

2.3 Role of Browser



1. **Displays Web Page:** Turns HTML code into what you see on screen.
2. **User Clicks:** Helps you interact with the web page.
3. **Updates Content:** Allows changes to the page using JavaScript.
4. **Loads Files:** Gets HTML, images, etc., from the server.



2.5 CSS

(Cascading Style Sheets)

1. **Style:** Sets the look and feel.
2. **Colors & Fonts:** Customizes text and background.
3. **Layout:** Controls position and size.
4. **Selectors:** Targets specific **HTML** elements.





2.6 JS

(Java Script)

1. JavaScript has nothing to do with Java
2. Actions: Enables interactivity.
3. Updates: Alters page without reloading.
4. Events: Responds to user actions.
5. Data: Fetches and sends info to server.



Level 0 Revision

Setup & Fundamentals

1. IDE or Code Editor
 1. What is IDE
 2. Need of IDE
 3. IDE Selection
 4. Installation and Setup
 5. VsCode Extensions
2. Website Components and Fundamentals
 1. Client Side vs Server Side
 2. FrontEnd / BackEnd / FullStack
 3. Role of Browser
 4. HTML
 5. CSS
 6. JS



1.2 File Extension

HTML

1. Most commonly used.
2. Works across all browsers.
3. Widely recognized and supported.
4. Typically saved as .html.



HTM

1. Less commonly used.
2. Originated for compatibility with older systems.
3. Works same as .html.
4. Typically saved as .htm.

1.4 Importance of index.html

1. Default name of a website's homepage.
2. First page users see when visiting a website
3. Important for SEO (Search Engine Optimization)
4. Provides uniform starting point across servers
5. Serves as fallback when no file is specified in URL



2.1 What are Tags

1. Elements that are used to create a website are called HTML Tags.
2. Tags can contain content or other HTML tags.
3. Define elements like text, images, links

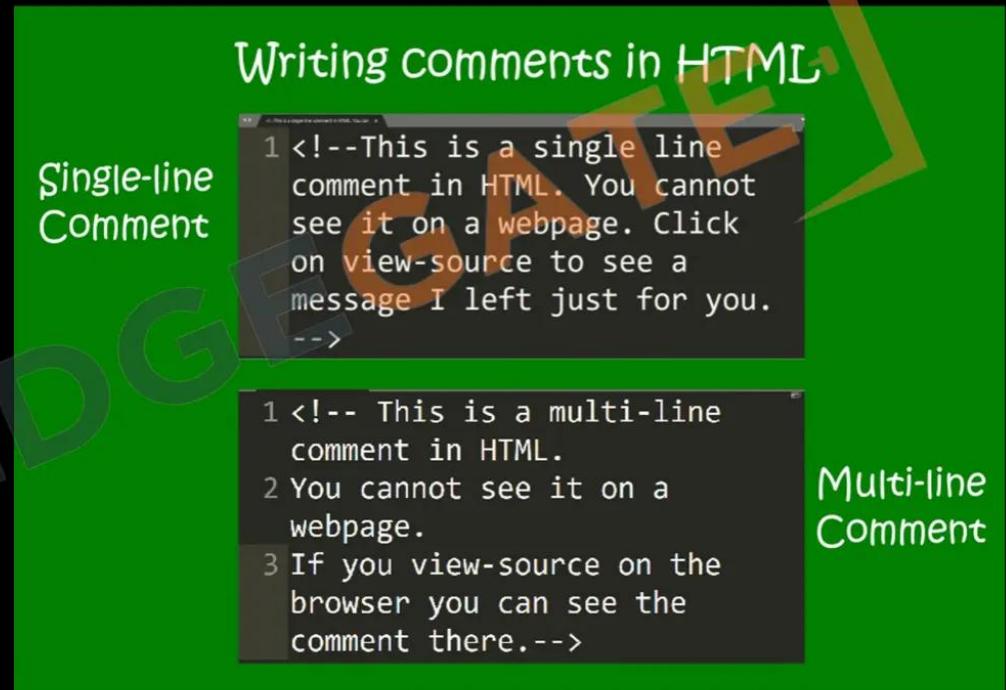


2.3 Basic HTML Page

```
<!DOCTYPE html>           Defines the HTML Version  
  
<html lang="en">          Parent of all HTML tags / Root element  
  
    <head>                Parent of meta data tags  
        <title>My First Webpage</title> Title of the web page  
  
    </head>  
  
    <body>                Parent of content tags  
        <h1>Hello World!</h1> Heading tag  
  
    </body>  
  
</html>
```

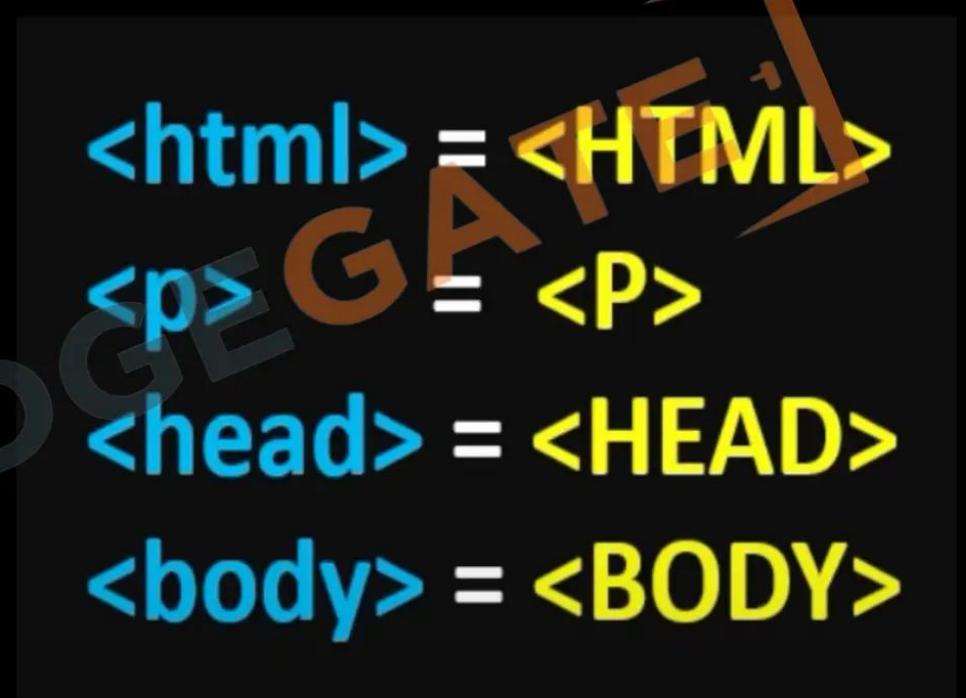
2.5 Comments

1. Used to add **notes** in HTML code
2. **Not displayed** on the web page
3. Syntax: <!-- Comment here -->
4. Helpful for **code organization**
5. Can be **multi-line** or **single-line**



2.6 Case Sensitivity

1. HTML is case-insensitive for tag names
2. Attribute names are also be case-insensitive
3. Best practice: use lowercase for consistency

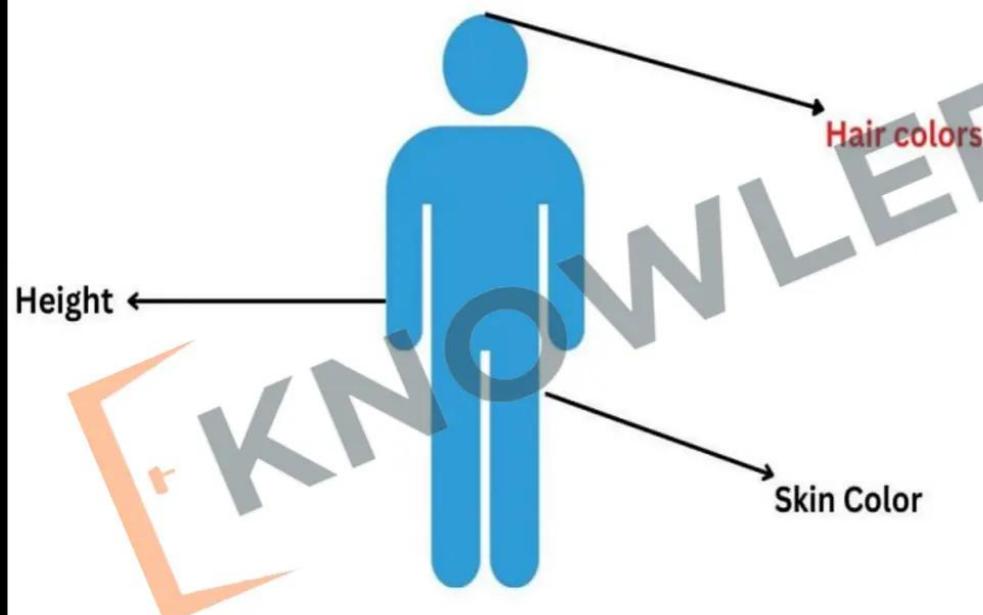


`<html>` = `<HTML>`
`<p>` = `<P>`
`<head>` = `<HEAD>`
`<body>` = `<BODY>`

Level 2

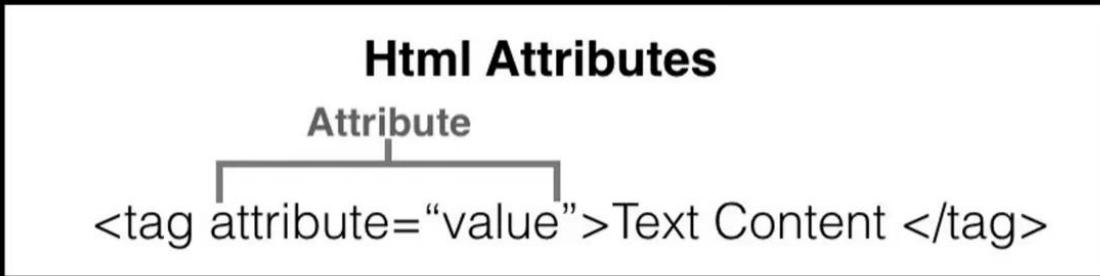
Must-Use HTML Tags

Attribute



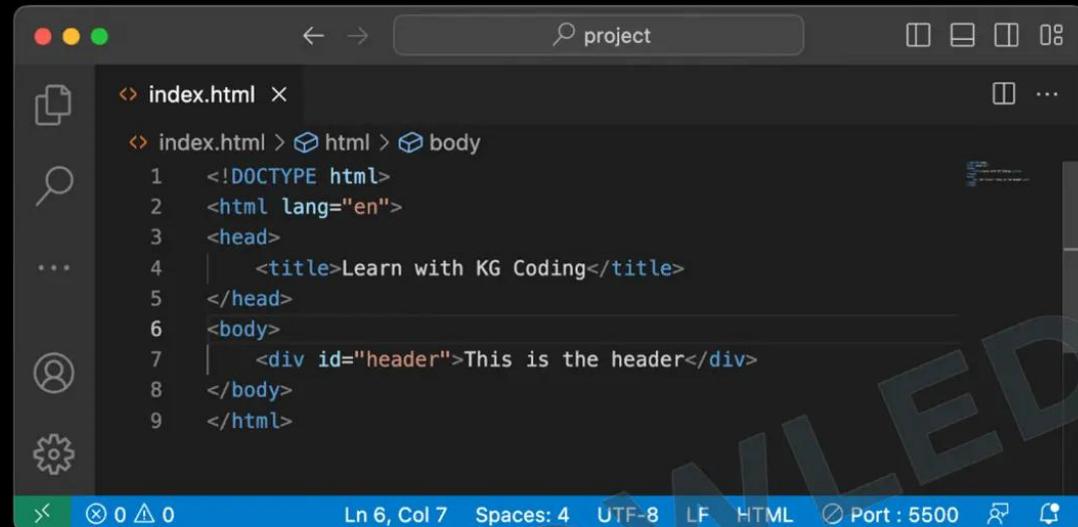
1. HTML Attributes

1.1 What are HTML Attributes?



1. Provides additional information about elements
2. Placed within opening tags
3. Common examples: href, src, alt
4. Use name=value format
5. Can be single or multiple per element

