Module -8 Assignment

Q1.) List out the features of HTML5.

- New elements, attributes, and behaviors; support for multimedia; better error handling.
- New tags like <article>, <aside>, <figure>.
- Enhanced forms with new input types.
- Built-in audio and video support with <audio> and <video>.
- Local storage for offline use.
- Graphics and animations with <canvas> and <svg>.

Q2.) What are HTML Entities? List out 5 commonly used HTML entities.

HTML entities are special codes used to represent characters that have a specific meaning in HTML, or characters that are not easily typed on a standard keyboard. They ensure that characters are correctly displayed in the browser, especially those that might otherwise be interpreted as HTML code.

HTML entities start with an ampersand (&) and end with a semicolon (;). For example, the entity for an ampersand itself is &.

5 Commonly Used HTML Entities:

1. **&**
   Represents: Ampersand (&)
   Example: Tom & Jerry → Tom & Jerry
2. **<**
   Represents: Less-than sign (<)
   Example: → <div>
3. **>**
   Represents: Greater-than sign (>)
   Example: → <div>
4. **"**
   Represents: Double quotation mark (")
   Example: "Hello, World!" → "Hello, World!"

5. **'**
   Represents: Single quotation mark (')
   Example: 'Hello' → 'Hello'

Q3.) Define accessibility in the context of web development. Discuss why it's essential to create accessible websites and how it benefits different user groups.

Accessibility in web development refers to designing and building websites, applications, and digital content that can be used by everyone, including people with disabilities. This involves ensuring that the digital environment is perceivable, operable, understandable, and robust for users with diverse abilities, including those who are blind, deaf, or have motor, cognitive, or other impairments.

Why It's Essential to Create Accessible Websites:

1. **Legal and Ethical Responsibility**:
   - Many countries have laws and regulations, such as the Americans with Disabilities Act (ADA) in the United States or the Web Content Accessibility Guidelines (WCAG), that require websites to be accessible. Compliance with these laws avoids legal risks and demonstrates a commitment to inclusivity and social responsibility.
2. **Inclusive User Experience**:
   - Accessibility ensures that all users, regardless of their abilities, can access and interact with web content. This inclusivity fosters a positive user experience for everyone, which can increase user satisfaction, engagement, and retention.
3. **Wider Audience Reach**:
   - By making a website accessible, you can reach a broader audience, including the estimated 15% of the global population living with some form of disability. This not only serves social good but also expands the potential user base and market reach.

How Accessibility Benefits Different User Groups:

1. **People with Disabilities**:
   - **Visual Impairments**: Screen readers and Braille displays can interpret well-structured HTML, including alt text for images and clear, navigable headings.
   - **Hearing Impairments**: Transcripts and captions make audio and video content accessible.
   - **Mobility Impairments**: Keyboard-friendly navigation, voice commands, and adaptive technologies allow users who cannot use a mouse to interact with web content.

2. **Elderly Users**:
    - As people age, they may develop vision, hearing, or motor impairments. Accessible websites that offer larger fonts, high contrast, and easy-to-use interfaces help older users navigate the web more comfortably.
3. **Temporary Disabilities**:
    - People with temporary impairments, such as a broken arm or temporary hearing loss, benefit from accessible websites just as those with permanent disabilities do.
4. **Users with Slow Internet Connections**:
    - Accessible websites are often optimized for speed and efficiency, making them easier to load and navigate for users with limited bandwidth.
5. **Mobile Device Users**:
    - Accessibility practices like responsive design, which ensures websites work well across various devices and screen sizes, enhance the experience for users on smartphones and tablets.

Q4.) List any 3 ways which help us in improving the accessibility of HTML.

1. Use Semantic HTML Elements

- Description: Semantic HTML elements clearly define the structure and meaning of content. For example, using <header>, <nav>, <main>, <article>, <section>, and <footer> provides context and hierarchy to the content, making it easier for screen readers to navigate and interpret.
- Benefit: Helps assistive technologies understand and convey the content's purpose, improving the experience for users with disabilities.

