Introduction to HTML and CSS - HTML Lab

Topics Covered

- **What is HTML?**
- **HTML Syntax**
- **Tags:**
  - **html, head, title, meta, body,**
  - **h1, h2, h3, h4, h5, h6, p, a, strong, em, ul, ol, li, dl, dt, dd, img, blockquote**
  - **main, aside, article, section, header, footer**
  - **details, summary, figure, caption**

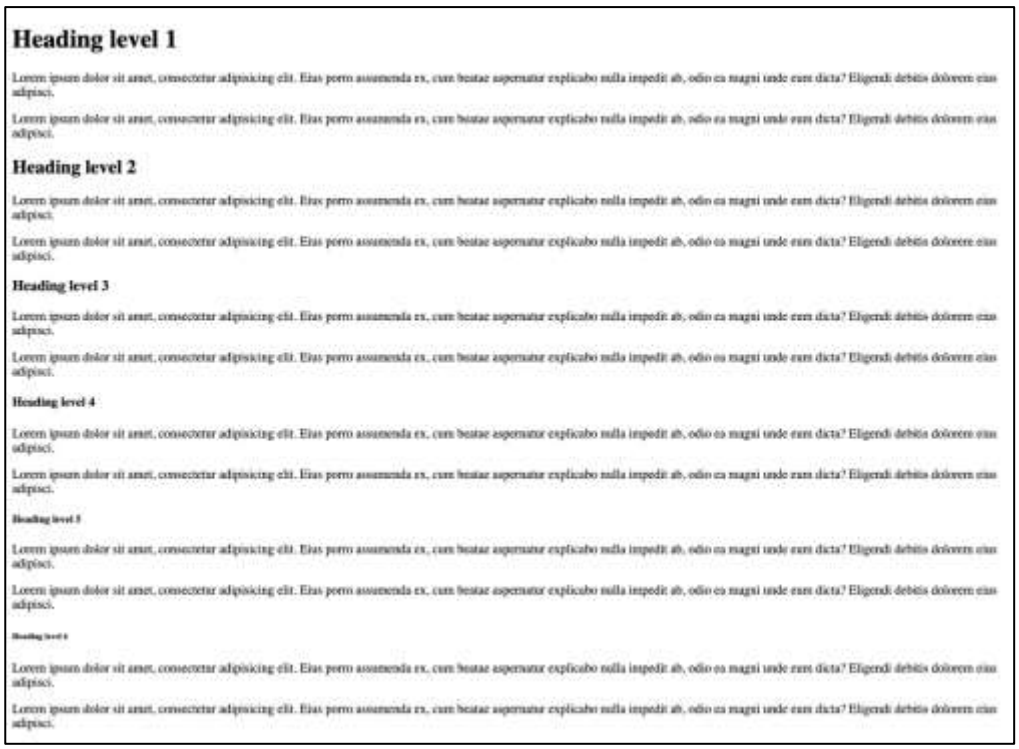
Resources

- **HTML Element references on MDN:**
  - https://developer.mozilla.org/en-US/docs/Web/HTML/Element
- **HTML Basics**
  - https://developer.mozilla.org/en-US/docs/Learn/Getting_started_with_the_web/HTML_basics
- **Semantics:**
  - https://developer.mozilla.org/en-US/docs/Glossary/Semantics
- **W3 Validator:**
  - https://validator.w3.org

Tasks

1. Simple HTML Document

Create an HTML Document and follow the requirements listed below to complete the task.



