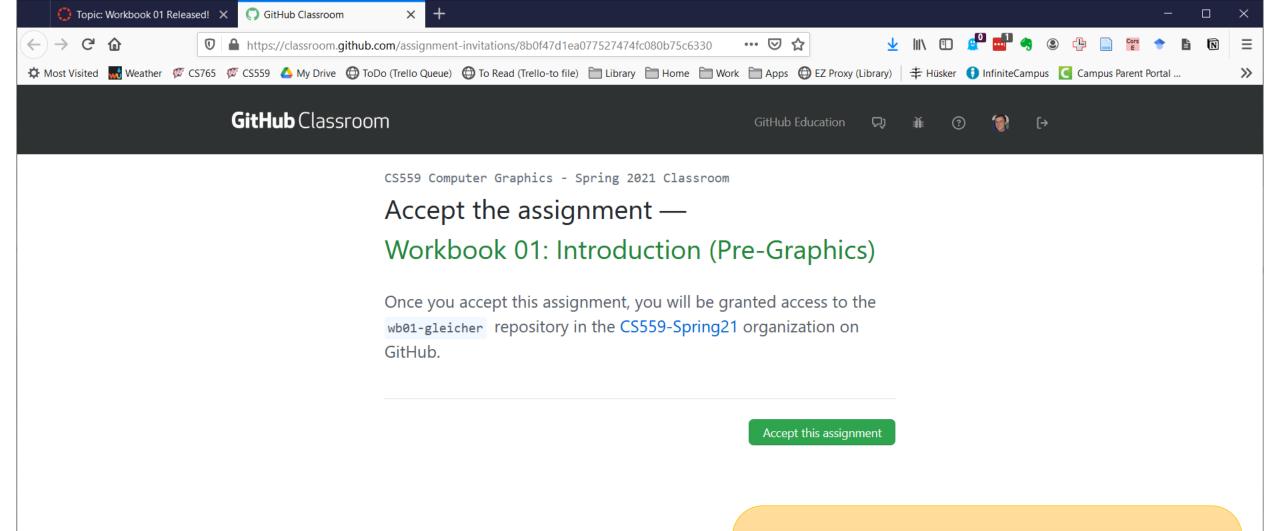
- 1. Get the announcement on Canvas
- 2. Follow this link to GitHub Classroom
- 3. Click on the magic button
- 4. Wait for GIT to get things ready for you
- 5. Go to your personal repository
- 6. Get the link for the repository
- 7. Clone the repository to your computer
- 8. Start a local web server
- 9. Look at the workbook and start working

# Steps

## 

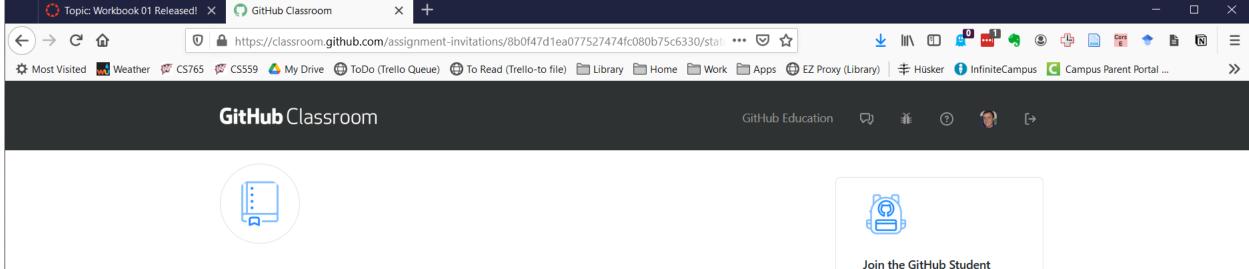
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### Note:

You must be signed in to your GitHub account for this to work!



You accepted the assignment, **Workbook 01: Introduction (Pre-Graphics)** . We're configuring your repository now. This may take a few minutes to complete. Refresh this page to see updates.

Note: You may receive an email invitation to join CS559-Spring21 on your behalf. No further action is necessary.