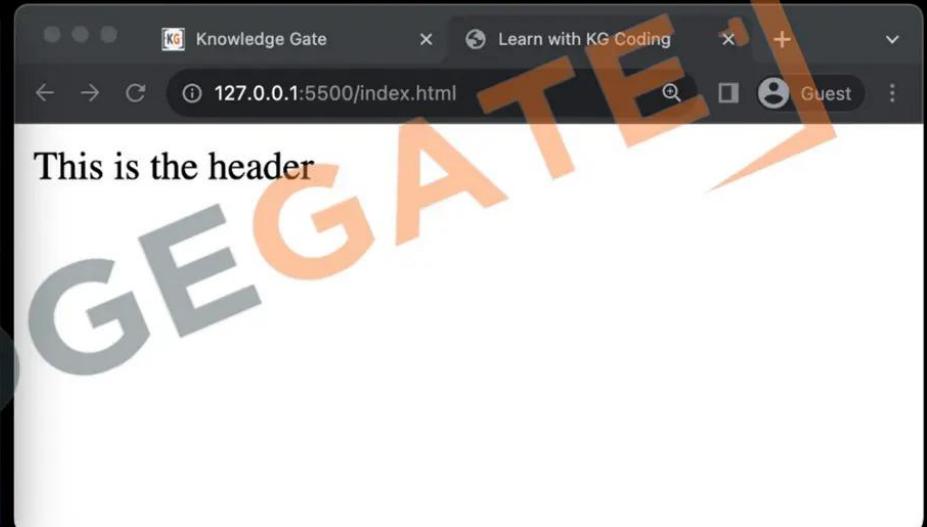
1.2 id property



A screenshot of a code editor window titled "project". The file "index.html" is open, showing the following code:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <div id="header">This is the header</div>
</body>
</html>
```

The code editor interface includes a sidebar with icons for file, search, and user, and a bottom status bar showing "Ln 6, Col 7" and "Port : 5500".



- **Unique Identifier:** Each id should be unique within a page.
- **Anchoring:** Allows for direct links to sections using the `#id` syntax in URLs.
- **CSS & JavaScript:** Used for selecting elements for styling or scripting.

Level 2

Must-Use HTML Tags



2 HTML
Tags

2.1 Heading Tag

The image shows a code editor on the left and a browser window on the right. The code editor displays the file 'index.html' with the following content:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <h1>Heading 1</h1>
    <h2>Heading 2</h2>
    <h3>Heading 3</h3>
    <h4>Heading 4</h4>
    <h5>Heading 5</h5>
    <h6>Heading 6</h6>
</body>
</html>
```

The browser window shows the rendered HTML with the following headings:

Heading 1

Heading 2

Heading 3

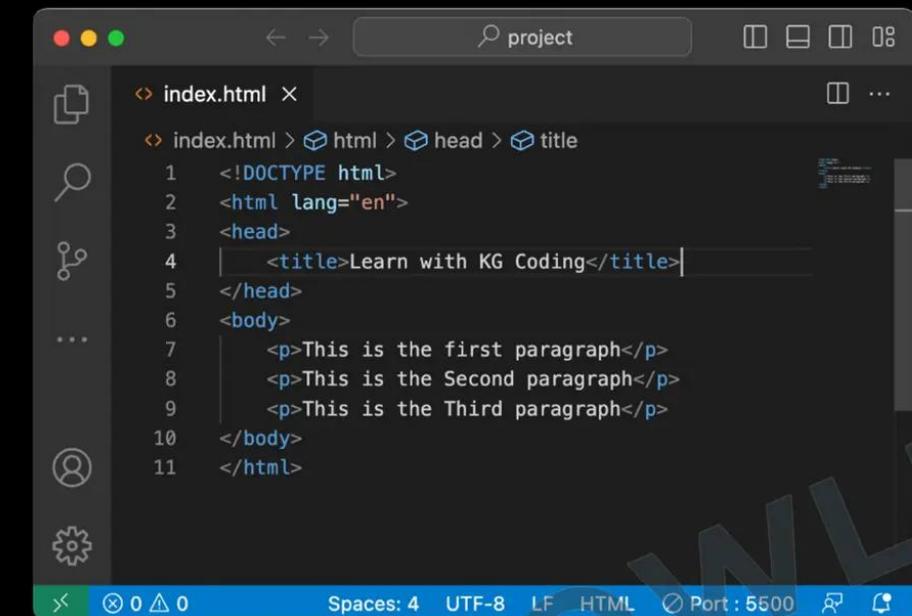
Heading 4

Heading 5

Heading 6

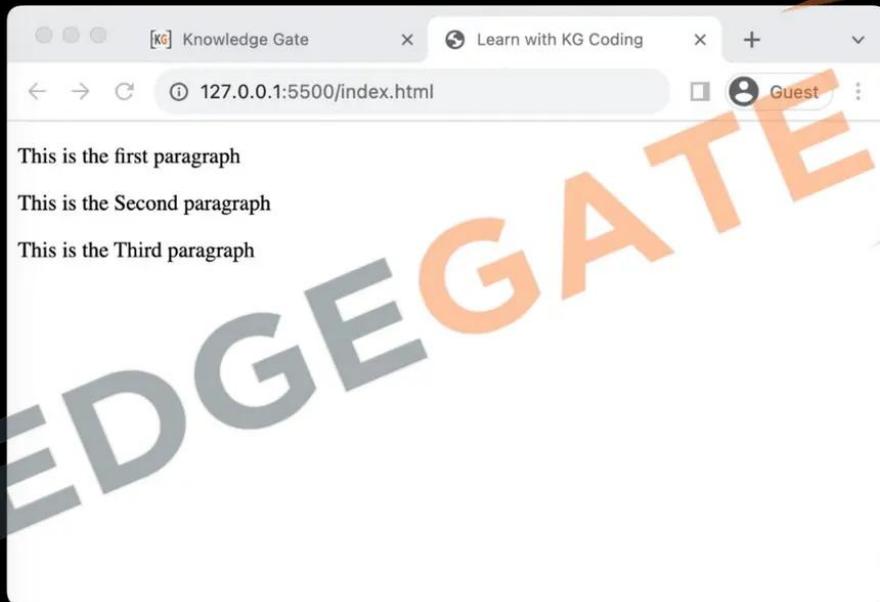
1. Defines **headings** in a document
2. Ranges from **<h1>** to **<h6>**
3. **<h1>** is most important, **<h6>** is least
4. Important for **SEO**
5. Helps in structuring content