Requirements

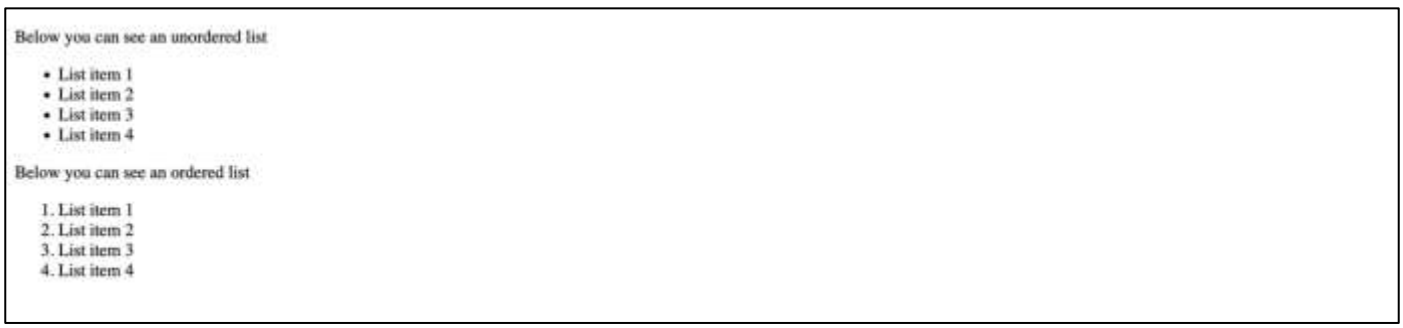
- Use the copy provided in the text file.
- Create an HTML Document with **html**, **head**, **title**, **body**.
- Don't forget the Doctype declaration.
- Body needs to contain at **6 title** – **h1**, **h2**, **h3**, **h4**, **h5**, **h6**.
- Body needs to contain at least **12 paragraphs**.
- Place **2 paragraphs** after each title.

Resources

- https://developer.mozilla.org/en-US/docs/Glossary/Doctype
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/html
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/head
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/title
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/body
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/Heading_Elements
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/p

2. Ordered & Unordered Lists

Create an HTML Document and follow the requirements listed below to complete the task.



Requirements

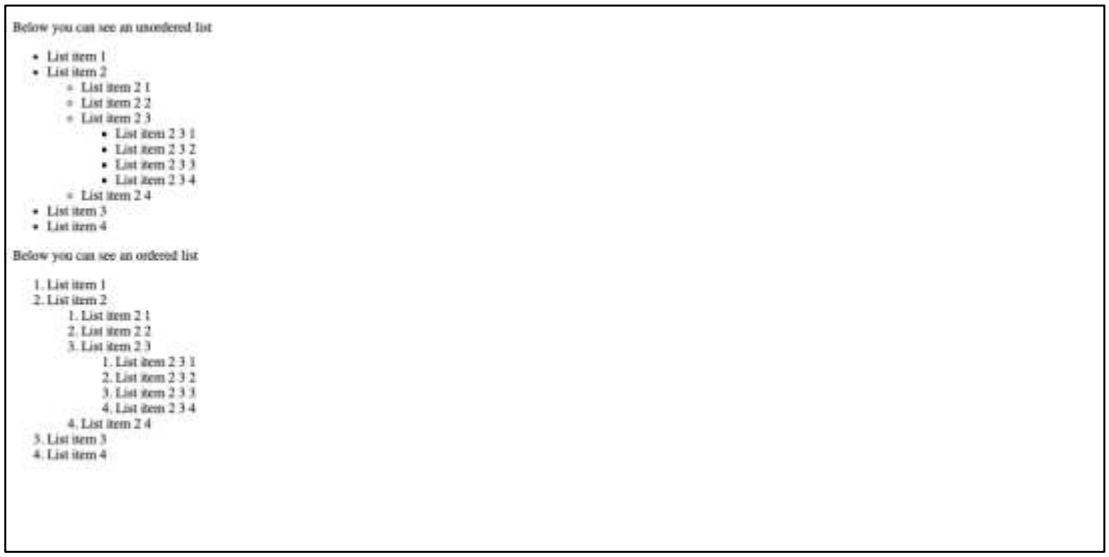
- Use the copy provided in the text file.
- Body needs to contain **1 ul** elements with **4 li** elements each.
- Body needs to contain **1 ol** element with **6 li** elements each.

Resources

- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/ul
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/ol
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/li

3. Nested Ordered & Unordered Lists

Create an HTML Document and follow the requirements listed below to complete the task.