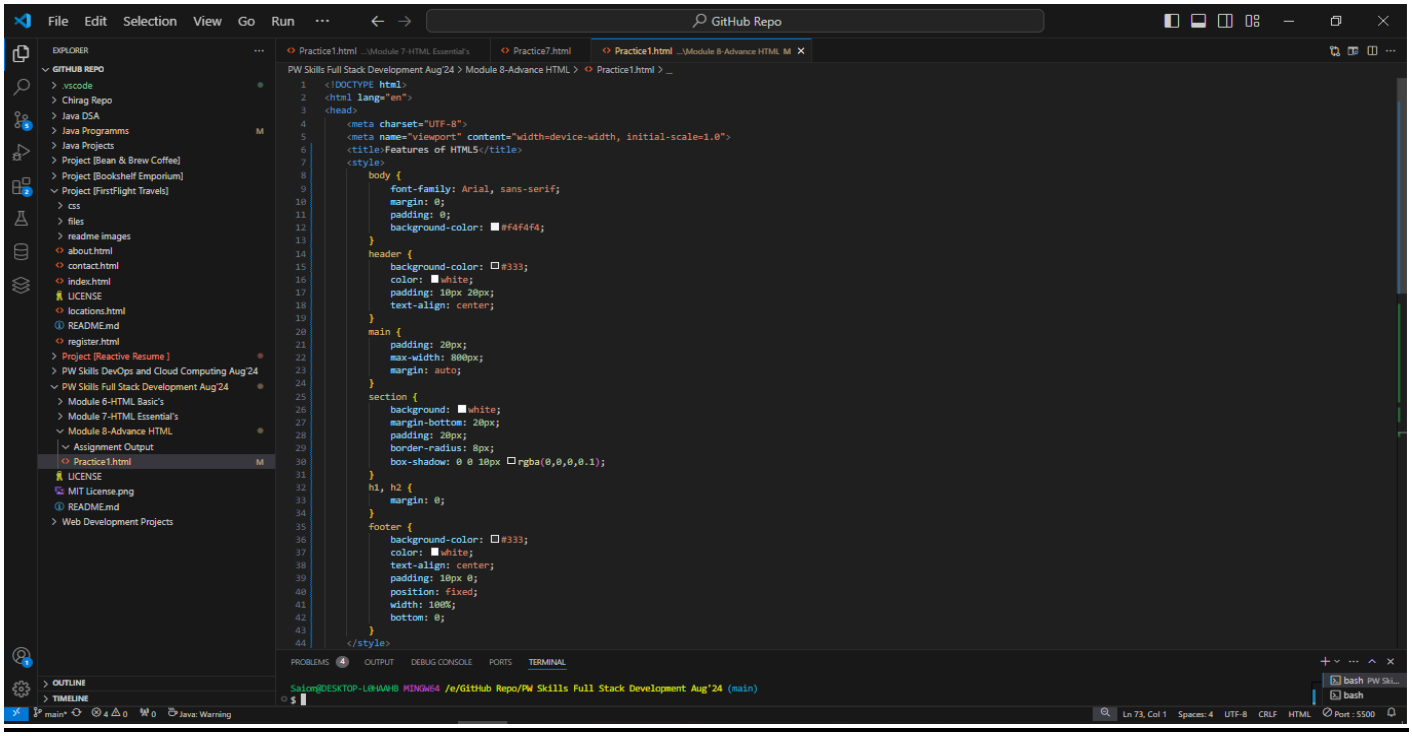
2. Provide Alternative Text for Images (Alt Text)