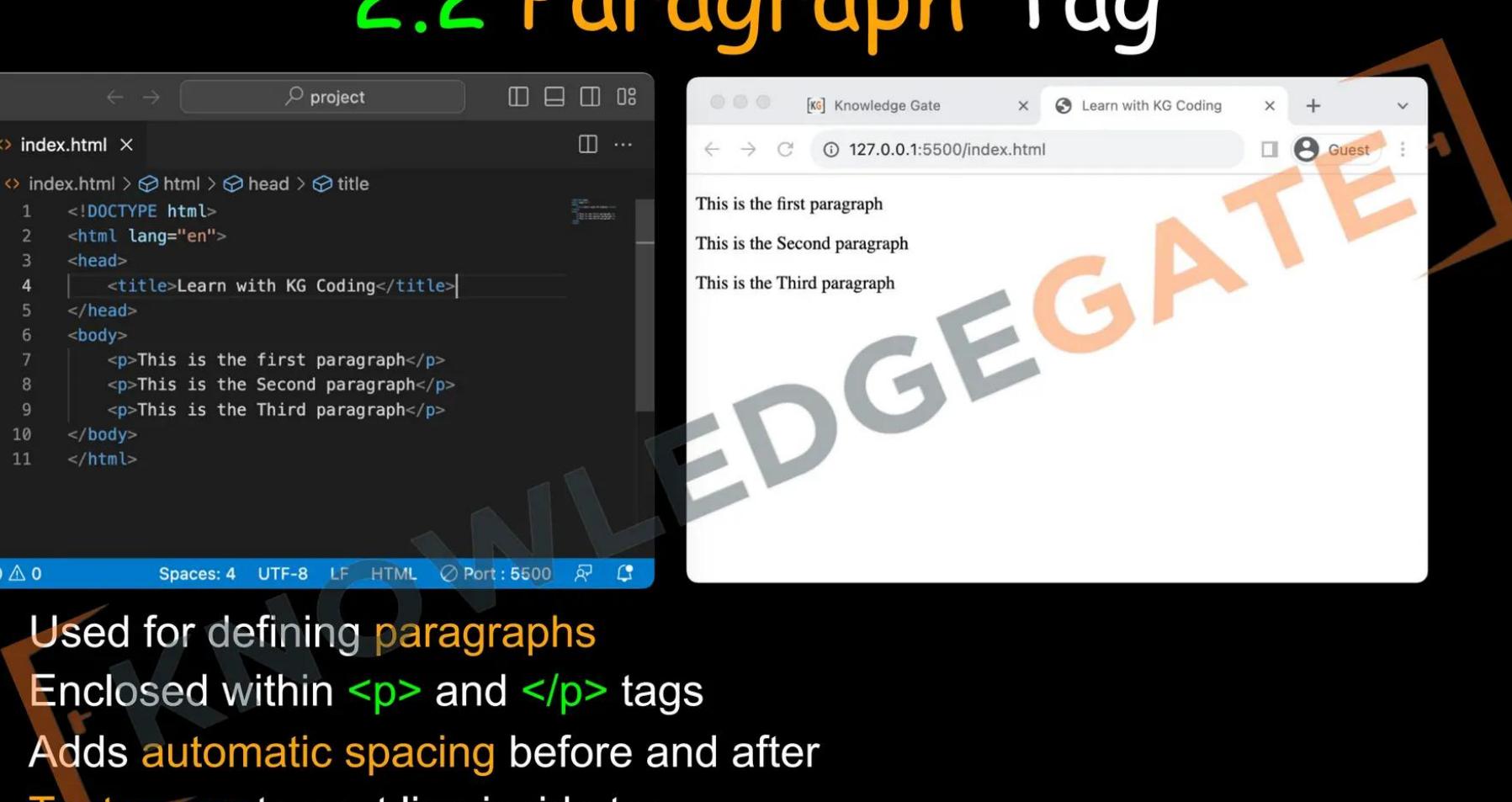
2.2 Paragraph Tag



A screenshot of a code editor window titled "project". The file "index.html" is open, showing the following code:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <p>This is the first paragraph</p>
    <p>This is the Second paragraph</p>
    <p>This is the Third paragraph</p>
</body>
</html>
```



- 
1. Used for defining paragraphs
 2. Enclosed within `<p>` and `</p>` tags
 3. Adds automatic spacing before and after
 4. Text wraps to next line inside tag
 5. Common in text-heavy content

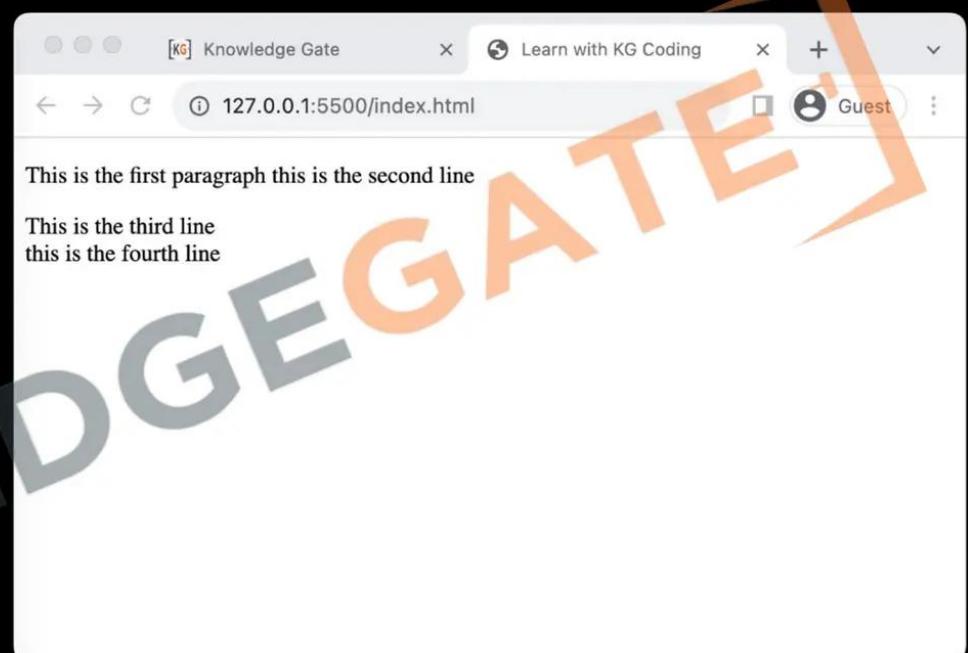
2.3
 Tag



A screenshot of a code editor window titled "index.html". The code is as follows:

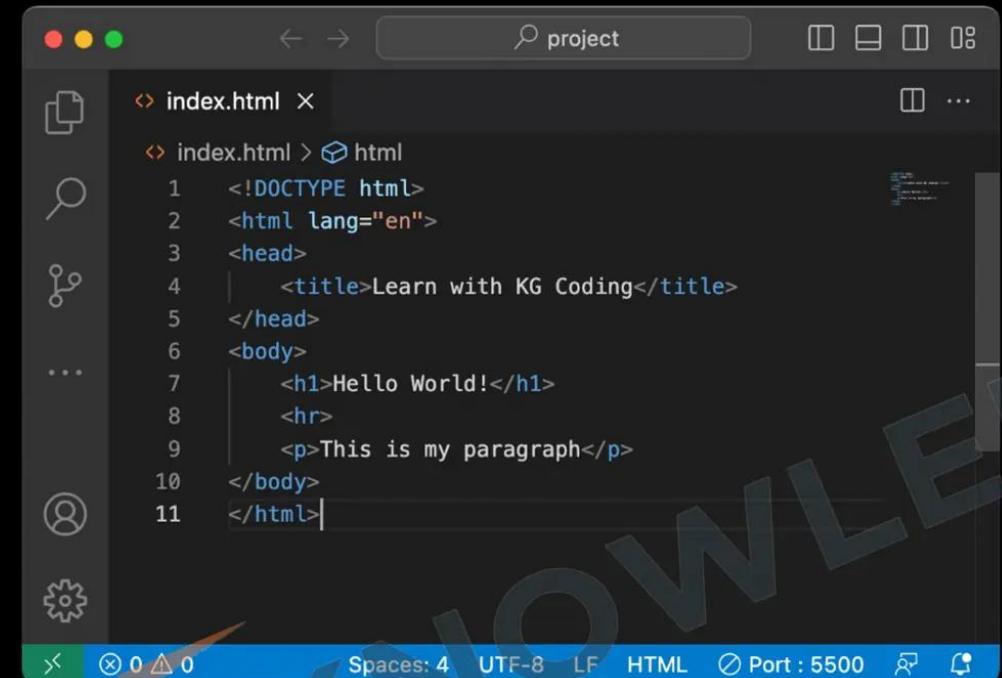
```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <p>This is the first paragraph
        this is the second line
    </p>
    <p>This is the third line <br>
        this is the fourth line
    </p>
</body>
</html>
```

The code editor has a dark theme with light-colored syntax highlighting. The status bar at the bottom shows "Spaces: 4", "UTF-8", "LF", "HTML", and "Port : 5500".



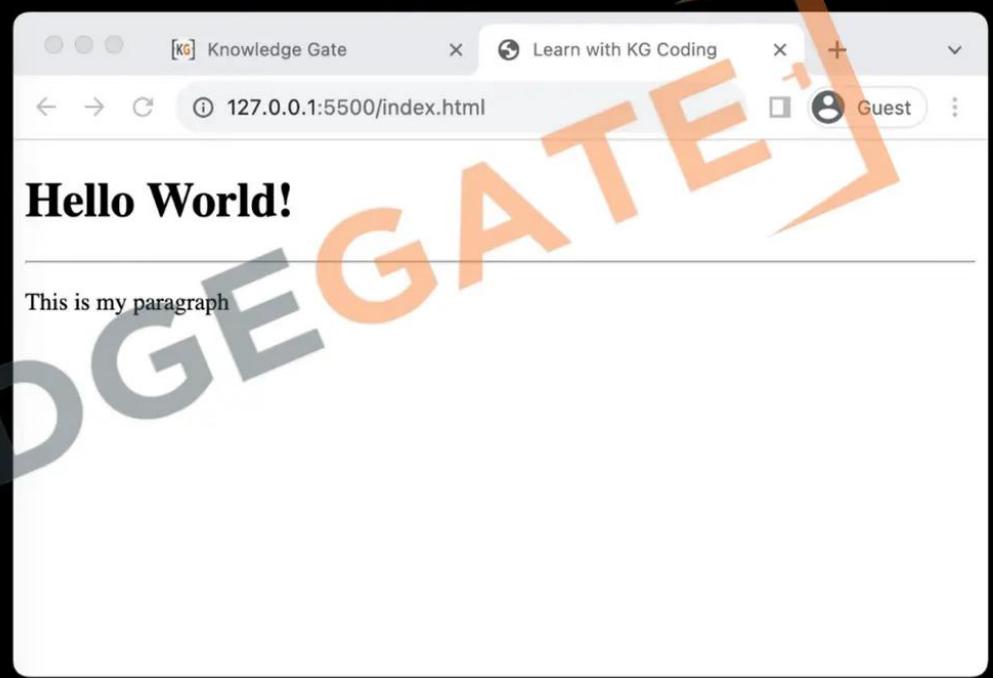
1.
 adds a **line break** within text
2.
 is empty, no closing tag needed
3.
 and
 are both valid

2.3 <HR> Tag



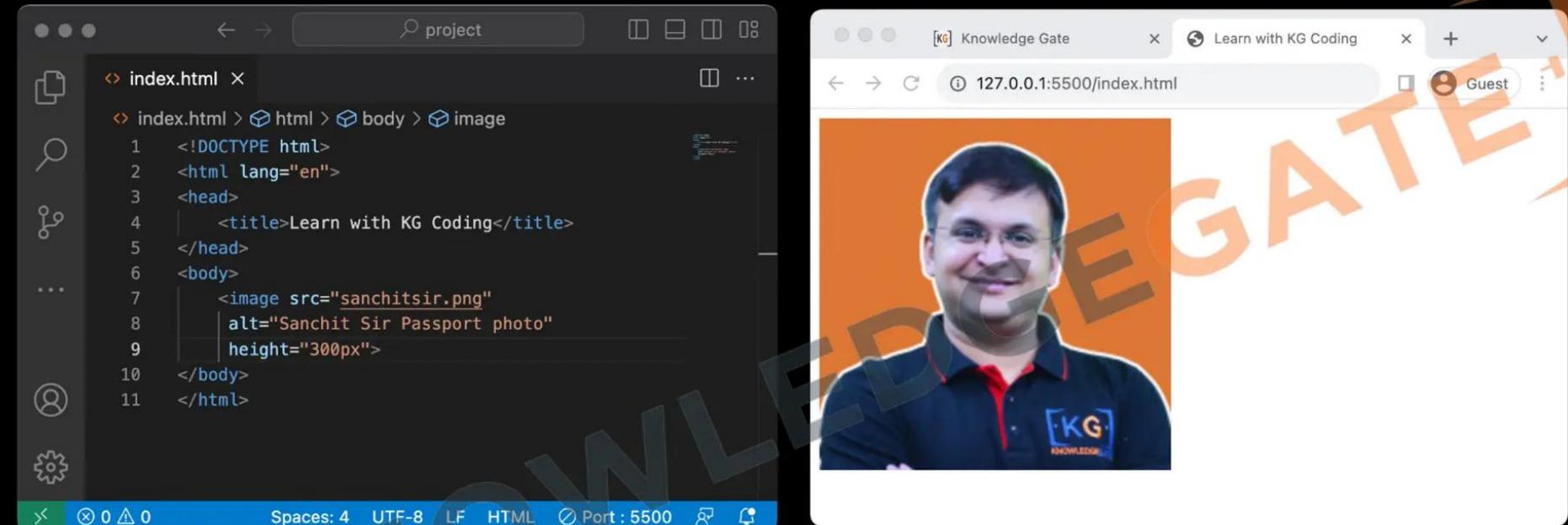
A screenshot of a code editor window titled "project". The file "index.html" is open, displaying the following HTML code:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <h1>Hello World!</h1>
    <hr>
    <p>This is my paragraph</p>
</body>
</html>
```



