Guided Exploration M02: Web Design and Development

Points: 25 See Rubric in Canvas
Due Date: See Canvas.
Work will be accepted up to 24 hours after the due date with a 10% penalty. Meaning if you turn it in at 12:01 am of the next day you will be deducted 10% of the total points from your score. If the assignment is more than 24 hours late, it will be a 0.

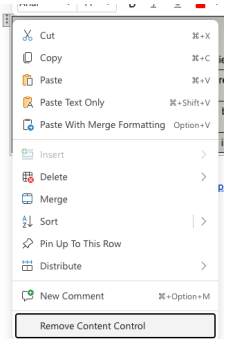
Purpose: Guide your learning on the following objectives

Objectives:
- Write clear technical documentation with examples, visuals, and comments in HTML/CSS/Bootstrap to explain code
- Build and publish original websites using HTML for structure, CSS for style, and Bootstrap for responsive design.
- Use Git and GitHub to track changes, commit code, and host websites through GitHub Pages.
- Examine how web accessibility and inclusive design affect different groups of users, including people with disabilities, language differences, or varying devices.

Effort: Collaborative and Individual. You can collaborate but you should create your own website, answer in your own words and do not hand the same copy in for your assignment. Misuse of AI or copying from others may result in academic penalties. If you use AI or Internet websites to help you, include the resource. (CS Academic Integrity and AI Policy - Harding)

Deliverables:
- **Two Document Files as PDF or Word document:**
    - This document with your answers in the highlighted boxes areas unless otherwise stated
        - Link to your github repository
        - Link to your github pages
    - Your Technical Document on HTML, CSS, Bootstrap, Web Accessibility, Version Control with git and github

If you download this as a word document and you have any problems typing your answer in the tables you must click on 3 dots and remove content control.



Part 1: Explore and Explain
1.1 Algorithms (Individual)
1.1.1 Hello World
1.1.2 Inputs, Process and Outputs
1.2 AI Machine Learning (Collaborative)
Part 2 Analyze and Apply
2.1 AI Systems (Individual)
2.1.1 Bias
2.1.2 AI System Case Study (Individual)
2.2 Teachable Machine Lab: How Do Machines Learn From Us? (Collaborative)
Part 3 Reflection (Individual)

Part 1: Explore and Explain

Creates structured (headings and table of contents) Technical Documentation with clear explanations of key concepts from the lecture in their own words containing examples from your work. Provides visuals (images, drawings, charts) and links to additional resources (videos, tutorials, etc.). Use of AI tools or external resources are cited.

Complete the technical documentation given to you in the lecture and submit with this assignment. It should include HTML, CSS, Bootstrap, Web Accessibility, Version Control with git and github
Be Concise by providing clear and simple explanations

- Use short sentences, small paragraphs
- Use lists and tables to organize information
- Use standard industry terms but explain in simple language

Use Code Snippets and Visuals to reduce lengthy explanations:

- Include examples you created
- Include comments to describe parts of code
- Include Screenshots, GIFs, Images

Include Resources that give steps or help explain concepts

- Include website link with summary
- Include links to videos with summary of content

Part 2 Analyze and Apply

Demonstrates a clear analysis of a problem and applies relevant concepts effectively. Work shows independent thinking and understanding. Use of AI tools or external resources are cited.