Requirements

- Use the copy provided in the text file.
- Body needs to contain **3 ul** elements with **4 li** elements each.
- **ul** elements should be nested in each other.
- The **second li** elements of the **first-level ol** should contain a **ol**.
- The **third li** elements of the **second-level ol** should contain a **ol**.

Resources

- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/ul
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/ol
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/li

4. Definition List

Create an HTML Document and follow the requirements listed below to complete the task.

Requirements

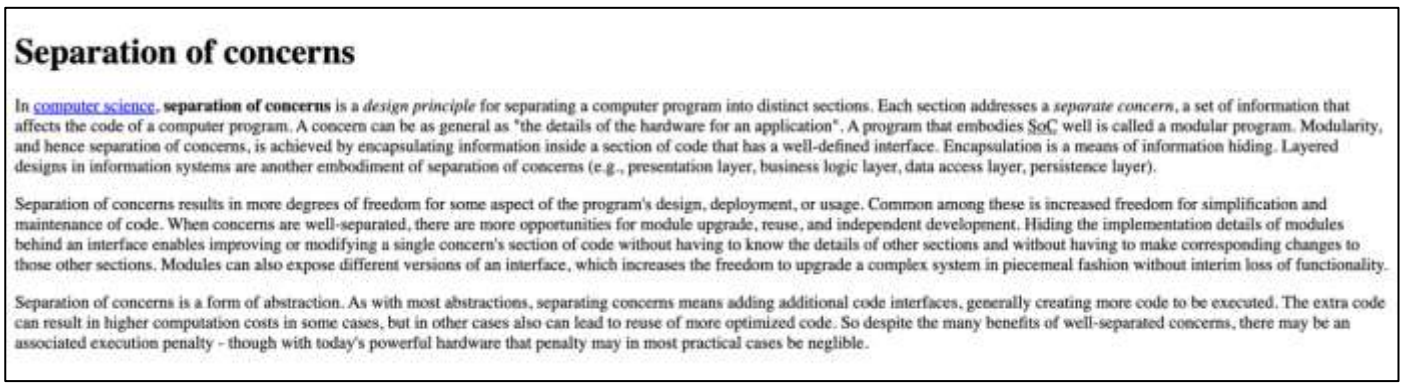
- Use the copy provided in the text file.
- Body needs to contain **1 dl** element, **3 dt** elements and **3 dd** elements.
- **dt** and **dd** elements should be inside the **dl** element.
- **dd** elements should follow a **dl** element.

Resources

- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/dl
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/dt
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/dd

5. Marking Text – Links, Strong, Emphasis and more

Create an HTML Document and follow the requirements listed below to complete the task.



Separation of concerns

In computer science, **separation of concerns** is a *design principle* for separating a computer program into distinct sections. Each section addresses a *separate concern*, a set of information that affects the code of a computer program. A concern can be as general as "the details of the hardware for an application". A program that embodies SoC well is called a modular program. Modularity, and hence separation of concerns, is achieved by encapsulating information inside a section of code that has a well-defined interface. Encapsulation is a means of information hiding. Layered designs in information systems are another embodiment of separation of concerns (e.g., presentation layer, business logic layer, data access layer, persistence layer).

Separation of concerns results in more degrees of freedom for some aspect of the program's design, deployment, or usage. Common among these is increased freedom for simplification and maintenance of code. When concerns are well-separated, there are more opportunities for module upgrade, reuse, and independent development. Hiding the implementation details of modules behind an interface enables improving or modifying a single concern's section of code without having to know the details of other sections and without having to make corresponding changes to those other sections. Modules can also expose different versions of an interface, which increases the freedom to upgrade a complex system in piecemeal fashion without interim loss of functionality.

Separation of concerns is a form of abstraction. As with most abstractions, separating concerns means adding additional code interfaces, generally creating more code to be executed. The extra code can result in higher computation costs in some cases, but in other cases also can lead to reuse of more optimized code. So despite the many benefits of well-separated concerns, there may be an associated execution penalty - though with today's powerful hardware that penalty may in most practical cases be neglible.