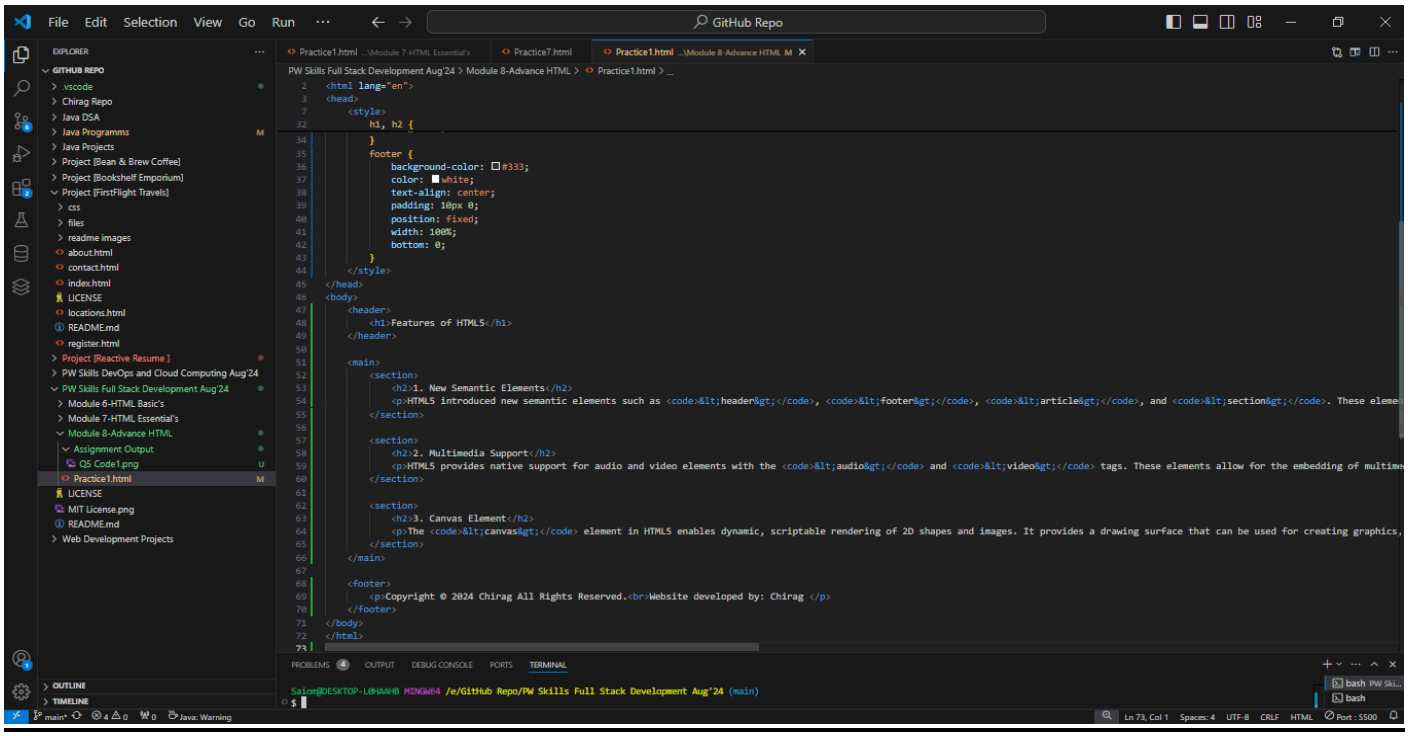
- Description: The alt attribute on <img> tags should contain a concise description of the image. This text is read aloud by screen readers, allowing visually impaired users to understand the content of the image.
- Benefit: Ensures that users who cannot see images can still access the information they convey, making the content more inclusive.

3. Ensure Keyboard Accessibility

- Description: All interactive elements, such as links, buttons, and form controls, should be navigable and operable using a keyboard. This involves using proper HTML elements (like <button> for buttons) and ensuring focus states are visible and intuitive.
- Benefit: Supports users with motor disabilities who rely on keyboards or other assistive devices, ensuring they can navigate and interact with the website effectively.

Q5.) Create a web page that highlights the features of HTML5. Use appropriate semantic tags to structure the content and showcase at least three key features of HTML5 with explanations.