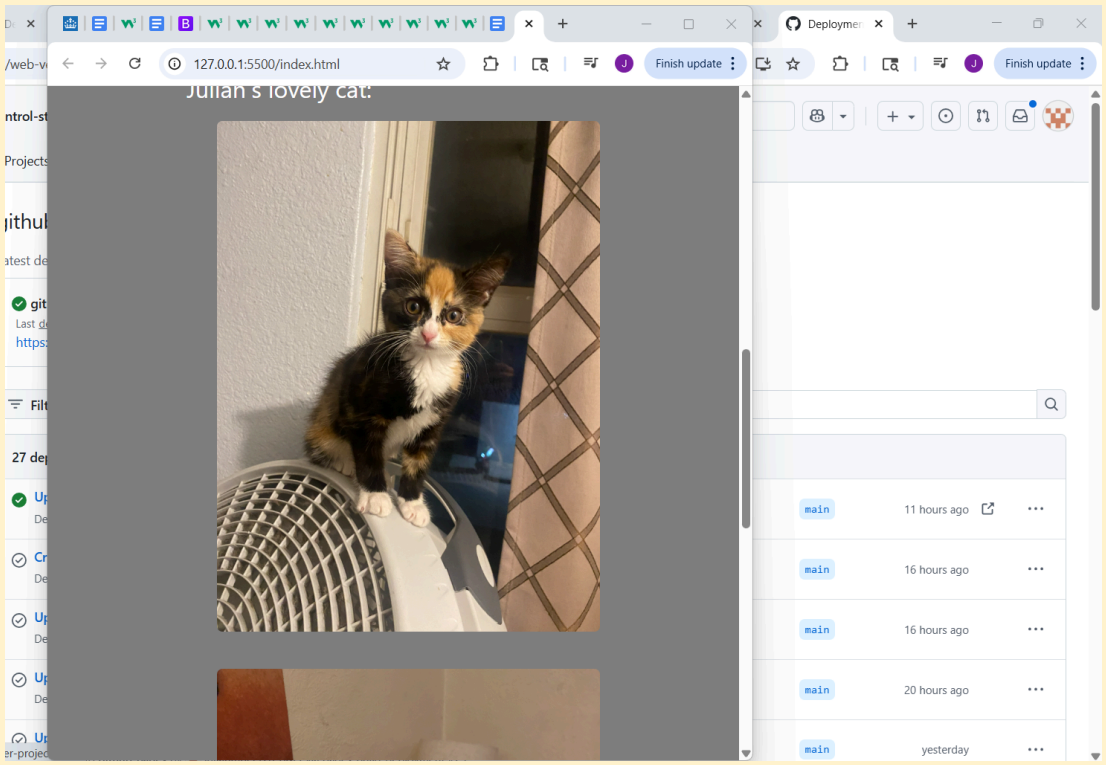
2.1 Bootstrap and Responsive Web Design

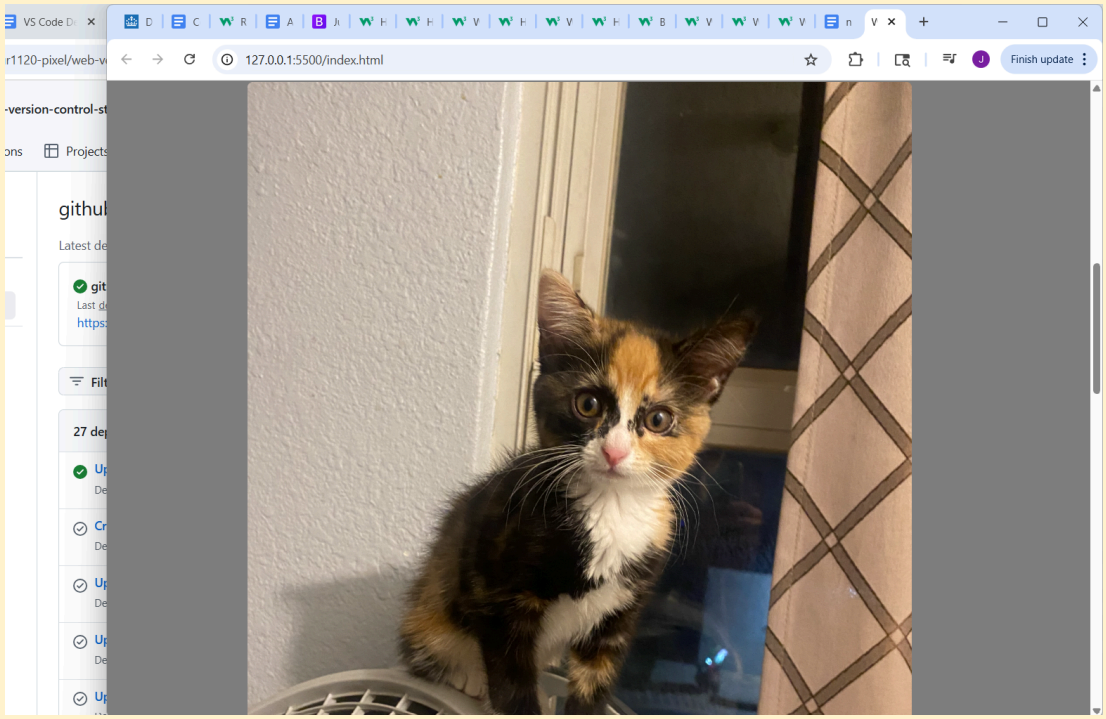
Implement the following in your web site. You can use [Bootstrap 5 Tutorial]() or [Bootstrap v5.2]()