Requirements

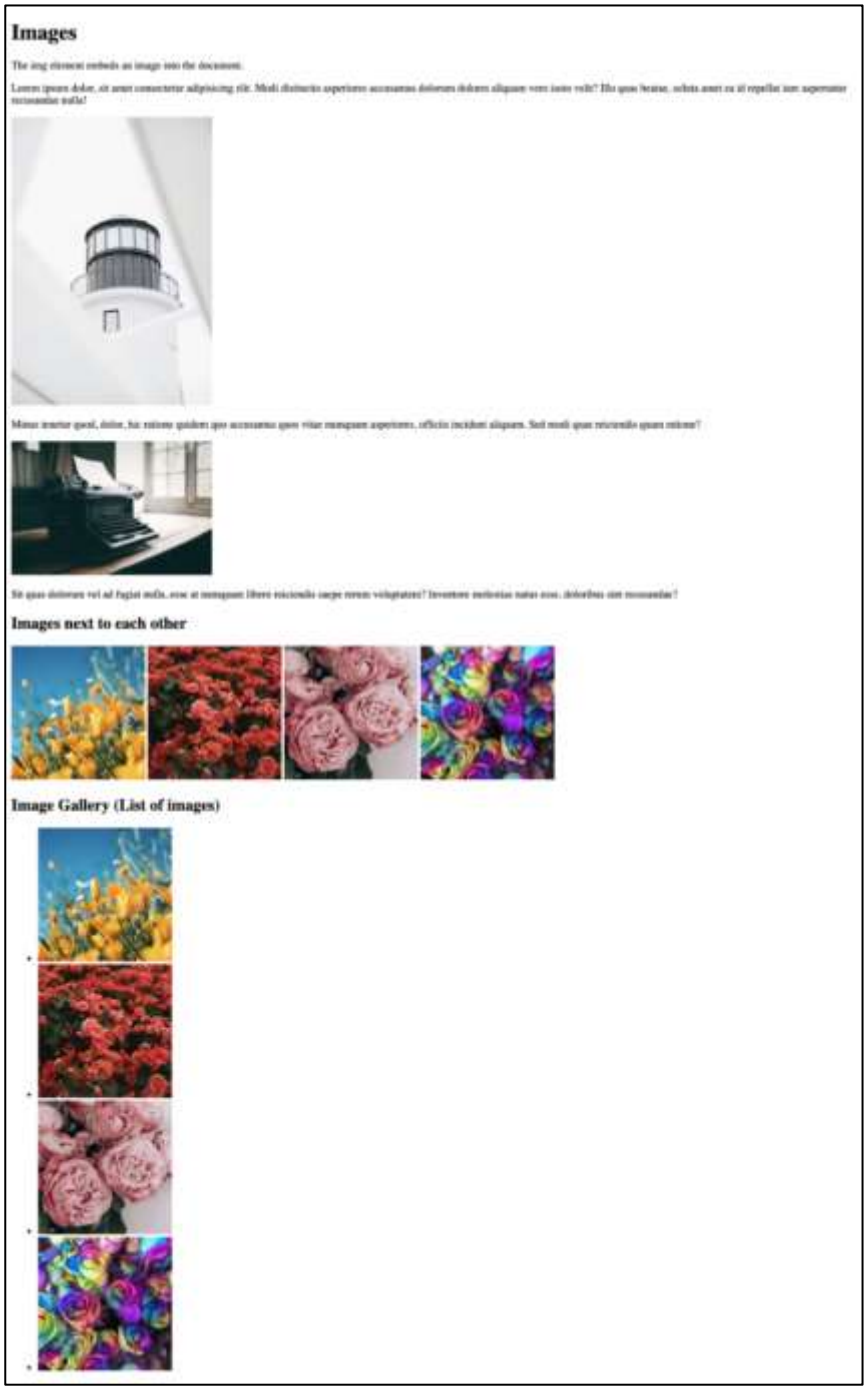
- Use the copy provided in the file.
- Body element must contain:
  - **1 a** element
  - **1 strong** element
  - **1 em** element
  - **1 abbr** element

Resources

- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/a
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/strong
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/em
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/cite
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/sup
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/abbr

6. Images

Create an HTML Document and follow the requirements listed below to complete the task.