1. <hr> creates a horizontal rule or line
2. <hr> also empty, acts as a divider

2.4 Image Tag



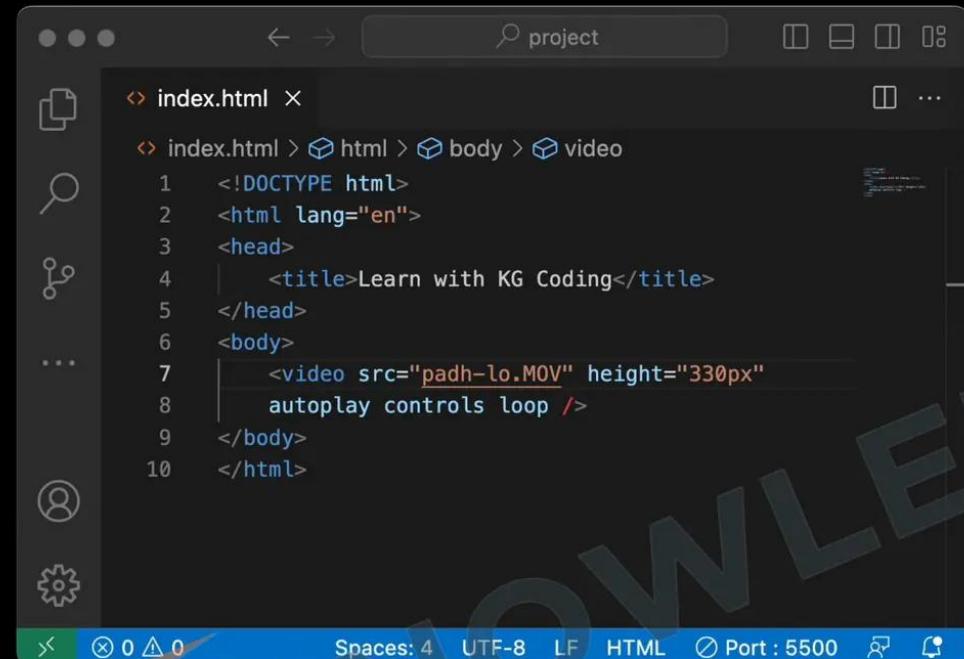
The image shows a code editor on the left and a web browser on the right. The code editor displays the contents of index.html:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <image src="sanchitsir.png"
        alt="Sanchit Sir Passport photo"
        height="300px">
</body>
</html>
```

The browser window shows the rendered image of a man with glasses and a blue polo shirt, which includes a logo. The URL in the browser is 127.0.0.1:5500/index.html.

1. Used to embed images
2. Utilizes the `src` attribute for image URL
3. `alt` attribute for alternative text
4. Can be resized using `width` and `height`
5. Self-closing, doesn't require an end tag

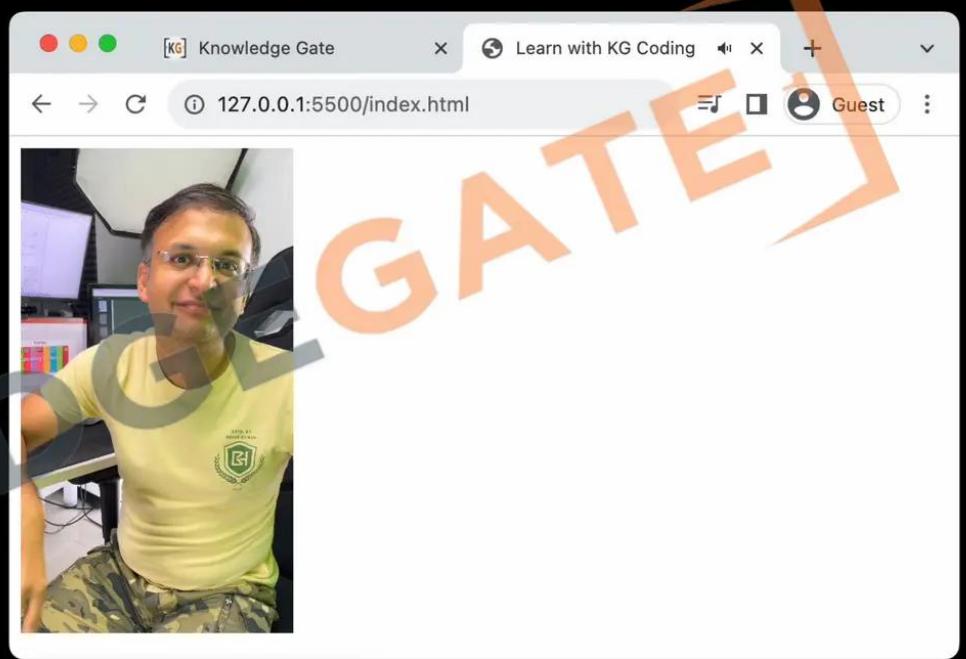
2.5 Video Tag



A screenshot of a code editor window titled "project". The file "index.html" is open, showing the following HTML code:

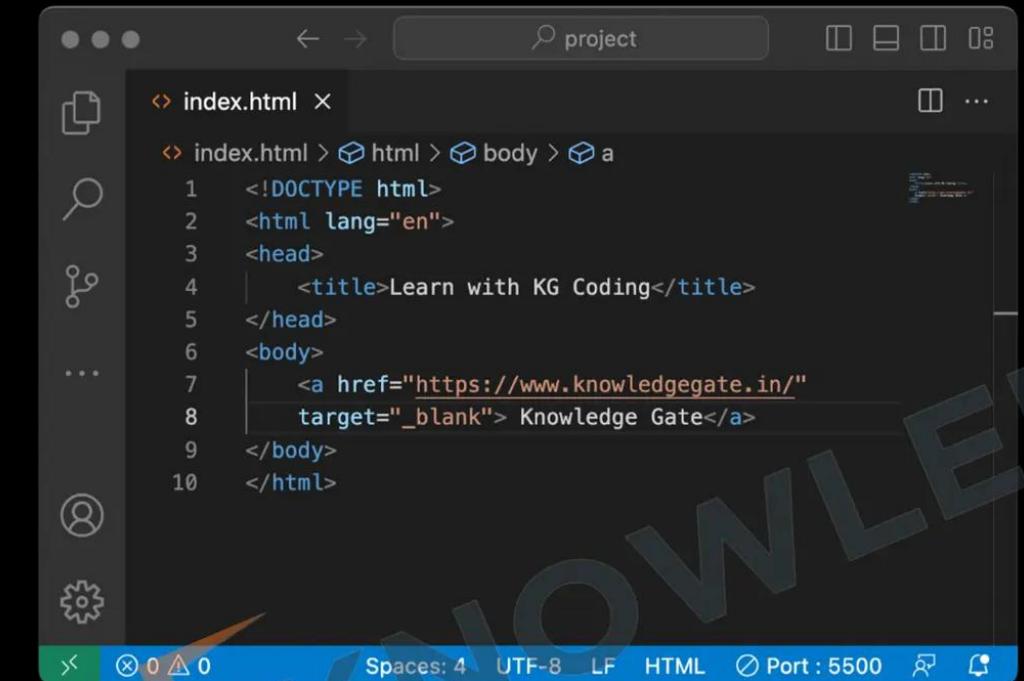
```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <video src="padh-lo.MOV" height="330px"
        autoplay controls loop />
</body>
</html>
```

The code editor has a dark theme with light-colored syntax highlighting. The status bar at the bottom shows "Spaces: 4", "UTF-8", "LF", "HTML", "Port: 5500", and a refresh icon.



1. Embeds video files on a page
2. Uses **src** attribute for video URL
3. Supports **multiple formats** like MP4, WebM
4. Allows for built-in controls via attributes like **autoplay**, **controls**, **loop**

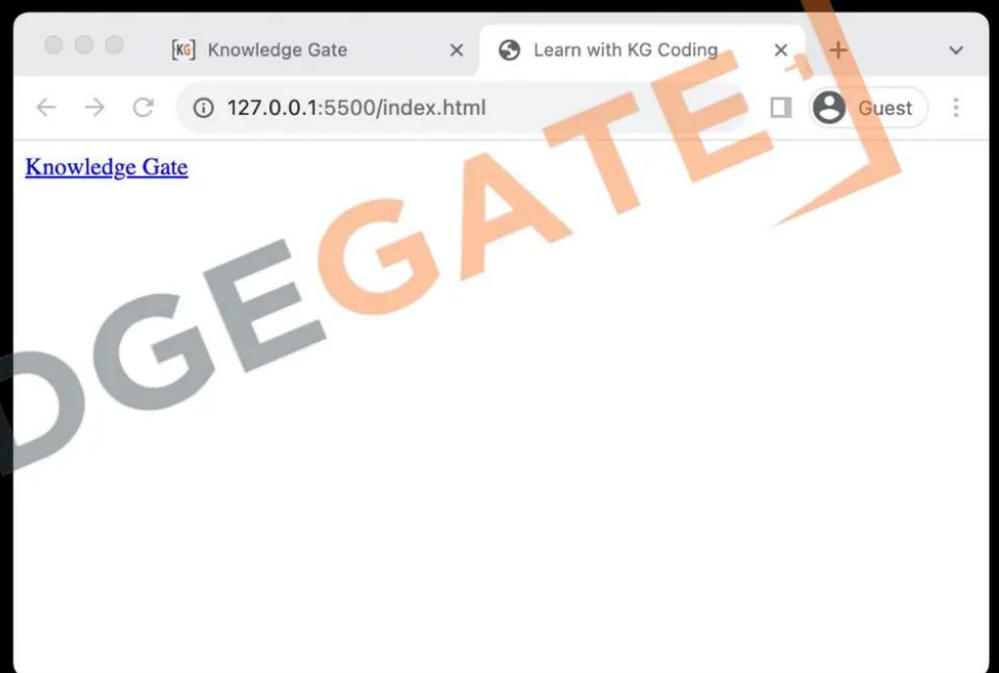
2.6 Anchor Tag



A screenshot of a code editor window titled "project". The file "index.html" is open, displaying the following HTML code:

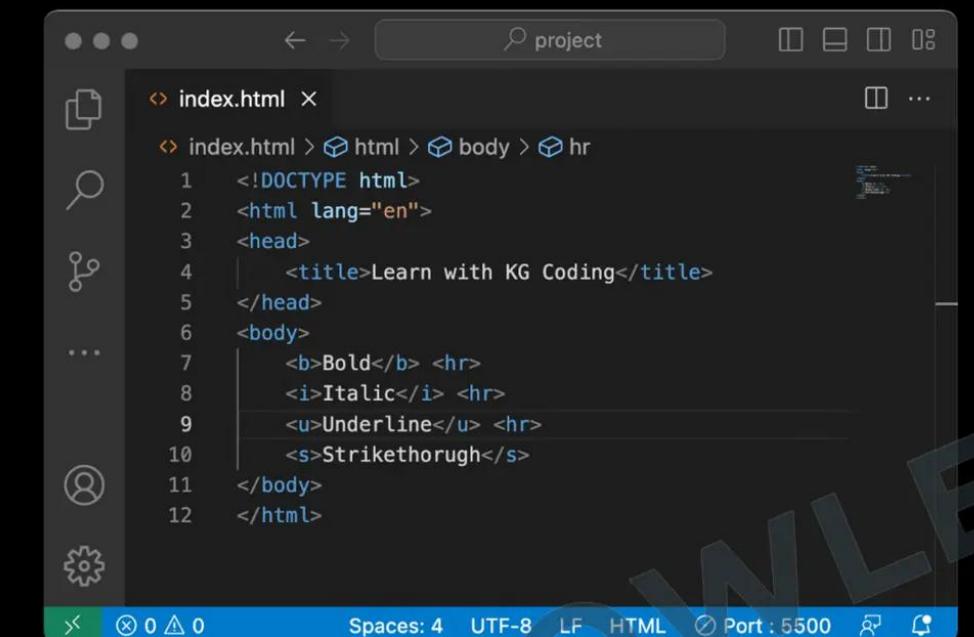
```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <a href="https://www.knowledgegate.in/" target="_blank"> Knowledge Gate</a>
</body>
</html>
```

The code editor has a dark theme with light-colored syntax highlighting. The bottom status bar shows "Spaces: 4", "UTF-8", "LF", "HTML", "Port: 5500", and other icons.

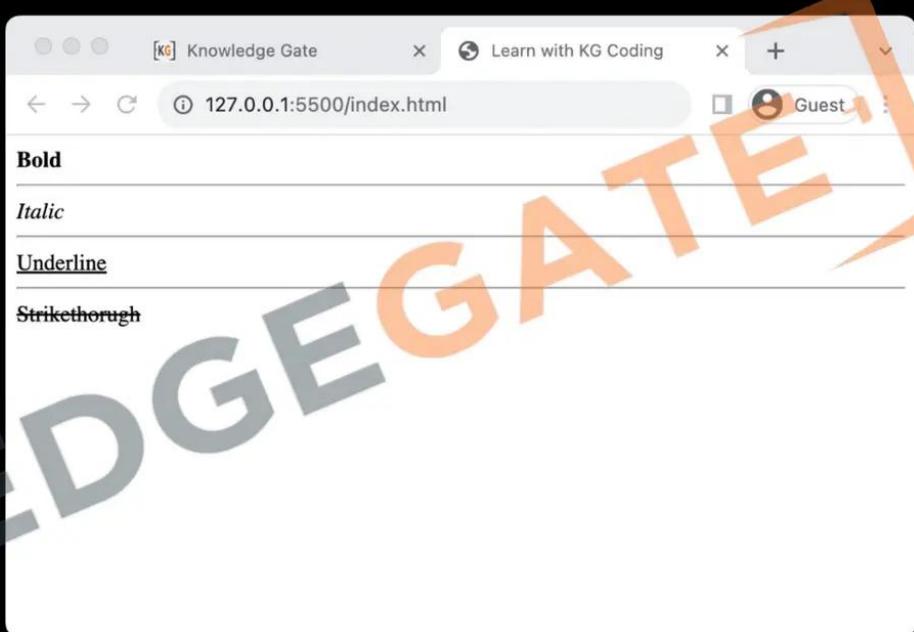


1. Used for creating **hyperlinks**
2. Requires **href** attribute for URL
3. Can link to external sites or internal pages
4. Supports **target** attribute to control link behavior

2.7 Bold/Italic/Underline/Strikethrough Tag

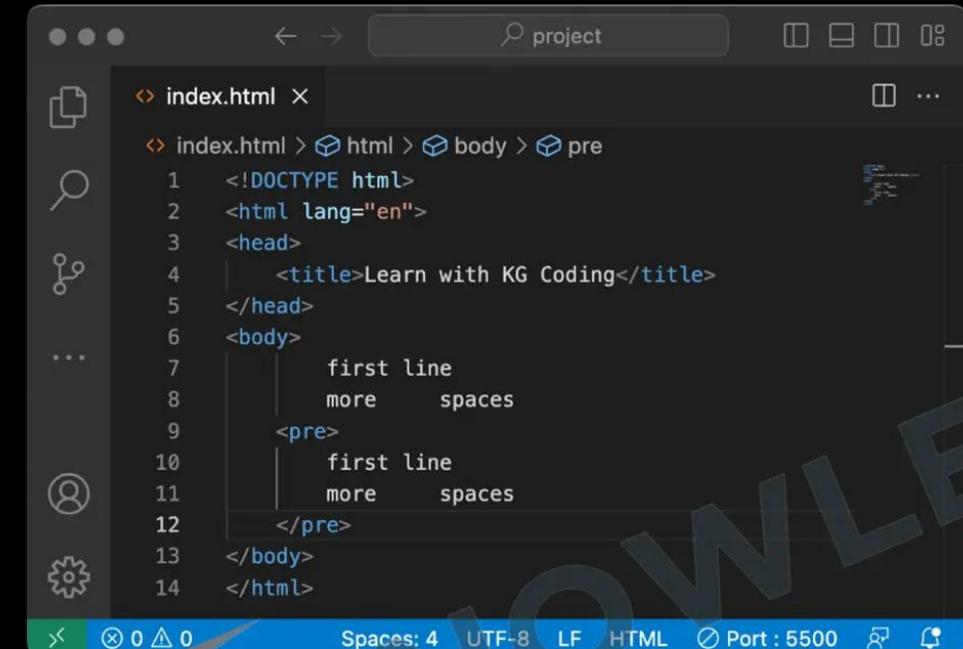