- A navigation menu with an index.html home page and another page.
- Bootstrap stylesheet
- Different Headings
- List
- Link
- Image
- comments
- At least two images
- Pick at least two of the following Bootstrap components to include
    - Jumbotron
    - Alerts
    - Card
    - Carousel
    - Grid
    - Accordian
    - Collapse
    - Dropdown

Answer the following and include examples either from your code or from a screenshot of your website.

1. Explain responsive Web Design and how it is implemented in your webpage.
 Responsive web design is a development approach that makes your web page look good on all devices only using HTML and CSS. For example, in my website I made it so the images would be responsive and scale up and down.
Tryit: Responsive image





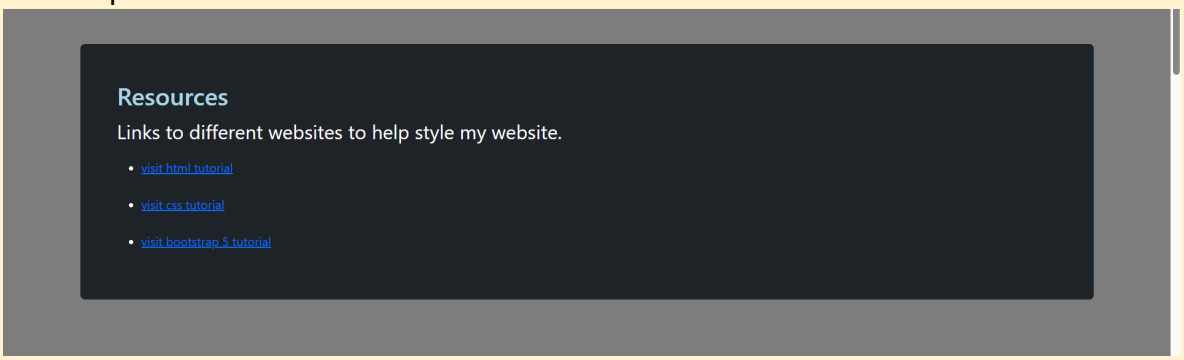
Used:

```
<style>
img {
  max-width: 100%;
  height: auto;
}
</style>
```

2. Explain a container you used from bootstrap and what it does.

```
<div class="container p-5 my-5 bg-dark text-white rounded">
```

This container combines several Bootstrap 5 classes to create a dark rounded and responsive container.

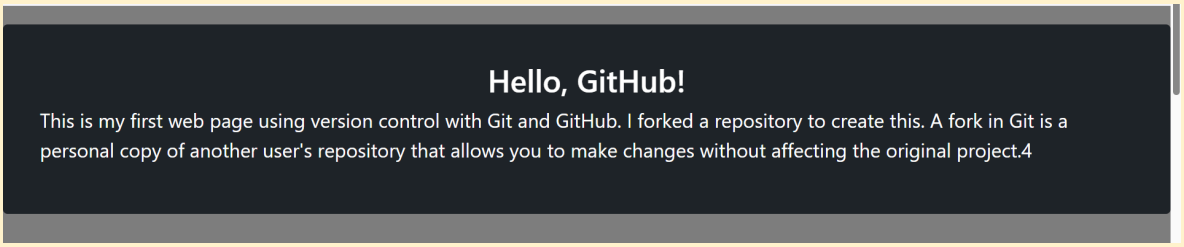


[bootstrap 5 containers]

3. Explain a bootstrap component you implemented

```
<div class="mt-4 p-5 bg-dark text-white rounded">
  <h1 style="text-align:center;" style="color:black;"
style="font-size:300%">Hello, GitHub!</h1>
  <p class="text-white" style="font-size:160%;">This is my first web
page using version control with Git and GitHub. I forked a repository
to create this. A fork
    in Git is a personal copy of another user's repository that allows
you to make changes without affecting the
    original project.4 </p>
    </div>
```

I used a Jumbotron to put my first <h>heading</h> and <P>text</p> inside of. This class changes the background color of the element to a dark shade, sets the text color inside to white, and applies a border giving it slightly rounded corners instead of square ones.