File Edit Selection View Go Run
GitHub Repo
EXPLORER
GITHUB REPO
.vscode
Chirag Repo
Java DSA
Java Programms
Java Projects
Project [Bean & Brew Coffee]
Project [Bookshelf Emporium]
Project [FirstFlight Travels]
css
files
readme images
about.html
contact.html
index.html
LICENSE
locations.html
README.md
register.html
Project [Reactive Resume]
PW Skills DevOps and Cloud Computing Aug'24
PW Skills Full Stack Development Aug'24
Module 6-HTML Basic's
Module 7-HTML Essential's
Module 8-Advance HTML
Assignment Output
Q5 Code1.png
Practice1.html
LICENSE
MIT License.png
README.md
Web Development Projects
Practice1.html ...\Module 7-HTML Essential's
Practice7.html
Practice1.html ...\Module 8-Advance HTML M
PW Skills Full Stack Development Aug'24 > Module 8-Advance HTML > Practice1.html > _
<html lang="en">
<head>
<style>
h1, h2 {
}
footer {
background-color: #333;
color: white;
text-align: center;
padding: 10px 0;
position: fixed;
width: 100%;
bottom: 0;
}
</style>
</head>
<body>
<header>
<h1>Features of HTML5</h1>
</header>
<main>
<section>
<h2>1. New Semantic Elements</h2>
HTML5 introduced new semantic elements such as <code><header></code>, <code><footer></code>, <code><article></code>, and <code><section></code>. These eleme
</section>
<section>
<h2>2. Multimedia Support</h2>
HTML5 provides native support for audio and video elements with the <code><audio></code> and <code><video></code> tags. These elements allow for the embedding of multime
</section>
<section>
<h2>3. Canvas Element</h2>
The <code><canvas></code> element in HTML5 enables dynamic, scriptable rendering of 2D shapes and images. It provides a drawing surface that can be used for creating graphics,
</section>
</main>
<footer>
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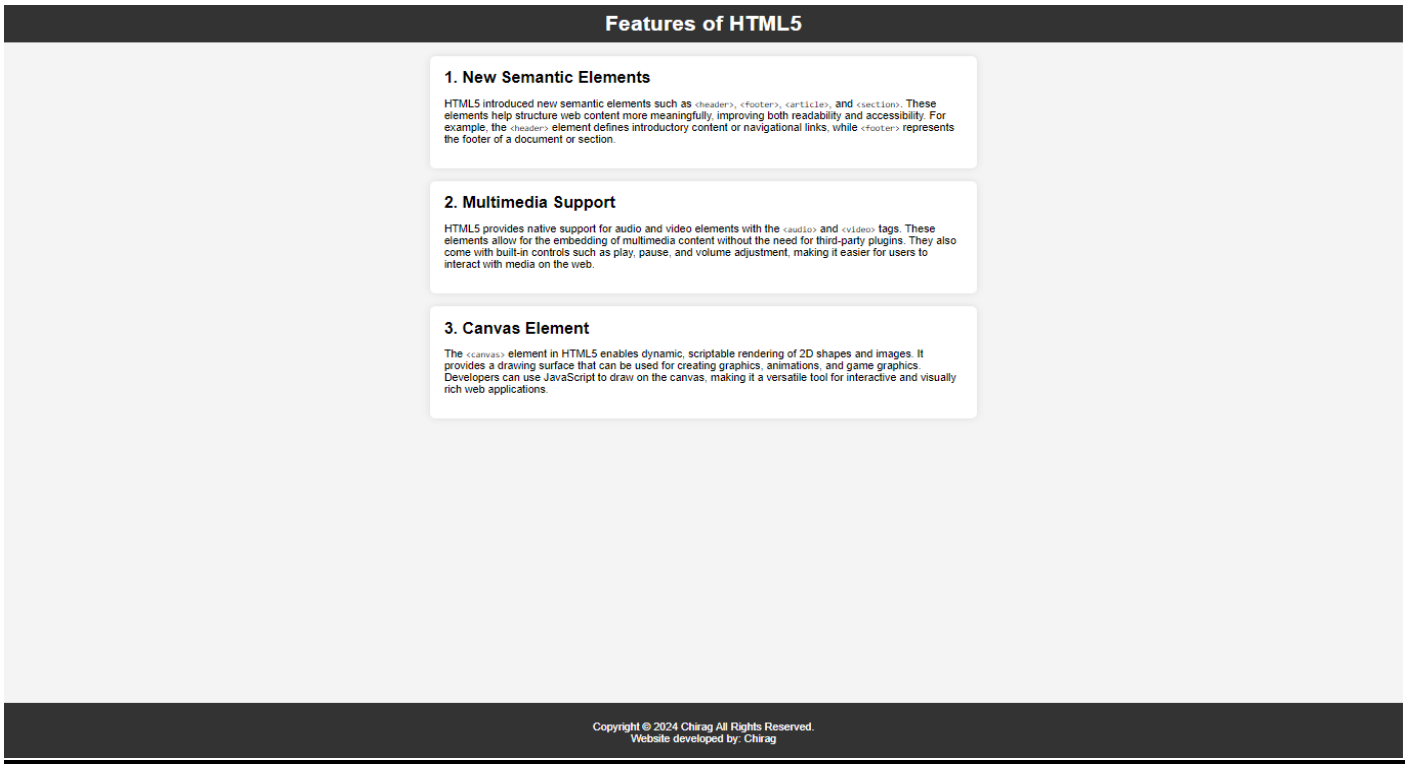
</footer>
</body>
</html>
PROBLEMS 4
OUTPUT
DEBUG CONSOLE
PORTS
TERMINAL
Saion@DESKTOP-L0HAAHB MINGW64 /e/GitHub Repo/PW Skills Full Stack Development Aug'24 (main)
$
bash PW Ski...
bash
OUTLINE
TIMELINE
main*
Java: Warning
Ln 73, Col 1
Spaces: 4
UTF-8
CRLF
HTML
Port : 5500