```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <b>Bold</b> <hr>
    <i>Italic</i> <hr>
    <u>Underline</u> <hr>
    <s>Strikethrough</s>
</body>
</html>
```



1. **** makes text bold
2. *<i>* makes text italic
3. <u> underlines text
4. ~~<s>~~ or **<strike>** applies strikethrough
5. Primarily used for text styling and emphasis

2.8 Pre Tag



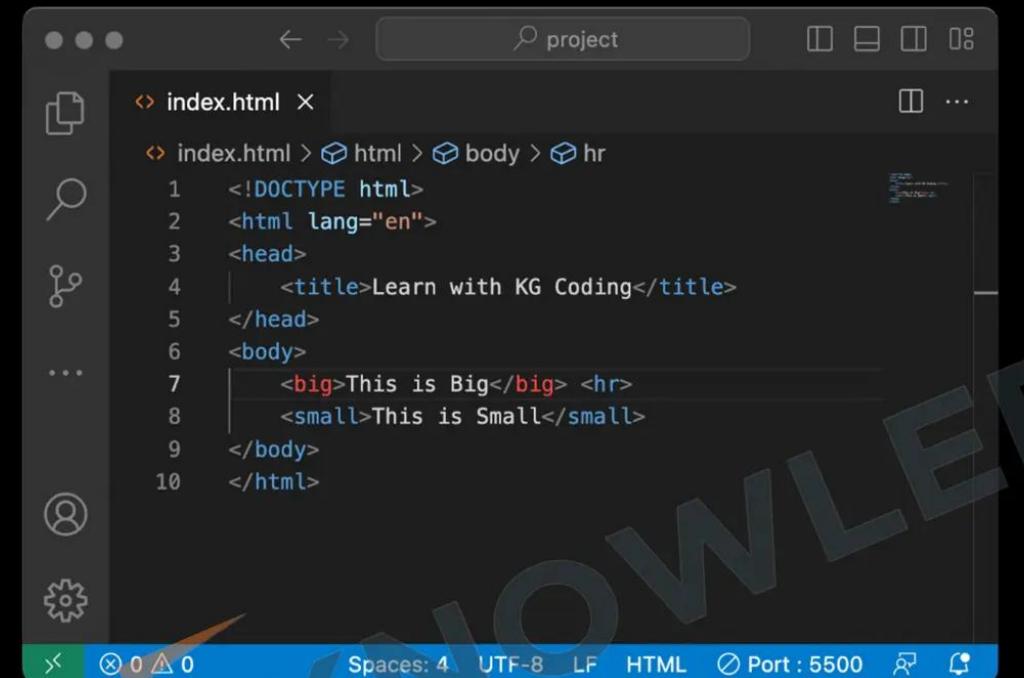
```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    first line
    more spaces
    <pre>
        first line
        more spaces
    </pre>
</body>
</html>
```



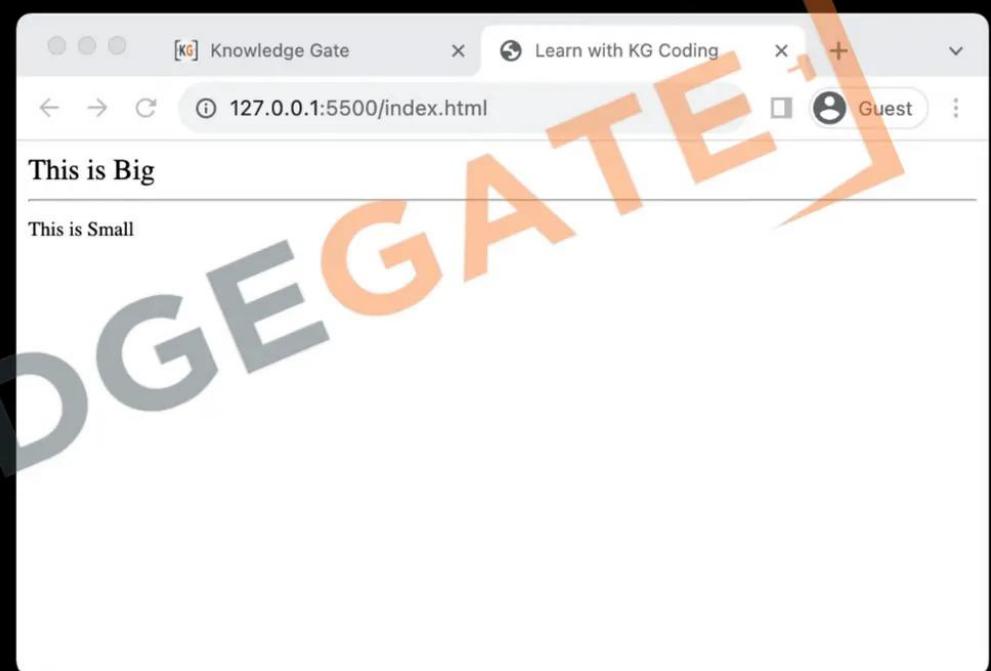
first line more spaces
first line
more spaces

1. Preserves text formatting
2. Maintains whitespace and line breaks
3. Useful for displaying code
4. Enclosed within `<pre>` and `</pre>` tags

2.9 Big/Small Tag

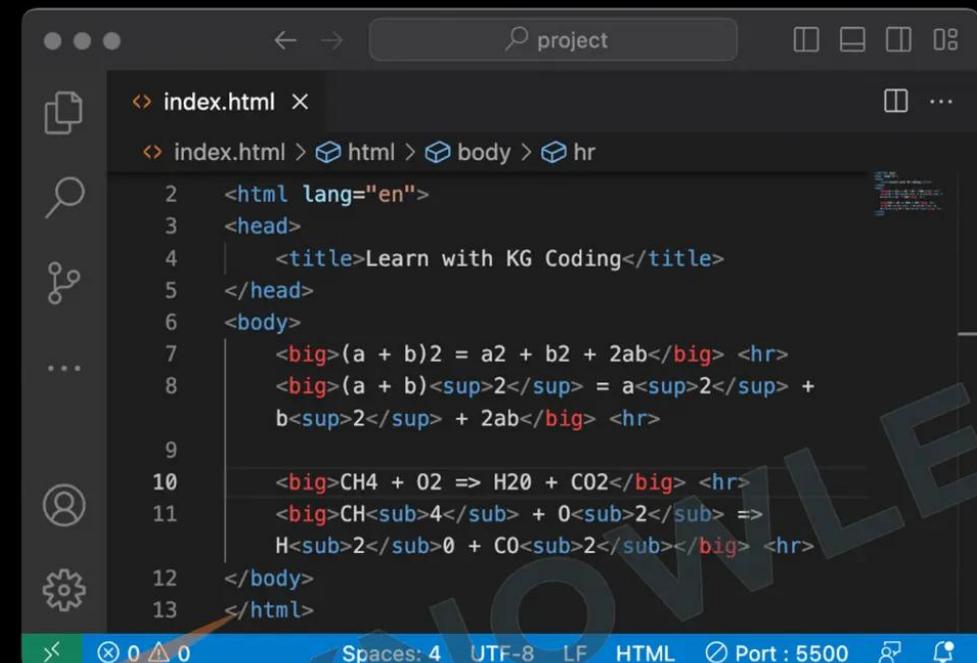


```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <big>This is Big</big> <hr>
    <small>This is Small</small>
</body>
</html>
```



1. **<big>** increases text size
2. **<small>** decreases text size
3. Less common due to CSS alternatives

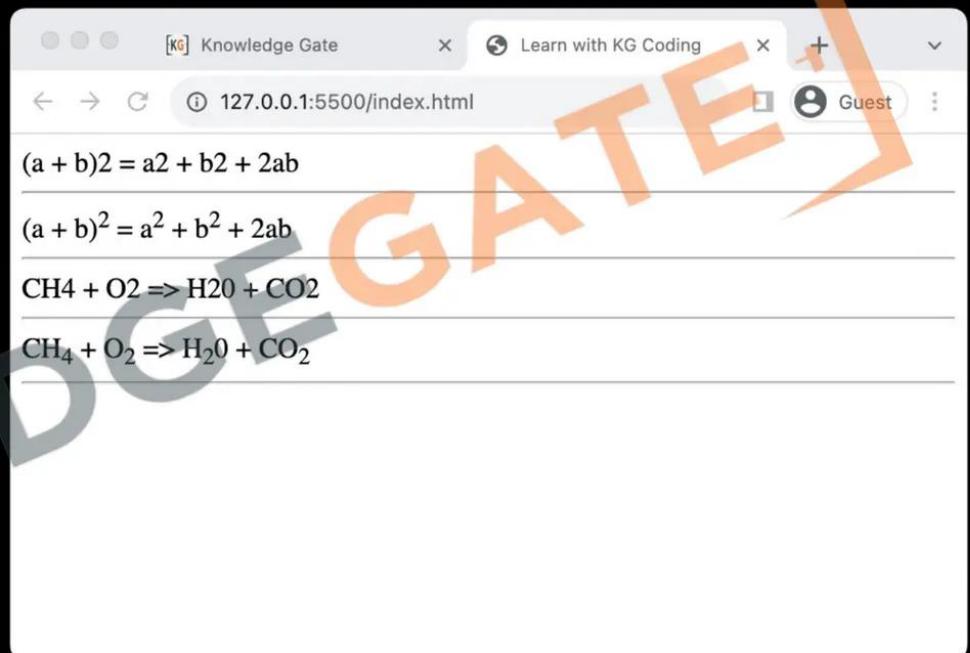
2.10 Superscript/Subscript Tag



A screenshot of a code editor window titled "index.html". The code is as follows:

