

Introduction to HTML

Example #1: HTML Comments

```
<!-- This is a comment -->

<!-- The next line displays a paragraph -->

<!--
    Multi-line comments are also possible.
    You can use this to explain code in detail or temporarily disable code.
-->
```

The `<meta>` tag is used in HTML to provide metadata about the web page. The `viewport` and `content` attributes are commonly used for controlling the page's layout on different devices, especially mobile devices. See For more details, see [Appendix A](#)

Example #2: Standard HTML Document Structure

```
<!DOCTYPE html>
<html lang="en">

<head>
  <title>Hello world</title>
</head>

<body>
  <!-- This is a comment -->
  <p> "You only live once,
    but if you do it right, once is enough."
    - Mae West
  </p>
</body>
</html>
```

Task: Create a Simple Webpage with Line Breaks

Objective: Learn how to use the `
` tag in HTML to create line breaks in a webpage.

Steps:

1. Open your text editor (like Notepad, Visual Studio Code, etc.) and create a new HTML file named `index.html`.
2. Add the basic HTML structure to your file:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Line Breaks Example</title>
</head>
<body>
  <h1>Welcome to My Webpage!</h1>
</body>
</html>
```

3. Inside the `<body>` tag, add a short paragraph about your favorite hobby. After each sentence, use the `
` tag to create a line break.

Example:

```
<p>My favorite hobby is painting.<br>
I love using watercolors.<br>
It helps me relax and express myself creatively.<br></p>
```

4. Save the file and open it in a web browser to see the result. You should see the sentences appear on different lines.

Task: Create a Webpage with Blockquotes

Objective: Learn how to use the `<blockquote>` tag to highlight and format quotations in HTML.

Steps:

1. Open your text editor (like Notepad, Visual Studio Code, etc.) and create a new HTML file named `blockquote_example.html`.
2. Add the basic HTML structure to your file:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Blockquote Example</title>
</head>
<body>
  <h1>Famous Quotes</h1>
</body>
</html>
```

3. Inside the `<body>` tag, add a famous quote using the `<blockquote>` tag. A blockquote is used to display a quote from an external source, usually with indentation or styling applied by the browser.

Example:

```
<h2>Albert Einstein</h2>
<blockquote>
  "Life is like riding a bicycle. To keep your balance, you must keep
  moving."
</blockquote>

<h2>Isaac Newton</h2>
<blockquote>
  "If I have seen further, it is by standing on the shoulders of giants."
</blockquote>
```

4. Optionally, you can add a `<footer>` tag inside the blockquote to specify the source or author of the quote:

```
<blockquote>
  "The only way to do great work is to love what you do."
  <footer>- Steve Jobs</footer>
</blockquote>
```

5. Save the file and open it in a web browser. You should see the quotes formatted with indentation and any additional styles applied by the browser.

Task: Create a Structured Webpage Using Different Heading Levels

Objective: Understand how to use different heading levels in HTML to organize content into sections and subsections.

Steps:

1. Open your text editor (like Notepad, Visual Studio Code, etc.) and create a new HTML file named `structured_headings.html`.
2. Add the basic HTML structure to your file:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Structured Webpage Example</title>
</head>
<body>
  <h1>My Personal Blog</h1>
```

```
</body>
</html>
```

3. Inside the `<body>` tag, create sections for different categories of content using appropriate heading tags. Each section will have a main heading, a subsection, and some content below it. Example:

```
<h1>My Personal Blog</h1>

<h2>Introduction</h2>
<p>Welcome to my blog! Here, I share my thoughts on various topics including
technology, lifestyle, and art.</p>

<h2>Technology</h2>
<h3>Latest Gadgets</h3>
<p>Technology is evolving rapidly, and new gadgets are being released every
year. In this section, I will review the latest gadgets and provide my
opinion.</p>
<h4>Smartphones</h4>
<p>The new smartphones are faster and more powerful than ever before. In my
latest post, I will compare the top models of the year.</p>
<h4>Laptops</h4>
<p>Laptops continue to be essential for both work and play. I will explore
which laptops are the best for productivity and gaming.</p>

<h3>Tech Tutorials</h3>
<p>In this section, I provide easy-to-follow guides on various tech topics.
From building a website to learning how to code, you'll find it all here.
</p>