Requirements

1. **File Setup**:

- Create an **HTML** document named **images.html**

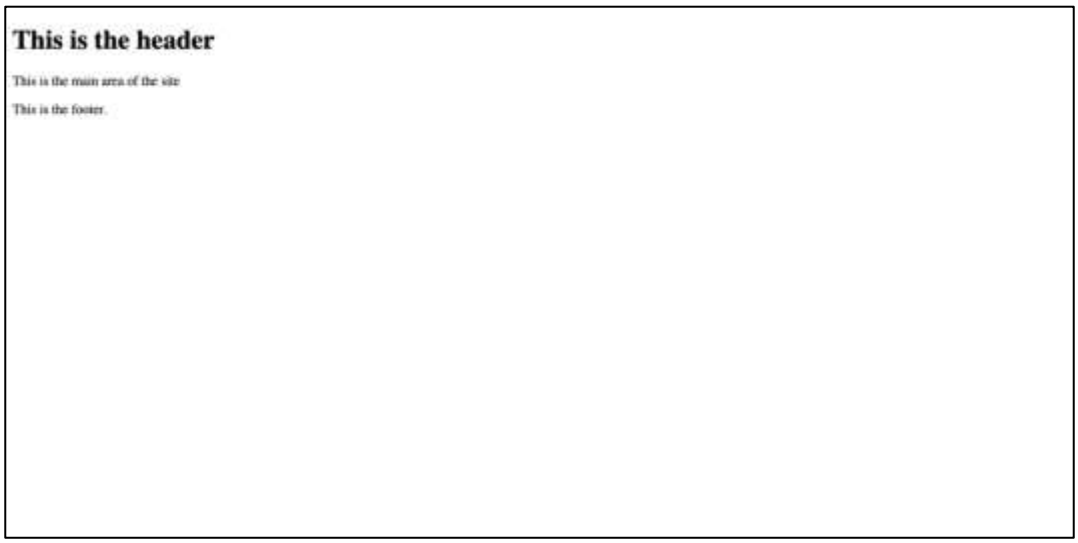
2. **HTML Requirements**
   - Use **img** tag and get different images from **unsplash.com**
   - Make sure you add one **ul** with **li** items and images inside

Resources

- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/img

7. Semantic Tags – Header, Main, Footer

Create an HTML Document and follow the requirements listed below to complete the task.



Requirements

1. **File Setup**:
   - Create an **HTML** document named **semantic-tags.html**
2. **HTML Requirements**
   - Create the simple document structure using the following tags:
     - **header**
     - **main**
     - **footer**

Resources

- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/header
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/footer
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/main

8. Semantic Tags – Article, Section

Create an HTML Document and follow the requirements listed below to complete the task.

