

# Introduction to HTML

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- To access the updated handouts, please click on the following link: <https://yasirbhutta.github.io/html-css/docs/html-basics.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 #1: Create a Simple Webpage with Line Breaks

**Objective:** Learn how to use the `<br>` 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 `<br>` 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 #2: 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 #3: 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 (`&nbsp;`) 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 (&amp;),
less than (&lt;), greater than (&gt;),
double quotes (&quot;), and single quotes (&apos;).</p>

</body>
</html>
```

## Font Styles and Sizes

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

  <p>This is an <em>emphasized</em> text.</p>
  <p>This is a <strong>strong and important</strong> text.</p>
  <p>Here is a <code>code snippet</code> inside a paragraph.</p>
  <p>This is a <mark>highlighted</mark> text.</p>
  <p>This is a superscript example: x<sup>2</sup> + y<sup>2</sup> =
z<sup>2</sup></p>
  <p>This is a subscript example: H<sub>2</sub>O (water).</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
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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:
    - `<strong>` to highlight important text.
    - `<em>` to emphasize some text.
    - `<mark>` to highlight text that is important.
  - Add a blockquote (`<blockquote>`) to include a quote.
  - Add a list (`<ul>` or `<ol>`) 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 `<img>` tag.
- Add a link (`<a>`) to your favorite website (e.g., Google, Wikipedia).
- Create a simple list (`<ul>` or `<ol>`) 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.