[Jumbotron Example]
[BS5 Jumbotron example]

2.2 Web Accessibility

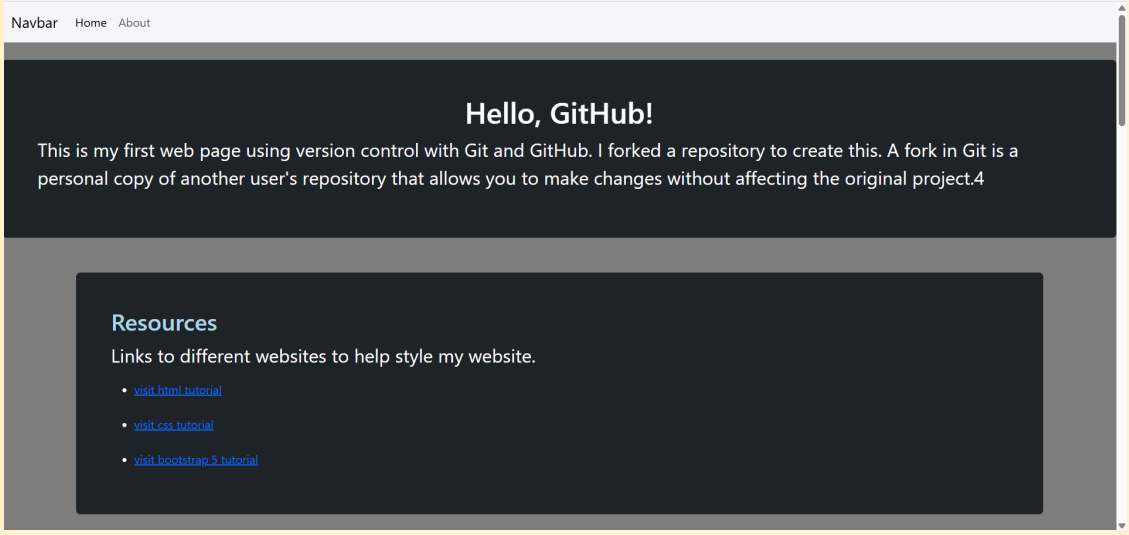
[Dos and don'ts on designing for accessibility] Describe what you did for each of the following to make it accessible. Include examples of what you did for your website such as

- HTML code containing something you added
- Screenshot showing how it looks

1. autistic spectrum

I used simple colours such as Light blue for my headings, dark/grey for background, and kept it simple and consistent.

```
<div class="container p-5 my-5 bg-dark text-white rounded">
  <h2 style="color:lightblue" style="font-size:300%">Resources</h2>
  <p class="text-white" style="font-size:160%;">Links to different
websites to help style my website.</p>
  <ul>
<li><a href="https://www.w3schools.com/html/default.asphtml">visit html
tutorial</a></li>
<br>
<li><a href="https://www.w3schools.com/css/default.asp">visit css
tutorial</a></li>
<br>
<li><a href="https://www.w3schools.com/bootstrap5/index.php">visit
bootstrap 5 tutorial</a></li>
</ul>
</div>
```



HTML Colors

2. screen readers

described images in the alt= and followed a linear, logical layout

1st:

```
alt="A playful calico kitten is perched on a fan next to a windowsill."
```

2nd:


```
alt="A calico cat with striking yellow eyes stares intently at the
camera from a slightly elevated position on a textured white bed,
creating a calm atmosphere.
```