Requirements

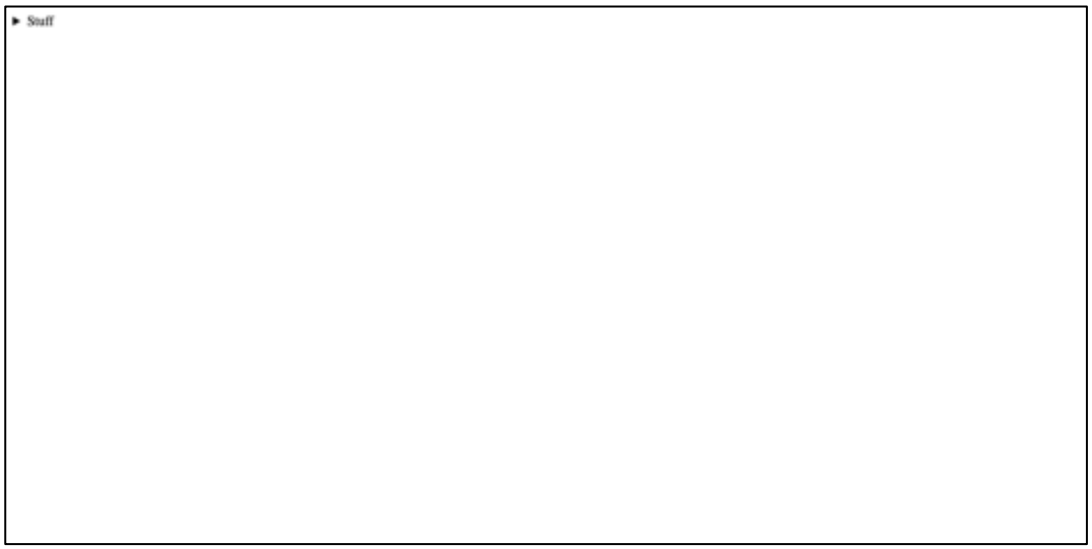
1. **File Setup**:
    - Create an **HTML** document named **semantic-tags-part2.html**
2. **HTML Requirements**
    - Create the simple document structure using the following tags:
        - **article**
        - **section**

Resources

- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/article
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/section

9. Semantic Tags – Details, Summary

Create an HTML Document and follow the requirements listed below to complete the task.



Requirements

1. **File Setup**:
    - Create an **HTML** document named **semantic-tags-part3.html**
2. **HTML Requirements**

- Create the simple document structure using the following tags:
  - **details**
  - **summary**

Resources

- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/details
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/summary

10. Semantic Tags – Figure, Figcaption

Create an HTML Document and follow the requirements listed below to complete the task.

Requirements

1. **File Setup**:
   - Create an **HTML** document named **semantic-tags-part4.html**
2. **HTML Requirements**
   - Create the simple document structure using the following tags:
     - **figure**
     - **figcaption**

Resources

- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/figure
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/figcaption

11. Semantic Tags – Nav

Create an HTML Document and follow the requirements listed below to complete the task.

Requirements

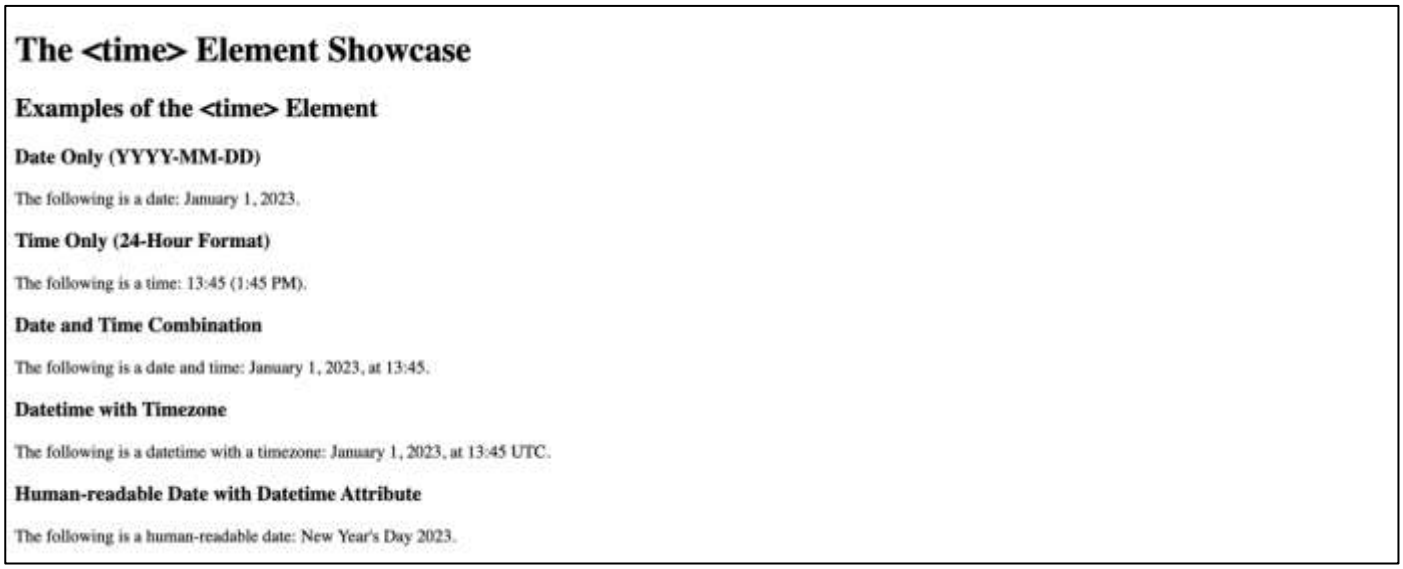
1. **File Setup**:
    - Create an **HTML** document named **semantic-tags-nav.html**
2. **HTML Requirements**
    - Create the simple document structure using the following tags:
        - **nav**