```
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <big>(a + b)2 = a2 + b2 + 2ab</big> <hr>
    <big>(a + b)2 = a2 + b2 + 2ab</big> +
    b2 + 2ab</big> <hr>

    <big>CH4 + O2 => H2O + CO2</big> <hr>
    <big>CH4 + O2 => H2O + CO2</big> <hr>
</body>
</html>
```



A screenshot of a web browser window showing the rendered HTML from the code editor. The output is:

(a + b)² = a² + b² + 2ab

(a + b)² = a² + b² + 2ab

CH₄ + O₂ => H₂O + CO₂

CH₄ + O₂ => H₂O + CO₂

1. **<sup>** makes text superscript
2. **<sub>** makes text subscript
3. Used for mathematical equations, footnotes
4. Does not change font size, just position

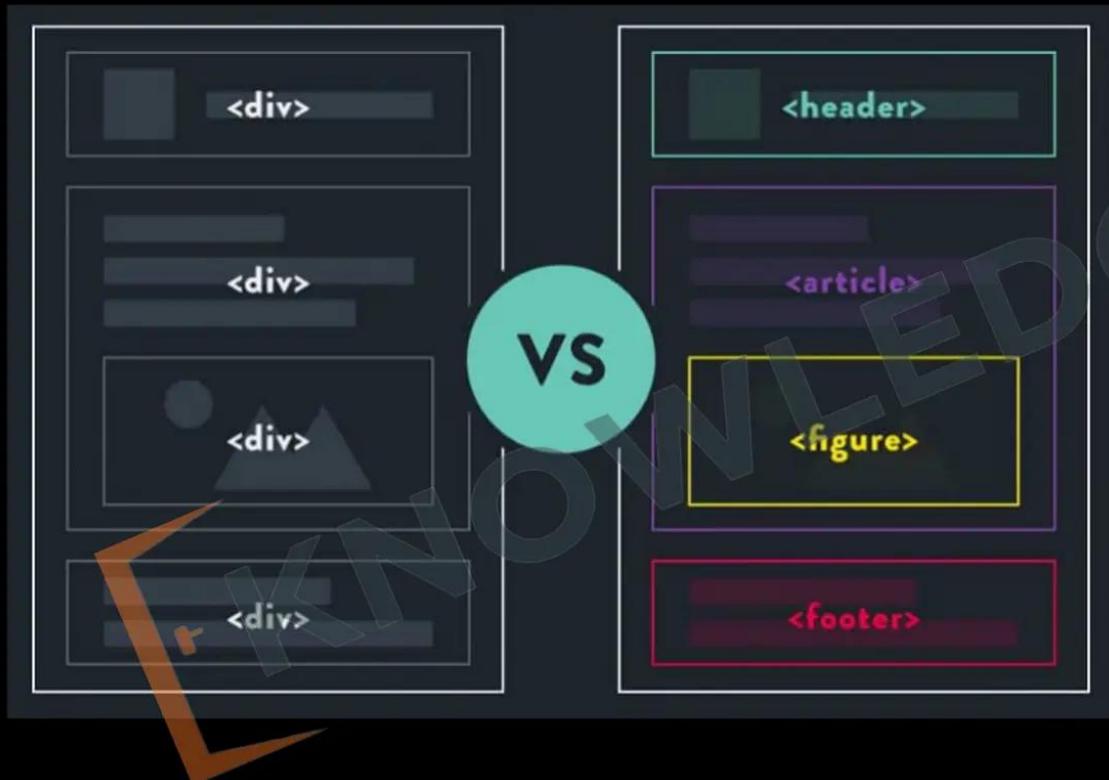
3.1 Character Entity Reference

1. Used to display reserved or special characters
2. Syntax often starts with & and ends with ; (e.g., & for &)

 	-	–	-	−	°	°	Δ	Δ	α	α	
€	€	—	—	±	±	°	º	Λ	Λ	β	β
ƒ	¢	…	…	√	√	ª	ª	Θ	Θ	γ	γ
£	£	§	§	∞	&zinf;	¹	¹	Ξ	Ξ	δ	δ
¥	¥	¶	¶	∞	∝	²	²	Π	Π	ε	ε
¤	¤	†	†	×	×	³	³	Σ	Σ	ζ	ζ
f	ƒ	‡	‡	÷	÷	¼	¼	Φ	Φ	η	η
©	©		¡	~	∼	½	½	Ψ	Ψ	θ	θ
®	®	¿	¿	≈	≈	¾	¾	Ω	Ω	ι	ι
™	™	%	‰	≈	≅	∴	∴	∇	∇	κ	κ

Level 4

HTML and Project Structure



1. Semantic Tags

1.1 Semantic/Non-Semantic Tags

Semantic Tags

- Meaningful: Describe content.
- SEO: Good for search engines.
- Accessibility: Useful for screen readers.
- Examples: `<header>`, `<footer>`, `<article>`, `<section>`, `<nav>`.

Non-Semantic Tags

- Generic: No specific meaning.
- For Styling: Used for layout.
- No SEO: Not SEO-friendly.
- Examples: `<div>`, ``, `<i>`, ``.

Level 4

HTML and Project Structure



2. Body Tags

2.1 Header Tag

The image shows a code editor on the left and a browser window on the right. The code editor displays the following HTML code:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <header><big>This is the Header</big></header>
</body>
</html>
```

The browser window shows the rendered output: "This is the Header". A large, semi-transparent watermark reading "KNOWLEDGE GATE" is overlaid across both screens.

1. **Purpose:** Used to contain introductory content or navigation links.
2. **Semantic:** It's a semantic tag, providing meaning to the enclosed content.
3. **Location:** Commonly found at the top of web pages, but can also appear within `<article>` or `<section>` tags.
4. **Multiple Instances:** Can be used more than once on a page within different sections.

2.2 Main Tag

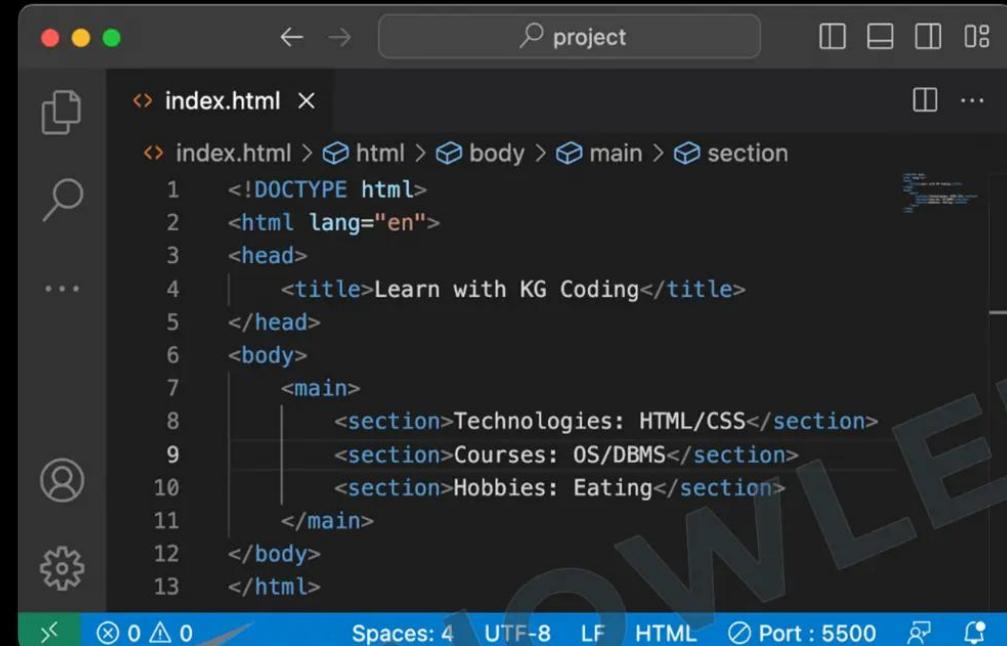
The image shows a code editor window on the left and a browser window on the right. The code editor displays the following HTML code:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <header><big>This is the Header</big></header>
    <hr><main>This is main space</main>
</body>
</html>
```

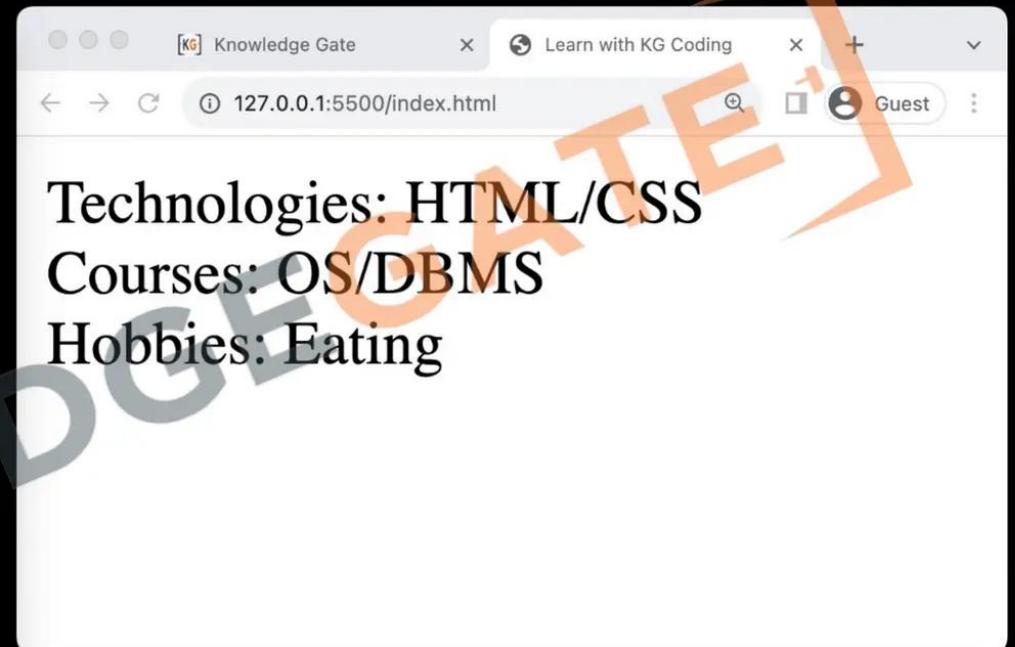
The browser window shows the rendered output of this code. It features a header with the text "This is the Header" in large bold font, followed by a horizontal line, and then the main content area which contains the text "This is main space". A large watermark reading "KNOWLEDGE GATE" is diagonally across the center of the image.

1. **Purpose:** Encloses the primary content of a webpage.
2. **Semantic:** Adds meaning, indicating the main content area.
3. **Unique:** Should appear only once per page.
4. **Accessibility:** Helps screen readers identify key content.
5. **Not for Sidebars:** Excludes content repeated across multiple pages like site navigation or footer.

2.2.1 Section Tag

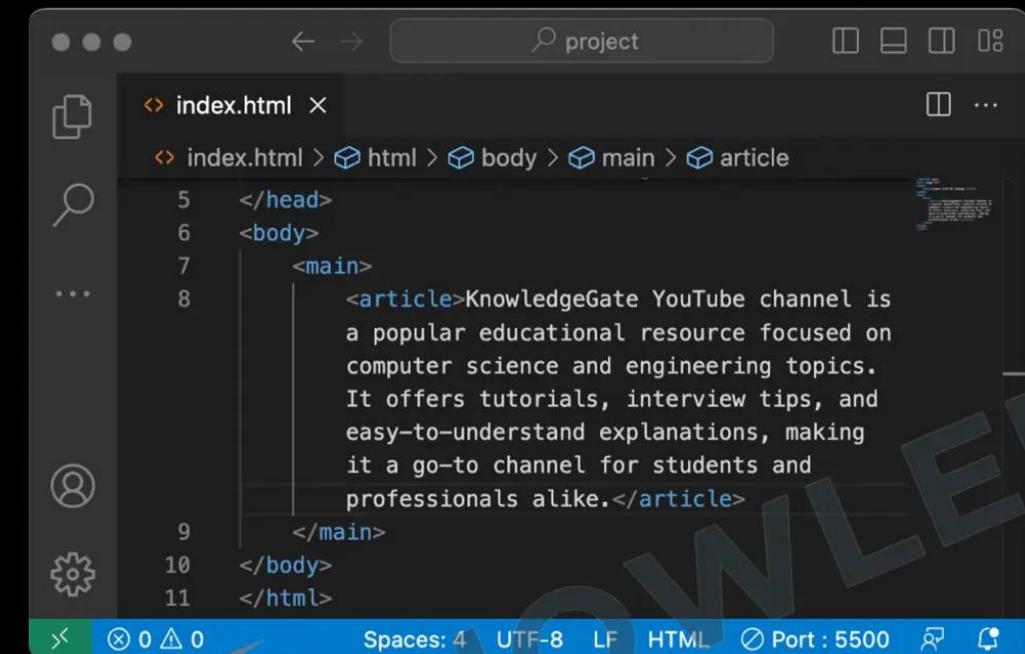