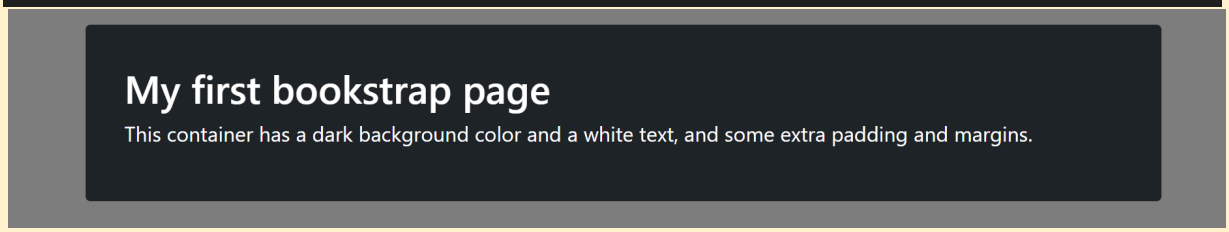
Both images copied straight from website

3. low vision

To make it easier to read I made my websites headings and added text font size larger.

```
<div class="container p-5 my-5 bg-dark text-white rounded">
<h4 style="color:lightblue;" style="font-size:300%">My first bookstrap
page</h4>
```

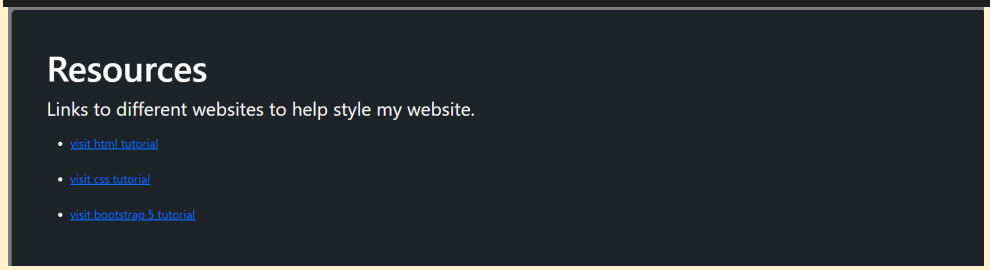
```
<p style="font-size:160%;" style="text-align:center;">This container has a dark background color and a white text, and some extra padding and margins.</p>
 </div>
```



[html styles]
Changed all heading and text size

4. physical or motor disabilities
I made it more accessible by giving form fields space by using breaks.

```
<li><a href="https://www.w3schools.com/html/default.asphtml">visit html tutorial</a></li>
<br>
<li><a href="https://www.w3schools.com/css/default.asp">visit css tutorial</a></li>
<br>
<li><a href="https://www.w3schools.com/bootstrap5/index.php">visit bootstrap 5 tutorial</a></li>
```



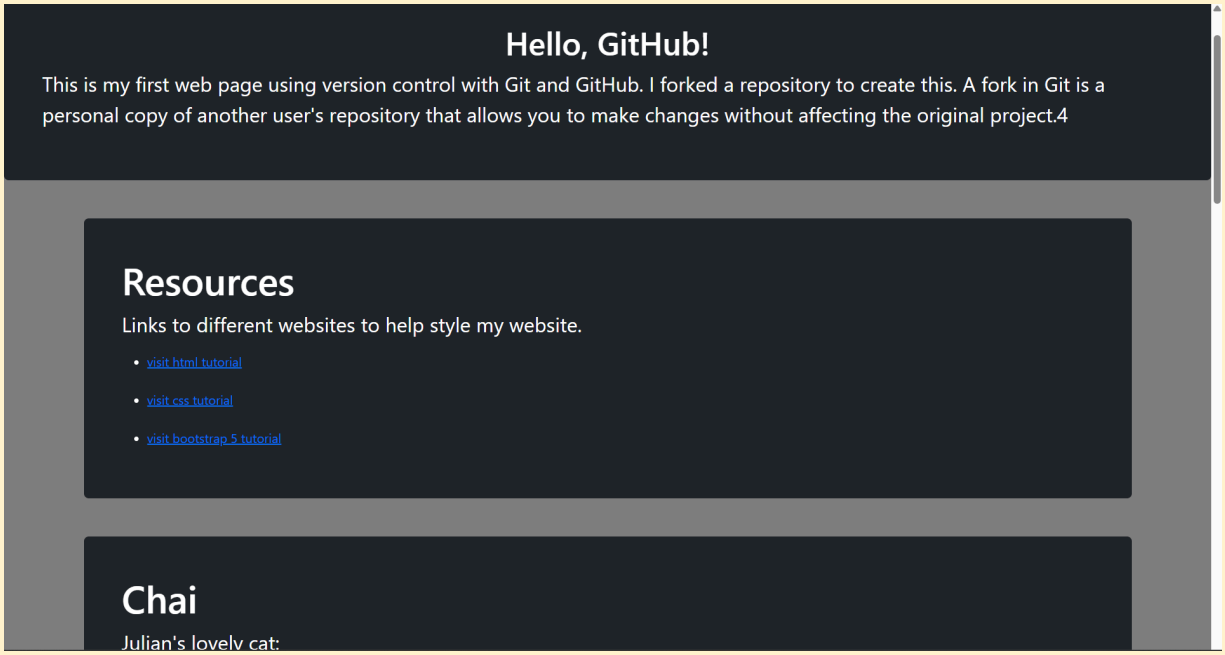
Didn't add entire image code for ex.

```
  <ul> <img src="images/mycat.JPG"
<br>
  <ul><img src="images/loaf.jpeg"
```