Resources

- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/nav

12. Semantic Tags – Time

Create an HTML Document and follow the requirements listed below to complete the task.



Requirements

- **File Setup**:
    - Create an **HTML** document named **semantic-tags-time.html**
- **HTML Requirements**
    - Create the simple document structure using the following tags:
        - **time**

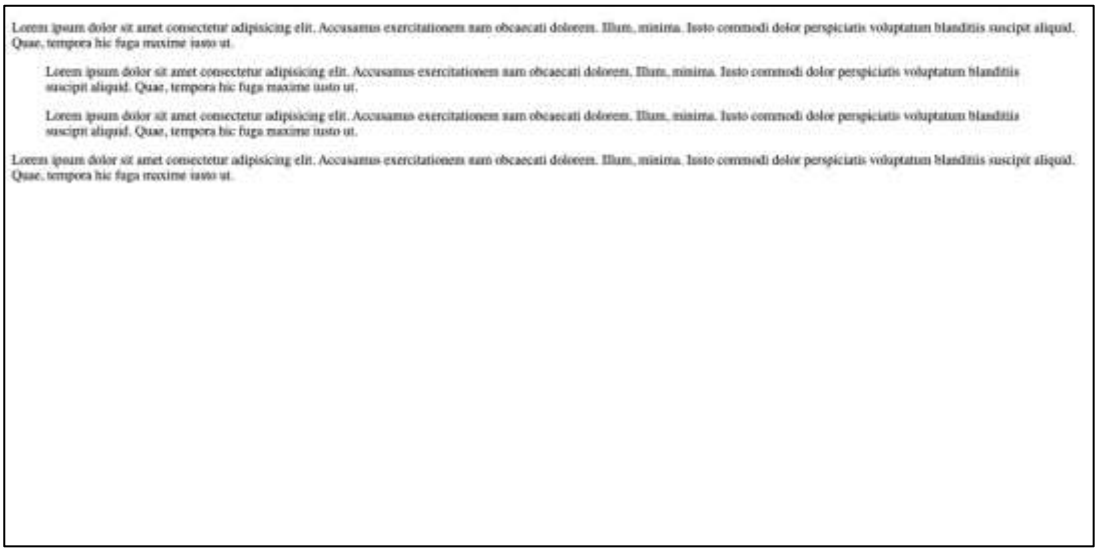
- Display at least five different examples of the **<time>** element, including:
    - A date in the format "YYYY-MM-DD".
    - A time in the 24-hour format "HH:MM".
    - A date and time combination.
    - Each example should be accompanied by a brief description of what it represents, utilizing **<p>** elements for descriptions.

Resources

- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/time

13. Semantic Tags – Blockquote

Create an HTML Document and follow the requirements listed below to complete the task.