```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <main>
        <section>Technologies: HTML/CSS</section>
        <section>Courses: OS/DBMS</section>
        <section>Hobbies: Eating</section>
    </main>
</body>
</html>
```



1. **Purpose:** Groups related content in a distinct section.
2. **Semantic:** Adds structure and meaning.
3. **Headers:** Often used with a heading `<h1>` to `<h6>` to indicate section topic.
4. **Nested:** Can be nested within other `<section>` or `<article>` tags.

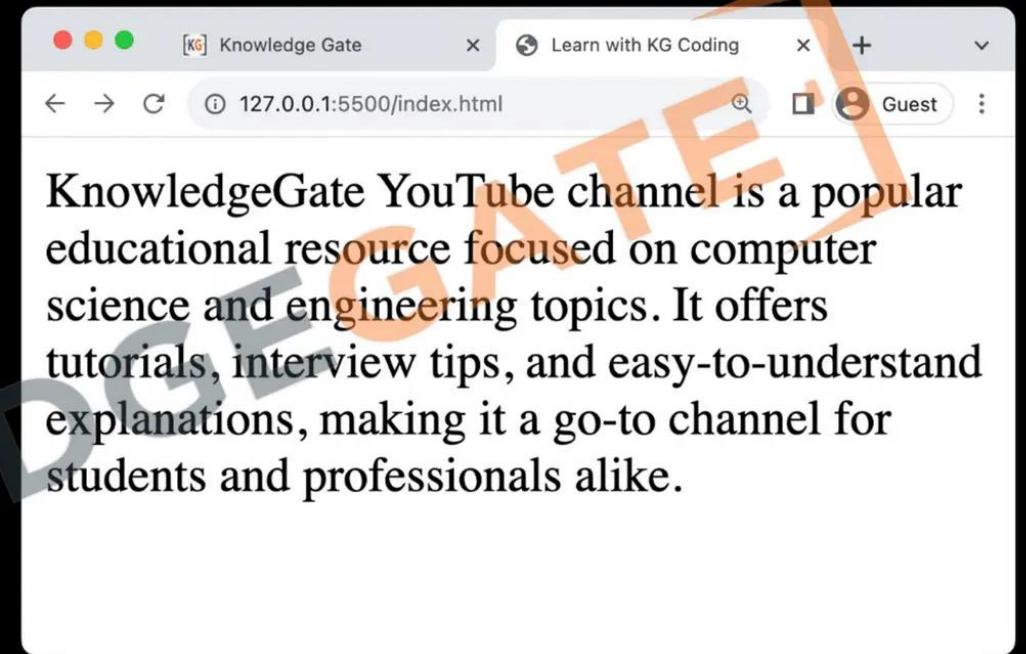
2.2.2 Article Tag



A screenshot of a code editor showing the file `index.html`. The code is as follows:

```
<!DOCTYPE html>
<html>
  <head>
    <title>Knowledge Gate</title>
  </head>
  <body>
    <main>
      <article>KnowledgeGate YouTube channel is a popular educational resource focused on computer science and engineering topics. It offers tutorials, interview tips, and easy-to-understand explanations, making it a go-to channel for students and professionals alike.</article>
    </main>
  </body>
</html>
```

The code editor has a dark theme with light-colored syntax highlighting. The status bar at the bottom shows "Spaces: 4", "UTF-8", "LF", "HTML", "Port : 5500", and icons for file operations.

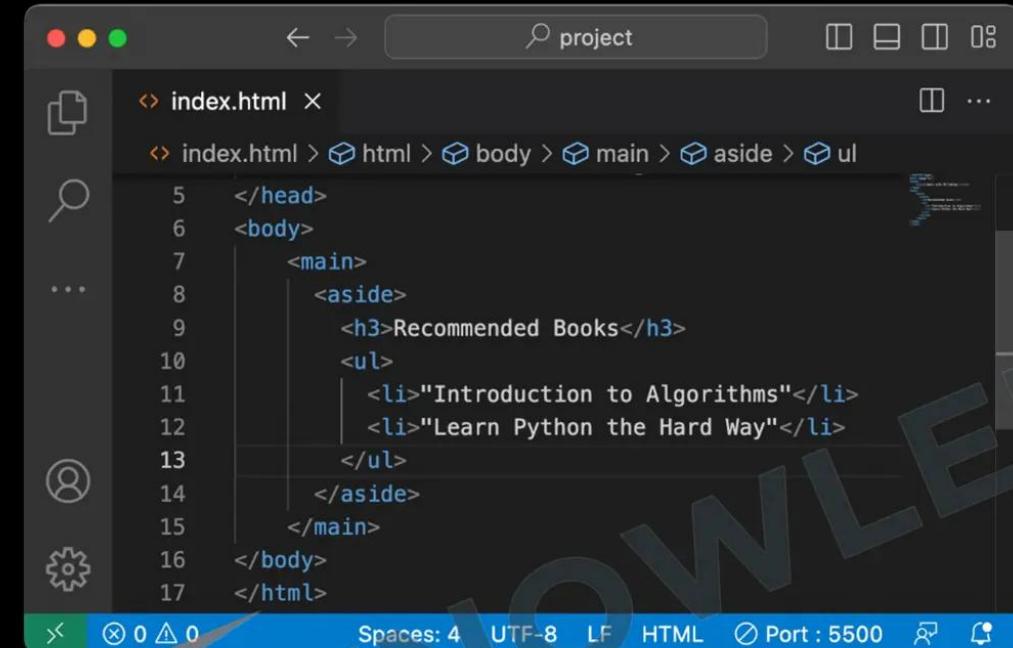


A screenshot of a web browser window titled "Learn with KG Coding". The URL in the address bar is `127.0.0.1:5500/index.html`. The page content is:

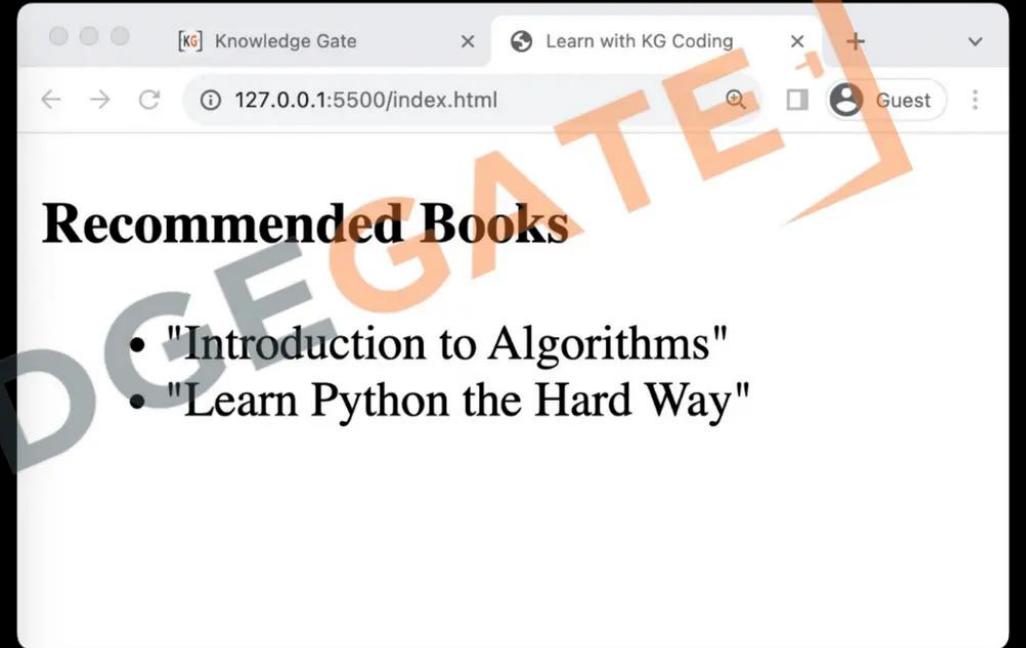
KnowledgeGate YouTube channel is a popular educational resource focused on computer science and engineering topics. It offers tutorials, interview tips, and easy-to-understand explanations, making it a go-to channel for students and professionals alike.

1. **Purpose:** Encloses content that stands alone, like a **blog post or news** story.
2. **Semantic:** Provides contextual meaning.
3. **Independence:** Content should make sense even if taken out of the page context.
4. **Multiple Instances:** Can be used multiple times on the same page

2.2.3 Aside Tag

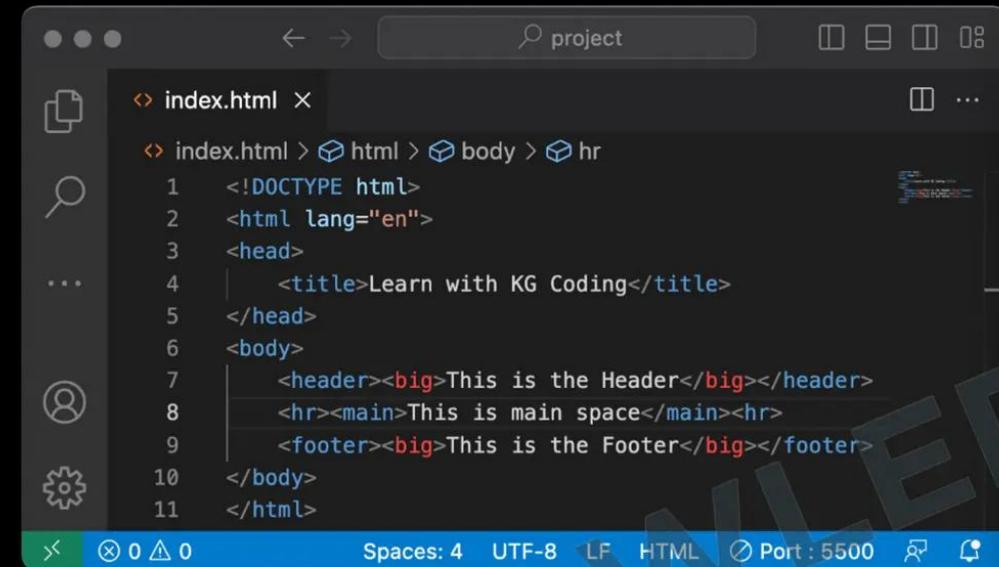