Features of HTML5
1. New Semantic Elements
HTML5 introduced new semantic elements such as <header>, <footer>, <article>, and <section>. These elements help structure web content more meaningfully, improving both readability and accessibility. For example, the <header> element defines introductory content or navigational links, while <footer> represents the footer of a document or section.
2. Multimedia Support
HTML5 provides native support for audio and video elements with the <audio> and <video> tags. These elements allow for the embedding of multimedia content without the need for third-party plugins. They also come with built-in controls such as play, pause, and volume adjustment, making it easier for users to interact with media on the web.
3. Canvas Element
The <canvas> element in HTML5 enables dynamic, scriptable rendering of 2D shapes and images. It provides a drawing surface that can be used for creating graphics, animations, and game graphics. Developers can use JavaScript to draw on the canvas, making it a versatile tool for interactive and visually rich web applications.
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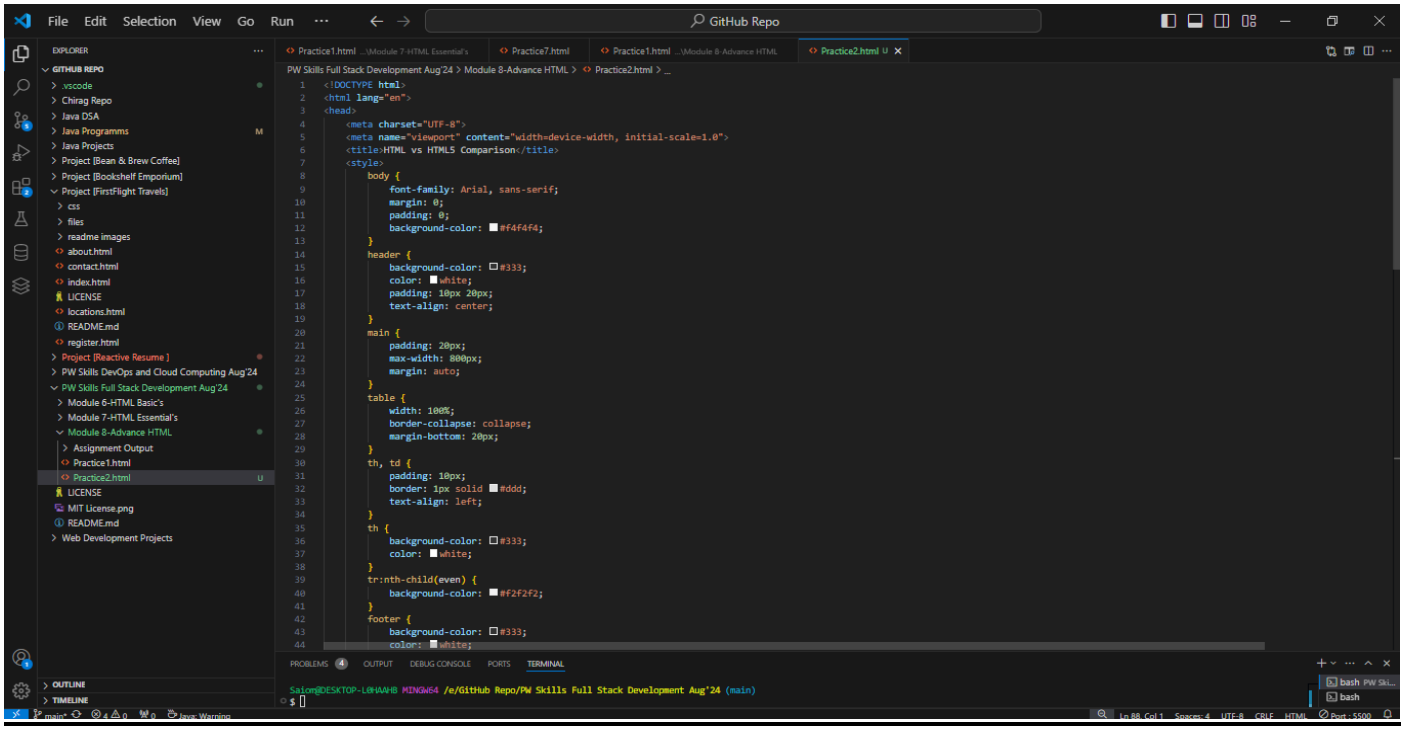
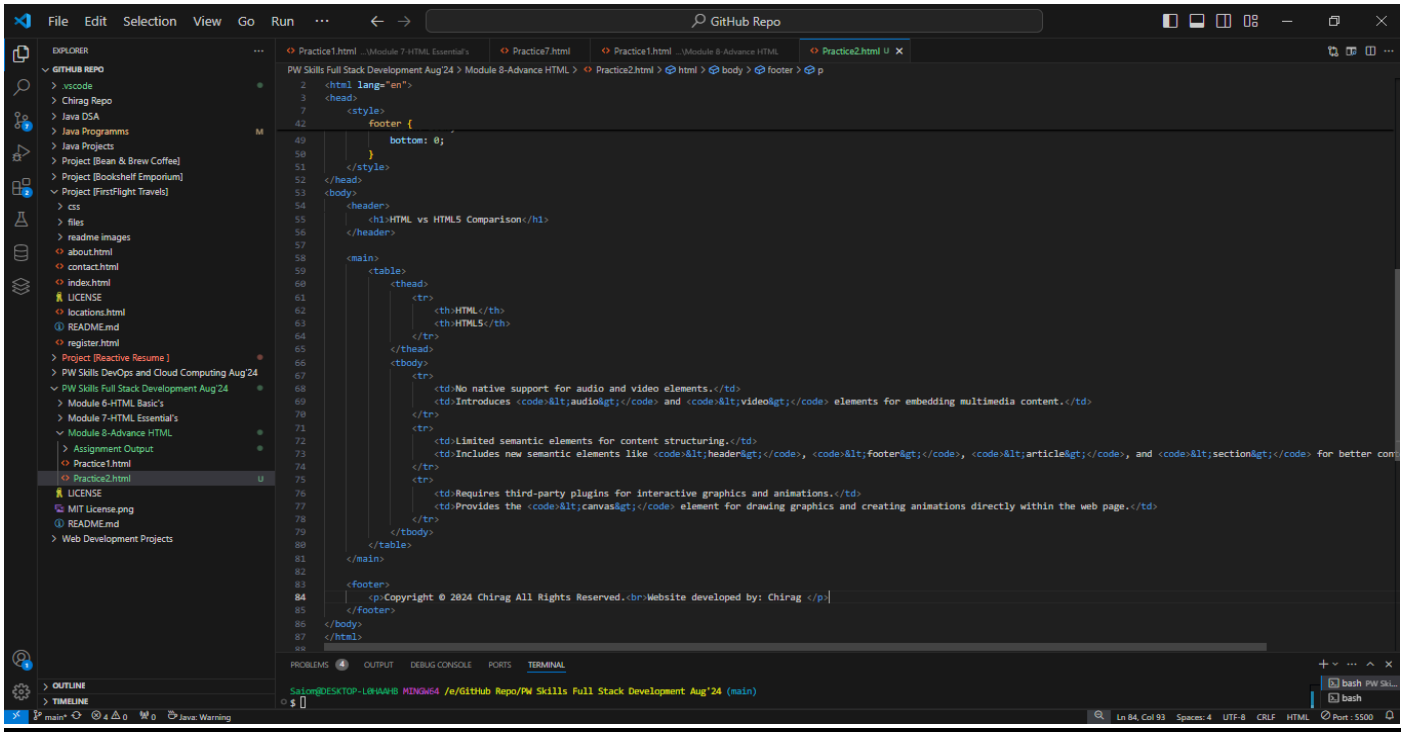
Q6.) Create a simple web page which has a table. The table must have 2 columns HTML and HTML5. The table should include a minimum of three rows describing the differences between HTML and HTML5.



```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>HTML vs HTML5 Comparison</title>