#### Join the GitHub Student Developer Pack

Verified students receive free GitHub Pro plus thousands of dollars worth of the best realworld tools and training from GitHub Education partners for free. Learn more

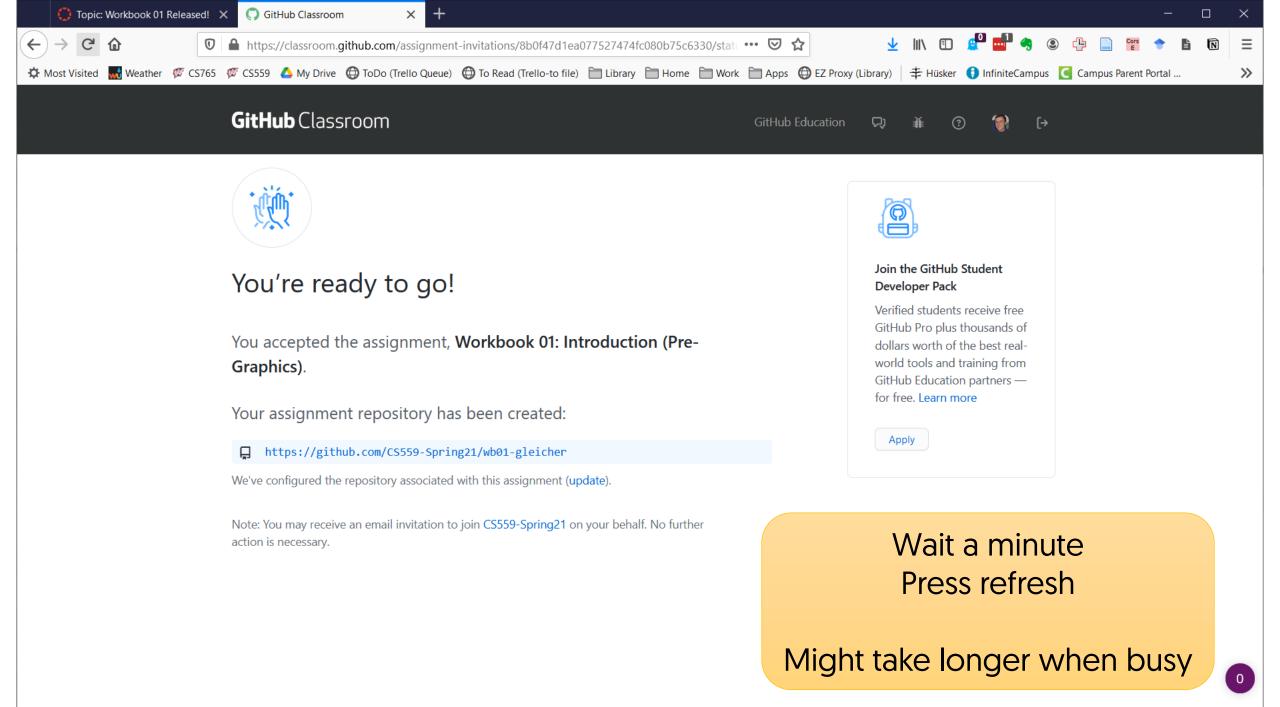
Apply

# Steps

- 1. Get the announcement on Canvas
- 2. Follow this link to GitHub Classroom
- 3. Click on the magic button

## 4. Wait for GIT to get things ready for you

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- 6. Get the GitHub is making you your own repository
- 7. Clone th
- 8. Start a lo It is your personal copy of the workbook
- 9. Look at L



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	CS559 Work	book , Spring 2021			

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This set of web pages forms a "workbook" assignment for CS559, Computer Graphics at the University of Wisconsin for

# **The GitHub Repository Page**

This is a page for your personal copy

You can get a link for cloning it to your computer You can see what versions you have on GitHub