[html br tag]

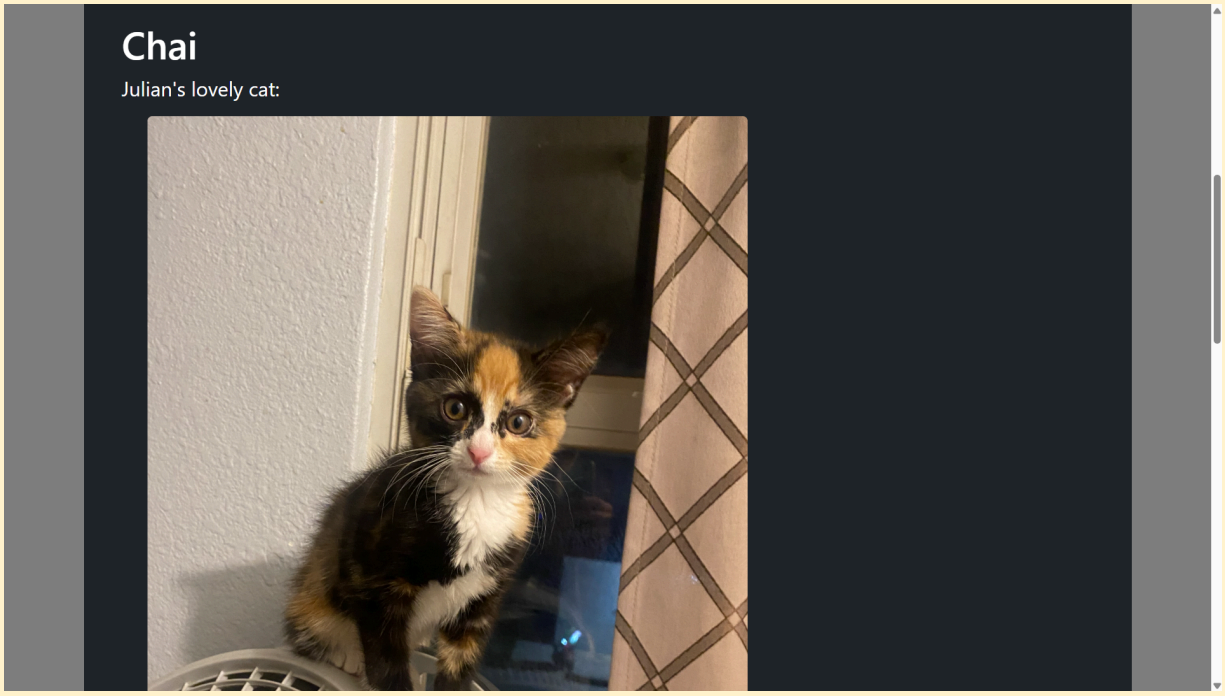
5. deaf or hard of hearing

Writing everything in english I used a linear, logical layout and broke up content with different headings



6. Dyslexia

I used images and kept my content short, clear and simple. I also kept most of my content on the left.



2.3 Git and Github

Explain version control using github desktop and include screenshots.