<h2>Lifestyle</h2>
<h3>Health & Fitness</h3>
<p>Maintaining a healthy lifestyle is key. Here, I discuss exercise
routines, healthy eating, and mental well-being.</p>
<h4>Yoga</h4>
<p>Yoga is great for both mental and physical health. I'll share some basic
routines you can do at home.</p>
<h4>Nutrition</h4>
<p>A balanced diet is important for overall health. I'll provide tips on
what foods to include in your daily diet.</p>

<h3>Travel</h3>
<p>Explore new places and cultures! I share travel tips, stories, and
recommendations for your next adventure.</p>

<h2>Art</h2>
<h3>Painting</h3>
<p>Art has always been a passion of mine. In this section, I share my
painting projects and techniques.</p>
<h4>Watercolors</h4>
<p>Watercolor painting is both challenging and rewarding. I'll guide you
through creating your own beautiful watercolor pieces.</p>
```

```
<h4>Digital Art</h4>
<p>Digital art allows for endless creativity. I explore various software
tools and techniques for creating digital masterpieces.</p>
```

4. Save the file and open it in a web browser. You will see that the content is now organized with different heading levels, giving the webpage a clear structure.

Task: HTML Entities

Basic Entities

1. Create a new HTML file.
2. In the `<body>` section, write a sentence that includes:
 - An ampersand (&)
 - The less than symbol (<)
 - The greater than symbol (>)
 - A double quote (")
 - A single quote (')
3. Use the correct HTML entities to display these characters.
4. View the file in your web browser to check if the characters are displayed correctly.

Quotations and Special Symbols

1. Create a paragraph element (`<p>`).
2. Inside the paragraph, write a short quote.
3. Use the appropriate entity for the opening and closing double quotes.
4. Add the copyright symbol (©) at the end of the quote.
5. Add the Euro symbol (€) in a separate sentence.

Non-Breaking Space

1. Write a sentence that includes the phrase "100 meters".
2. Use a non-breaking space entity (` `) between "100" and "meters".

Degree Symbol

1. Write a sentence that mentions a temperature, for example, "The temperature is 25 degrees Celsius."
2. Use the correct HTML entity to display the degree symbol (°).

Example (First Few Lines):

```
<!DOCTYPE html>
<html>
<head>
  <title>HTML Entity Practice</title>
</head>
<body>

<p>This is a sentence with an ampersand (&),
less than (<), greater than (>),
```

```
double quotes (&quot;), and single quotes (&apos;).</p>
```

```
</body>
</html>
```

Example: Images

```
<!DOCTYPE html>
<!-- image.html An example to illustrate an image -->
<html lang="en">

  <head>
    <title> Images </title>
    <meta charset="utf-8" />
  </head>

  <body>
    <h1> Aidan's Airplanes </h1>
    <h2> The best in used airplanes </h2>
    <h3> "We've got them by the hangarful" </h3>
    <h2> Special of the month </h2>
    <!-- ***** -->
    <!-- add Imag - image source (freepik) -->
    <!-- ***** -->

    

    <p>
      1960 Cessna 210 <br />
      577 hours since major engine overhaul<br />
      1022 hours since prop overhaul <br /><br />
      
      <br />
      Buy this fine airplane today at a remarkably low price
      <br />
      Call 999-555-1111 today!
    </p>
    

  </body>

</html>
```

Example: Links

```
<!DOCTYPE html>
<!-- link.html An example to illustrate a link -->
```

```
<html lang="en">

<head>
  <title> A link </title>
  <meta charset="utf-8" />
</head>

<body>
  <h1> Aidan's Airplanes </h1>
  <h2> The best in used airplanes </h2>
  <h3> "We've got them by the hangarful" </h3>
  <h2> Special of the month </h2>
  <h2><a href="link2.html#css5"> Intro. to CSS</a></h2>
  <p>
    1960 Cessna 210 <br />
    <a href="mypag1.html"> My Page 1 </a>
  </p>
  <a href="pdf/html-slides.pdf">Download - All Slides of HTML</a><br>

  <a href="https://www.urdupoint.com/names/boys-names/meem.html">
    Urdu Point
  </a>
  <br>
  <a href="https://www.urdupoint.com/names/boys-names/meem.html">
    