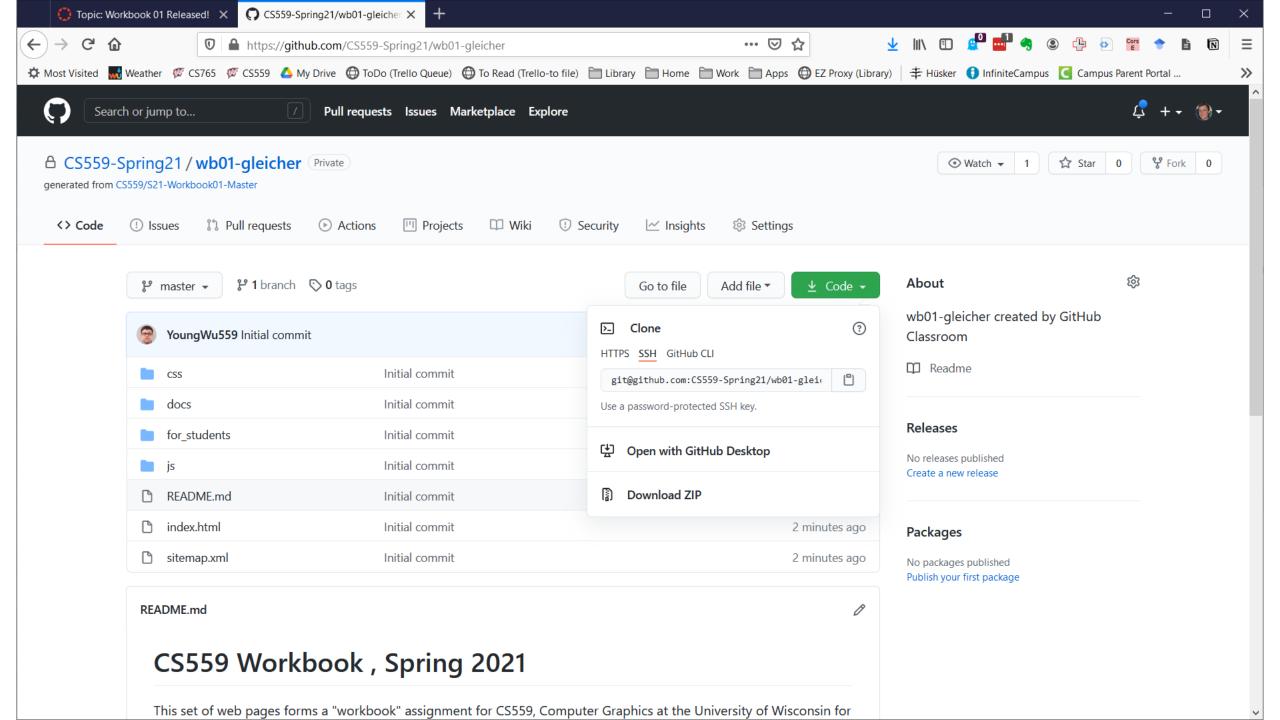
Do not "download as ZIP" Do not edit files on GitHub

# Steps

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## 7. Clone the repository to your computer

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# Clone the repository to your computer

This makes a copy of your repository on your computer

Notes: Prefer SSH as the connection method requires you to set up your computer (worth it!) Use git tools

We recommend the GIT command line

➢ Windows PowerShell × + ∨	—	
Windows PowerShell Copyright (C) Microsoft Corporation. All rights reserved.		
Try the new cross-platform PowerShell https://aka.ms/pscore6		
PS C:\Users\gleicher> git clone git@github.com:CS559-Spring21/wb01-gleicher.git Cloning into 'wb01-gleicher' remote: Enumerating objects: 63, done. remote: Counting objects: 100% (63/63), done. remote: Compressing objects: 100% (52/52), done.		
remote: Total 63 (delta 3), reused 62 (delta 3), pack-reused 0Receiving objects: 82% (52/6 Receiving objects: 100% (63/63), 57.61 KiB   880.00 KiB/s, done.		

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- Resolving deltas: 100% (3/3), done. PS C:\Users\gleicher>

# Steps

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## 8. Start a local web server

9. Look at the workbook – and start working

## You need a local web server

Repository is a web site Need to look at the version on your computer

Cannot just open the files (things don't work)

Start a server in the directory http-server (Node) is what we use for testing Live Server in Visual Studio Code is very handy

$\geq$	Windows PowerShell	
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PS C:\Users\gleicher> PS C:\Users\gleicher> cd wb01-gleicher PS C:\Users\gleicher\wb01-gleicher> http-server -c-1 Starting up http-server, serving ./ Available on: http://172.26.176.1:8080 http://192.168.1.17:8080 http://127.0.0.1:8080

localhost

http://172.24.144.1:8080 Hit CTRL-C to stop the server

#### Workbook 1: Introduction (Pre-Graphics)

This workbook is due on Monday, February 1, 2021

#### **Learning Goals**

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- 1. Understand and use the class mechanics (GitHub classroom links, Git, local servers, editing pages, ...)
- 2. Understand the organization of workbooks for the class (looking at pages, boxes, editing and adding things, turning things in)
- 3. Review basic HTML that you will need for class
- 4. Practice basic JavaScript and understand how to attach programs to web pages
- 5. Make interactions and animations with JavaScript web pages
- 6. Differentiate and use event-driven- and animation-loop-driven- programming
- 7. Understand how to control timing with browser animation loops

#### Introduction

Welcome to the first workbook for CS559!