    <style>
        body {
            font-family: Arial, sans-serif;
            margin: 0;
            padding: 0;
            background-color: #f4f4f4;
        }
        header {
            background-color: #333;
            color: white;
            padding: 10px 20px;
            text-align: center;
        }
        main {
            padding: 20px;
            max-width: 800px;
            margin: auto;
        }
        table {
            width: 100%;
            border-collapse: collapse;
            margin-bottom: 20px;
        }
        th, td {
            padding: 10px;
            border: 1px solid #ddd;
            text-align: left;
        }
        th {
            background-color: #333;
            color: white;
        }
        tr:nth-child(even) {
            background-color: #f2f2f2;
        }
        footer {
            background-color: #333;
            color: white;
```



```
    <html lang="en">
    <head>
        <style>
            footer {
                bottom: 0;
            }
        </style>
    </head>
    <body>
        <header>
            <h1>HTML vs HTML5 Comparison</h1>
        </header>

        <main>
            <table>
                <thead>
                    <tr>
                        <th>HTML</th>
                        <th>HTML5</th>
                    </tr>
                </thead>
                <tbody>
                    <tr>
                        <td>No native support for audio and video elements.</td>
                        <td>Introduces <code>&lt;audio&gt;</code> and <code>&lt;video&gt;</code> elements for embedding multimedia content.</td>
                    </tr>
                    <tr>
                        <td>Limited semantic elements for content structuring.</td>
                        <td>Includes new semantic elements like <code>&lt;header&gt;</code>, <code>&lt;footer&gt;</code>, <code>&lt;article&gt;</code>, and <code>&lt;section&gt;</code> for better con
                    </tr>
                    <tr>
                        <td>Requires third-party plugins for interactive graphics and animations.</td>
                        <td>Provides the <code>&lt;canvas&gt;</code> element for drawing graphics and creating animations directly within the web page.</td>
                    </tr>
                </tbody>
            </table>
        </main>

        <footer>
            <p>Copyright © 2024 Chirag All Rights Reserved.<br>Website developed by: Chirag </p>
        </footer>
    </body>
    </html>
```

HTML vs HTML5 Comparison

HTML	HTML5
No native support for audio and video elements.	Introduces `<audio>` and `<video>` elements for embedding multimedia content.
Limited semantic elements for content structuring.	Includes new semantic elements like `<header>`, `<footer>`, `<article>`, and `<section>` for better content organization.
Requires third-party plugins for interactive graphics and animations.	Provides the `<canvas>` element for drawing graphics and creating animations directly within the web page.