  </a>
</body>

</html>
```

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Document</title>
</head>
<body>
  <h1 id="top">Contents</h1>
  <h2>Web Basics </h2>
  <h2>Intro to Visual Studio Code </h2>
  <h2>Intro to HTML </h2>
  <h2>Intro to JavaScript </h2>

  <h2><a href="#css5"> Intro to CSS </a> </h2>

  <h1>Web Basics </h1>
  <p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Voluptate esse,
quod deserunt voluptates, culpa dolores tenetur quam quasi molestiae illum neque
```

quo error ratione, at fuga repudiandae. Itaque, quae dolorum.</p>

<p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Consequuntur, dicta dolorum numquam dolore quo laborum? Nam repellat, saepe corporis dolorum facilis enim, tenetur laboriosam provident omnis fuga ex temporibus aspernatur.</p>

<p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Tempora vel cumque debitis quod deleniti iste soluta dolorem similique molestiae, fugit sequi ratione! Magni odit eius maiores libero ut consequuntur facere.</p>

<p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Voluptate esse, quod deserunt voluptates, culpa dolores tenetur quam quasi molestiae illum neque quo error ratione, at fuga repudiandae. Itaque, quae dolorum.</p>

<h1>Intro to Visual Studio Code </h1>

<p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Consequuntur, dicta dolorum numquam dolore quo laborum? Nam repellat, saepe corporis dolorum facilis enim, tenetur laboriosam provident omnis fuga ex temporibus aspernatur.</p>

<p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Tempora vel cumque debitis quod deleniti iste soluta dolorem similique molestiae, fugit sequi ratione! Magni odit eius maiores libero ut consequuntur facere.</p>

<p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Voluptate esse, quod deserunt voluptates, culpa dolores tenetur quam quasi molestiae illum neque quo error ratione, at fuga repudiandae. Itaque, quae dolorum.</p>

<p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Consequuntur, dicta dolorum numquam dolore quo laborum? Nam repellat, saepe corporis dolorum facilis enim, tenetur laboriosam provident omnis fuga ex temporibus aspernatur.</p>

<p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Tempora vel cumque debitis quod deleniti iste soluta dolorem similique molestiae, fugit sequi ratione! Magni odit eius maiores libero ut consequuntur facere.</p>

<h1>Intro to HTML </h1>

<p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Voluptate esse, quod deserunt voluptates, culpa dolores tenetur quam quasi molestiae illum neque quo error ratione, at fuga repudiandae. Itaque, quae dolorum.</p>

<p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Consequuntur, dicta dolorum numquam dolore quo laborum? Nam repellat, saepe corporis dolorum facilis enim, tenetur laboriosam provident omnis fuga ex temporibus aspernatur.</p>

<p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Tempora vel cumque debitis quod deleniti iste soluta dolorem similique molestiae, fugit sequi ratione! Magni odit eius maiores libero ut consequuntur facere.</p>

<p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Voluptate esse, quod deserunt voluptates, culpa dolores tenetur quam quasi molestiae illum neque quo error ratione, at fuga repudiandae. Itaque, quae dolorum.</p>

<h1>Intro to JavaScript </h1>

<p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Consequuntur, dicta dolorum numquam dolore quo laborum? Nam repellat, saepe corporis dolorum facilis enim, tenetur laboriosam provident omnis fuga ex temporibus aspernatur.</p>

<p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Tempora vel cumque debitis quod deleniti iste soluta dolorem similique molestiae, fugit sequi ratione! Magni odit eius maiores libero ut consequuntur facere.</p>

<p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Voluptate esse, quod deserunt voluptates, culpa dolores tenetur quam quasi molestiae illum neque quo error ratione, at fuga repudiandae. Itaque, quae dolorum.</p>


```
<h1 id="css5">Intro to CSS <a href="#top">Top</a> </h1>
```

```
<p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Consequuntur, dicta dolorum numquam dolore quo laborum? Nam repellat, saepe corporis dolorum facilis enim, tenetur laboriosam provident omnis fuga ex temporibus aspernatur.</p>
```

```
<p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Tempora vel cumque debitis quod deleniti iste soluta dolorem similique molestiae, fugit sequi ratione! Magni odit eius maiores libero ut consequuntur facere.</p>
```

```
</body>
```

```
</html>
```

content generated using <https://www.lipsum.com/>

Task: Create a Blog Post with Styled Text

1. **Create a new HTML file** and name it `blog_post.html`.
2. Inside the `blog_post.html` file, do the following:
 - Create the basic HTML structure (`<!DOCTYPE html>`, `<html>`, `<head>`, and `<body>`).
 - Add a title to the webpage in the `<head>` section.
 - Inside the `<body>`, add the following elements:
 - A main heading (`<h1>`) with the title of your blog post.
 - A subheading (`<h2>`) for the post subtitle.
 - Add a paragraph (`<p>`) with a brief introduction to your blog post.
 - Add another paragraph that describes a topic, and use:
 - `` to highlight important text.
 - `` to emphasize some text.
 - `<mark>` to highlight text that is important.
 - Add a blockquote (`<blockquote>`) to include a quote.
 - Add a list (`` or ``) of key points related to your blog topic.
 - Add a link (`<a>`) to a related website.