1. Explain the difference between git and github.

Git is a version control system that can create and manage your repositories, make changes to files then commit those changes with descriptive messages, and allows you to view the history of changes made to your project. While Github is a web-based service that hosts Git repositories. It builds upon Git by offering a central location to store your Git repositories in the cloud, as a backup

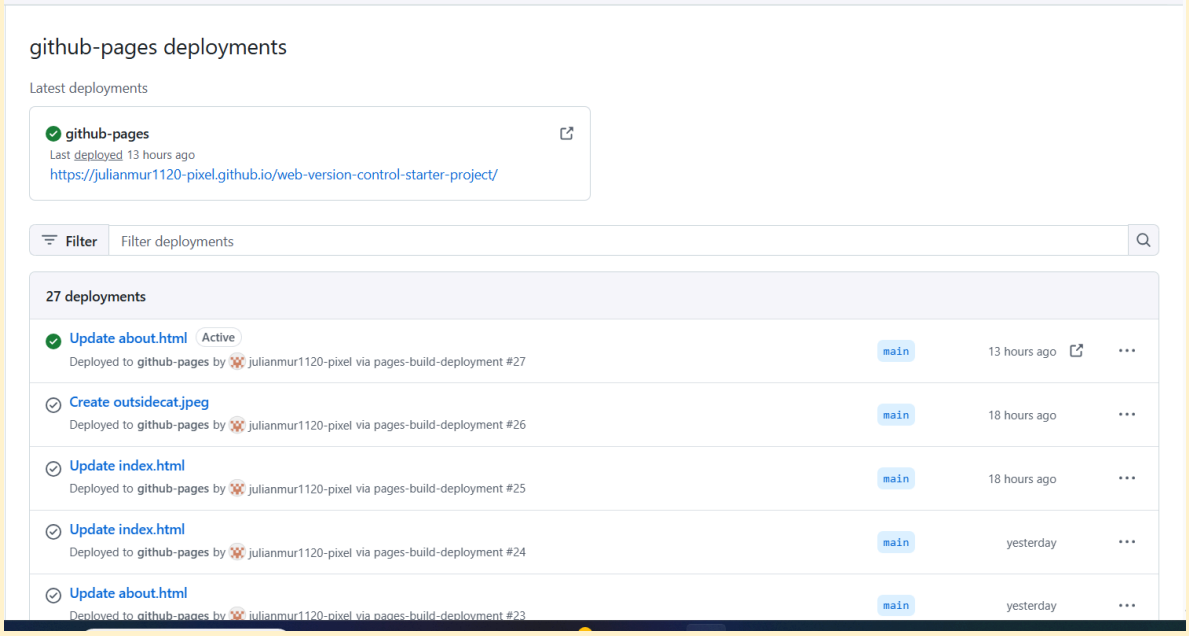
2. Explain how you use github desktop to manage your local repository.
   - Creating or Adding a Repository
   - Making and Committing Changes
   - Syncing with GitHub
   - Branching and Merging

3. Explain how you use github desktop to back up your files.

On GitHub I have to navigate to the main page of the repository. Above the list of files, select the Add file dropdown menu and click Upload files.

4. Explain at least 3 benefits of using version control like git and github.

   - If something happens to your laptop and you lose your data, it serves as a distributed backup of the project's history
   - Git records every modification made to a project, including, when it was made, and the purpose of the change.



   - Can reverse work/mistakes using ctrl+Z

5. Include a links to github repository: https://julianmur1120-pixel.github.io/web-version-control-starter-project/ Github pages wehttps://github.com/julianmur1120-pixel/web-version-control-starter-project bsite:

Part 3 Reflection (Individual)

Responses demonstrate in-depth personal reflection on the experience and learnings that includes plans for future action.

1 Describe a moment you got “stuck” and how you worked through it (on your own, with a peer, or by searching resources). I didn’t like how close my content was so Josh helped me understand how to effectively use a   to make my website look more spread out and organized.
2 Which part of this project do you feel most confident, and which part do you still want to learn more about? I feel the most confident in being able to create an organized website but i still want to learn more about how to style images like slideshows and interactive images/videos
3 What design decision did you make to improve accessibility, and why do you think it matters for real users? One design decision I made was making my headings and my text larger, which can hopefully make it easier for those who have low/blurry vision.
4 What’s one thing you now understand about version control that you didn’t before? I now understand how to change the font size of my text and also i learned how to make a list with bullet points, in this case links.