The right way to use this workbook, and any of the following ones, is to:

1. Clone the workbook from GitHub

Workbook 1: Introduction (Pre-Graphics) Pages: Index (Introduction) 1: HTML and CS559 2: HTML Basics 3: HTML and JavaScript 4: Doing things to HTML 5: Animation Loops 6: Try it Yourself  $\times$ 

# Now we can work!

Bear with me... I'll show you what to do, then explain

# Workbook pages have things to do

Instructions in the text

The work is in **boxes** – self contained pages

You edit files in "for\_students"

For workbook 1, it is html files

In later workbooks it is mainly JavaScript files

#### $\leftrightarrow$ $\rightarrow$ C (i) localhost:8080/docs/1/

The docs directory has the workbook pages that you read. When you actually need to look at the html all of the text gets in the way - you want to get rid to a simple web page that you can work on. For this reason, we make super-simple web pages for the actual things you will work on and then "embed" them within these more complex pages. Here is an example:



What you see is a box with some very simple HTML in it. It says "This is Page 01-01-01!". The name isn't incorrect - because it actually is a different page - it's a small web page we've made and then placed on this bigger web page (1/index.html). You can open it by itself directly with this link: 01-01-01.html.

We call these little web pages that are inside boxes on bigger web pages "boxes" on workbooks. Boxes are where you do your work. All boxes are named with 3 numbers: the workbook, the page, and the box on the page. So this first box is "01-01-01.html" - the first workbook, the first page, the first box.

The boxes, and other files that you will want to look at are in the for\_students

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→ C ① localhost:8080/docs/1/

#### Your turn...

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Speaking of work, now we actually try to have you do something. To confirm that you are able to find the right file to edit, change the line that says "The student should change this line" to "NAME has changed this line" (where NAME is your name). Also change the NetID line to have your actual University NetID rather than "Change This". This isn't rocket science, but it's the thing you do with workbooks: edit the files in the for\_students directory.

After you change 01-01-01.html, you may need to reload the page in order to see your changes. If you are using the Visual Studio Code Live Server (which we strongly recommend, see **Visual Studio Code (VSCode) for CS559**), this should be automatically reloaded for you.

Congratulations, you've actually done your first workbook task. If you looked at the rubric on the first page of the workbook, you would have seen that you get points for changing box "01-01-01". We can repeat the relevant bit here:

• change web page text (Box: 01-01-01) (Points:2)

This will be the first of many boxes you will change over the course of the semester. Doing this trivial first assignment makes sure you can find the files that you should edit, and understand the architecture of boxes.

#### HTML

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# **Editing workbook files**

We recommend Visual Studio Code

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### This is Page 01-01-01!

This is a very simple web page.

The student should change this line.

UW NetID: mlgleicher

What you see is a box with some very simple HTML in it. It says "This is Page 01-01-01!". The name isn't incorrect - because it actually is a different page - it's a small web page we've made and then placed on this bigger web page (1/index.html). You can open it by itself directly with this link: 01-01-01.html.

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```
>> Windows PowerShell × + v
PS C:\Users\gleicher\wb01-gleicher> git status
On branch master
Your branch is up to date with 'origin/master'.
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified: for_students/01-01-01.html
```

X

no changes added to commit (use "git add" and/or "git commit -a") PS C:\Users\gleicher\wb01-gleicher>

# **3** Steps to upload a file



We'll explain why you need all 3 in a bit

I will do this from the command line

Save your work often! [it's a good backup!]

PS C:\Users\gleicher\wb01-gleicher> git add .\for\_students\01-01-01.html PS C:\Users\gleicher\wb01-gleicher> git commit -m "Changed box 01-01-01" [master a209009] Changed box 01-01-01 1 file changed, 1 insertion(+), 1 deletion(-) PS C:\Users\gleicher\wb01-gleicher>(git push) Enumerating objects: 7, done. Counting objects: 100% (7/7), done. Delta compression using up to 8 threads Compressing objects: 100% (4/4), done. Writing objects: 100% (4/4), 373 bytes | 373.00 KiB/s, done. Total 4 (delta 3), reused 0 (delta 0), pack-reused 0 remote: Resolving deltas: 100% (3/3), completed with 3 local objects. To github.com:CS559-Spring21/wb01-gleicher.git 4c2d3e6..a209009 master -> master PS C:\Users\gleicher\wb01-gleicher>

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## **Check to see**

This is optional, but if you want to make sure things work...

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# What just happened?

# What is going on here?

That's part B

# **Summary: use GIT for Workbooks**

Get your repository on GitHub GitHub classroom creates a repo for you You clone it to your computer You complete the workbook\_ Use a local server to view it Edit files in for\_students Copy your work back to GitHub: add, commit, push Course staff accesses your work on GitHub