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Requirements

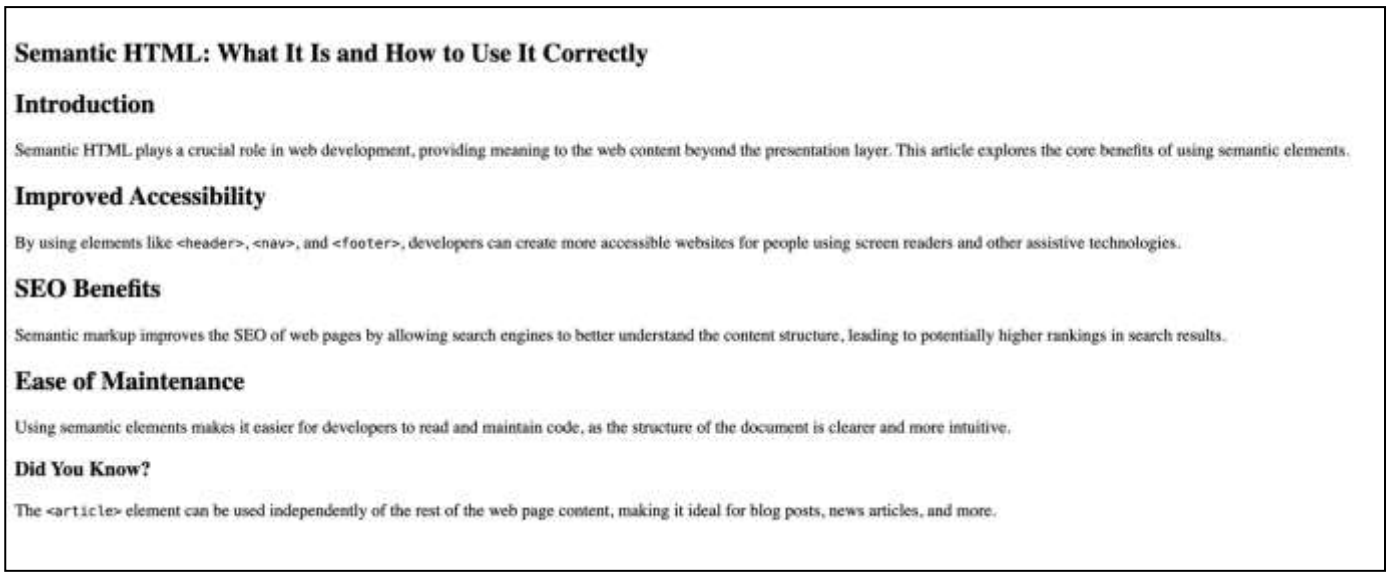
- **File Setup**:
    - Create an **HTML** document named **semantic-tags-blockquote.html**
- **HTML Requirements**
    - Create the simple document structure using the following tags:
        - **blockquote**

Resources

- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/blockquote

14. Wiki Article

Create an HTML Document and follow the requirements listed below to complete the task.



Semantic HTML: What It Is and How to Use It Correctly

Introduction

Semantic HTML plays a crucial role in web development, providing meaning to the web content beyond the presentation layer. This article explores the core benefits of using semantic elements.

Improved Accessibility

By using elements like `<header>`, `<nav>`, and `<footer>`, developers can create more accessible websites for people using screen readers and other assistive technologies.

SEO Benefits

Semantic markup improves the SEO of web pages by allowing search engines to better understand the content structure, leading to potentially higher rankings in search results.

Ease of Maintenance

Using semantic elements makes it easier for developers to read and maintain code, as the structure of the document is clearer and more intuitive.

Did You Know?

The `<article>` element can be used independently of the rest of the web page content, making it ideal for blog posts, news articles, and more.

For full screenshot check the screenshot.png file in the folder for the task

Requirements:

- **File Setup**:
  - Create an HTML document named **wiki-article.html**

- **HTML Requirements**
  - Create the simple document structure using the following tags:
    - article
    - section
    - h2
    - p
  - Use the **<article>** tag to define the main content of your article.
  - Break your article into sections using the **<section>** tag, each with a heading **<h2>**
  - Ensure the main heading of your article is within an **<h1>** tag, placed inside the **<article>** tag.
  - Use **<p>** tags for paragraphs.

Resources

- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/article
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/header
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/time
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/section
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/p
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/Heading_Elements