Example structure:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>My Blog Post</title>
</head>
<body>
  <h1>My First Blog Post</h1>
  <h2>Exploring HTML Text Elements</h2>
  <p>Welcome to my blog post! In this post, I'll be discussing various HTML text elements and how to style them.</p>
  <p><strong>HTML</strong> is the foundation of web pages, and knowing how to format text is essential for building content-rich pages.</p>
  <p>Here are some ways to style text in HTML:</p>
  <ul>
```

```

    <li>Use <em>emphasis</em> for words you want to stress.</li>
    <li>Highlight <mark>important points</mark> with <mark>mark</mark>.</li>
    <li><strong>Strong</strong> is used for key terms.</li>
</ul>
<blockquote>
    "The best way to predict the future is to create it." - Abraham Lincoln
</blockquote>
<p>For more on HTML, visit <a
href="https://www.w3schools.com/html/">W3Schools</a>.</p>
</body>
</html>

```

Task #2: Create a Personal Webpage

1. **Create a new HTML file** and name it `index.html`.
2. Inside the `index.html` file, do the following:
 - Create the basic structure of an HTML document with `<!DOCTYPE html>`, `<html>`, `<head>`, and `<body>`.
 - Add a title to the webpage in the `<head>` section.
 - In the `<body>`, create a heading (`<h1>`) with your name.
 - Add a short paragraph (`<p>`) about yourself.
 - Insert an image of yourself (or anything you'd like) using the `` tag.
 - Add a link (`<a>`) to your favorite website (e.g., Google, Wikipedia).
 - Create a simple list (`` or ``) of your favorite hobbies or things you like.

Example structure:

```

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>My Personal Webpage</title>
</head>
<body>
    <h1>John Doe</h1>
    <p>Hello! My name is John, and I love learning about web development.</p>
    
    <h2>My Hobbies:</h2>
    <ul>
        <li>Coding</li>
        <li>Reading books</li>
        <li>Traveling</li>
    </ul>
    <p>Check out my favorite website: <a href="https://www.example.com">Click
here</a></p>
</body>
</html>

```

Key Terms

True/False (Mark T for True and F for False)

Answer Key (True/False):

Multiple Choice (Select the best answer)

1. Which function would you use to determine the type of a variable in Python?

- A) id()
- B) type()
- C) str()
- D) isinstance()

Watch this video for the answer:

Answer key (Multiple Choice):

Fill in the Blanks

Answer Key (Fill in the Blanks):

Exercises

1. Skill Level Categories Define clear categories based on skill levels, such as:

Beginner: Basic concepts and syntax. Intermediate: More complex problems involving data structures and algorithms. Advanced: Challenging problems that require in-depth understanding and optimization.

Review Questions

Answers to Review Questions:

References and Bibliography

For more details, see Appendix A.

Appendices

Appendix A: Meta Tags for Responsive Design

The `<meta>` tag is used in HTML to provide metadata about the web page. The `viewport` and `content` attributes are commonly used for controlling the page's layout on different devices, especially mobile devices.

Here's an example of how to use the `viewport` meta tag:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
```

```
<title>Viewport Meta Tag Example</title>
</head>
<body>

  <h1>Responsive Web Page</h1>
  <p>This page will adapt to different screen sizes.</p>

</body>
</html>
```

Breakdown of the **meta** tag:

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```

- **name="viewport"**: Specifies that this meta tag is for controlling the viewport settings.
- **content="width=device-width, initial-scale=1.0"**:
 - **width=device-width**: The width of the viewport will match the width of the device's screen.
 - **initial-scale=1.0**: This sets the initial zoom level when the page is first loaded. **1.0** means no zoom.

Why it's important:

- It helps ensure your page is responsive, meaning it will adjust to different screen sizes, such as on desktops, tablets, and smartphones.
- Without this tag, mobile devices might display the page zoomed out or not properly scaled, making the content hard to read.