```
<head>
</head>
<body>
    <main>
        <aside>
            <h3>Recommended Books</h3>
            <ul>
                <li>"Introduction to Algorithms"</li>
                <li>"Learn Python the Hard Way"</li>
            </ul>
        </aside>
    </main>
</body>
</html>
```



1. **Purpose:** Contains sidebar or supplementary content.
2. **Semantic:** Indicates content tangentially related to the main content.
3. **Not Crucial:** Content is not essential to understanding the main content.
4. **Examples:** Could hold **widgets, quotes, or ads**.

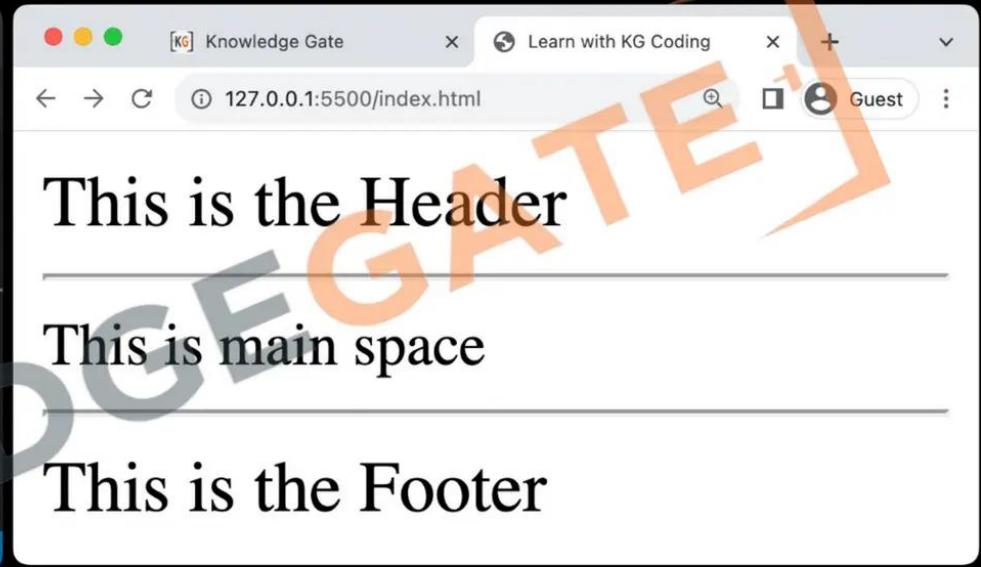
2.3 Footer Tag



A screenshot of a code editor window titled "project". The file "index.html" is open, showing the following code:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <header><big>This is the Header</big></header>
    <hr><main>This is main space</main><hr>
    <footer><big>This is the Footer</big></footer>
</body>
</html>
```

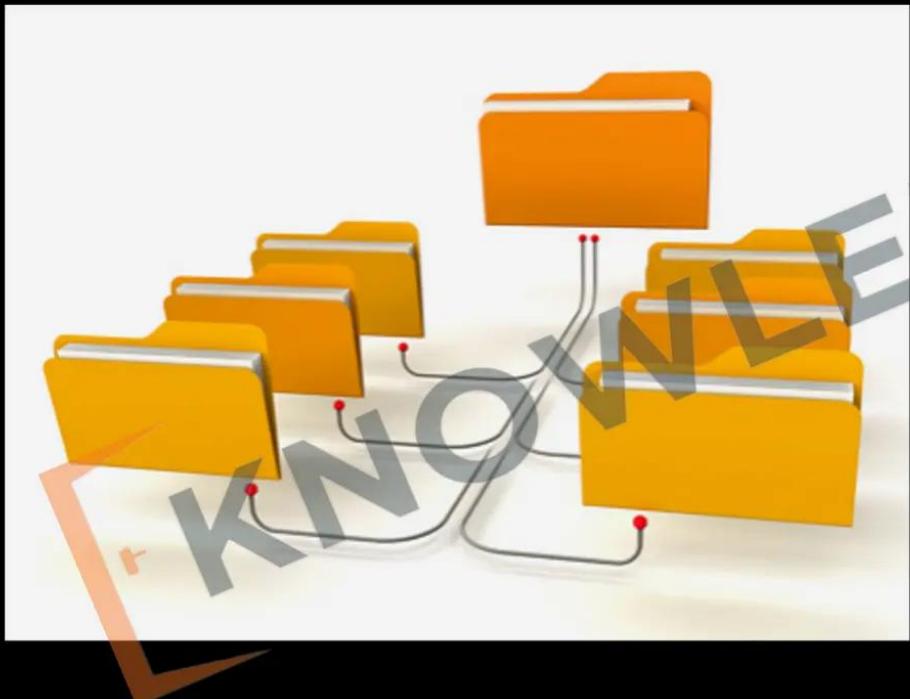
The code editor interface includes a sidebar with icons for file operations, a search bar, and a status bar at the bottom indicating "Spaces: 4", "UTF-8", "LF", "HTML", "Port: 5500", and a refresh icon.



1. **Purpose:** For footer content like extra info or links.
2. **Semantic:** Provides meaning to enclosed content.
3. **Location:** Typically at the **bottom** of pages or sections.
4. **Content:** Includes copyrights, contact info, and social links.
5. **Multiple Instances:** Can be used more than once on a page.

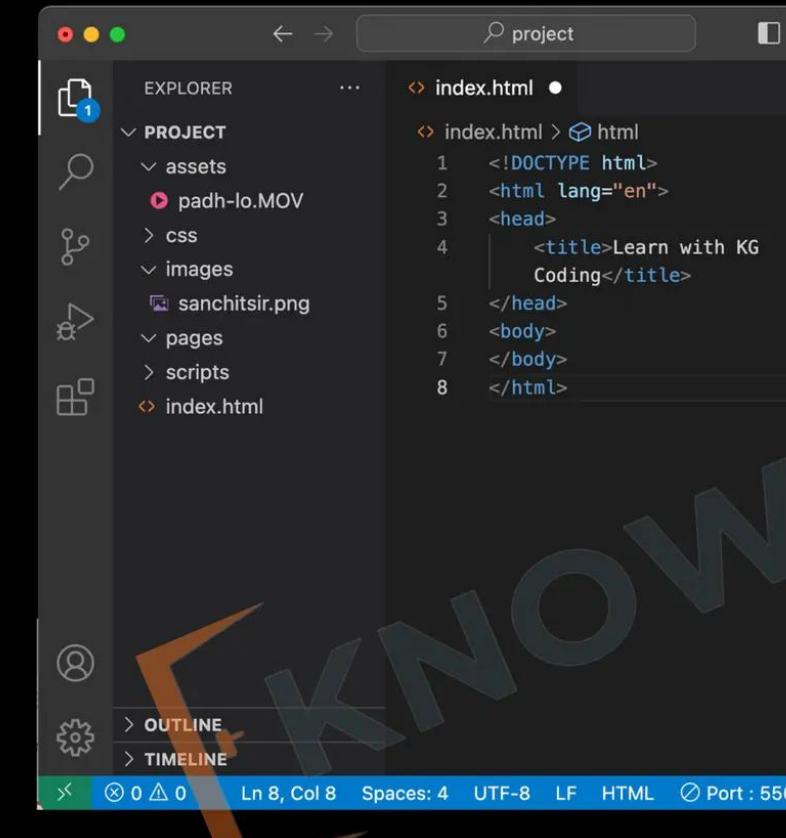
Level 4

HTML and Project Structure



KNOWLEDGE GATE
3. Folder
Structure

3.1 Recommended Folder Structure



1. **Root Directory:** Main folder containing all website files.
2. **HTML Files:** Store main .html files at the root level for easy access.
3. **CSS Folder:** Create a css/ folder for all Cascading Style Sheets.
4. **JS Folder:** Use a scripts/ folder for JavaScript files.
5. **Images Folder:** Store images in an images/ or images/ folder.
6. **Assets:** Other assets like fonts can go in an assets/ folder.
7. **Sub-directories:** For multi-page websites, use sub-folders to categorize content.

Level 4

HTML and Project Structure



KNOWLEDGE GATE
4. More Tags

4.1 Navigation Tags

The image shows a code editor on the left and a web browser on the right. The code editor displays the file 'index.html' with the following content:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <nav>
        <a href="#home">Home</a><br>
        <a href="#about">About</a><br>
        <a href="#services">Services</a><br>
        <a href="#contact">Contact</a><br>
    </nav>
</body>
</html>
```

The browser window shows the rendered HTML with four blue underlined links: Home, About, Services, and Contact.

1. Purpose: Encloses navigation links or menus.
2. Semantic: Signals that the content is meant for navigating the site.
3. Common Content: Usually contains lists ``, `` of links `<a>`.
4. Accessibility: Aids screen readers in identifying site navigation.

4.2 Block / Inline Elements

Block Elements

- **New Line:** Start on a new line.
- **Full Width:** Take up all horizontal space.
- **Styling:** Can have margins and padding.
- **Size:** Width and height can be set.
- **Examples:** `<div>`, `<p>`, `<h1>`, ``, ``.

Inline Elements

- **Flow:** Stay in line with text.
- **Width:** Just as wide as the content.
- **No Break:** No new line between elements.
- **Limited Styling:** Can't set size easily.
- **Examples:** ``, `<a>`, ``, ``, ``.

4.3 Div Tags

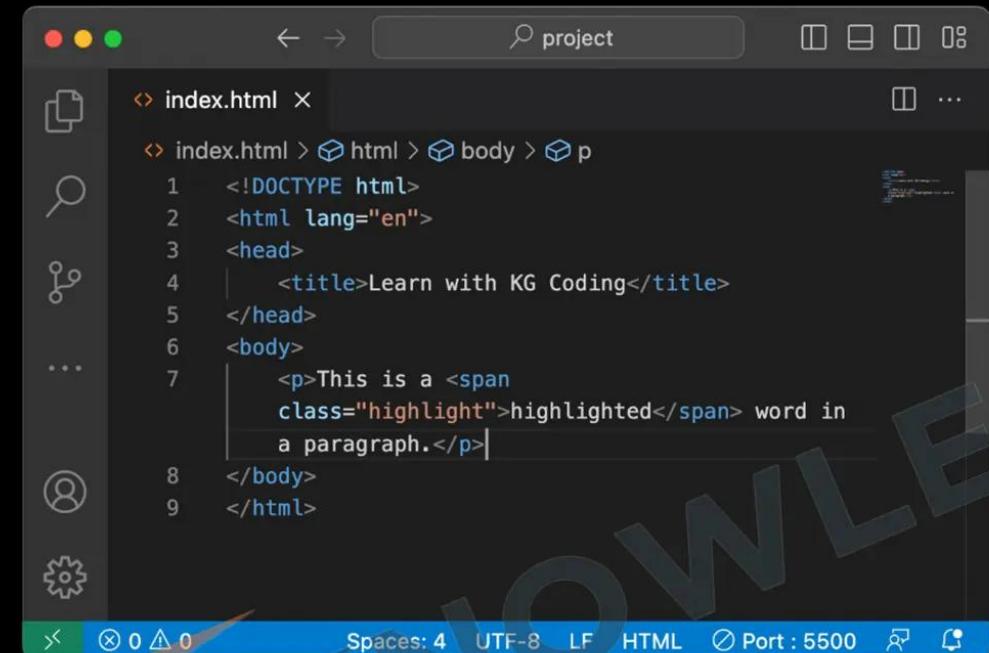
The image shows a code editor on the left and a web browser on the right. The code editor displays the following HTML code:

```
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <div>
        <p>Lorem ipsum dolor sit amet  
consectetur adipisicing elit. Itaque quae  
veritatis, repellendus nam adipisci fuga  
nulla eos nobis.</p>
    </div>
</body>
</html>
```

The browser window shows the rendered content of the HTML code, displaying the text "Lorem ipsum dolor sit amet consectetur adipisicing elit. Itaque quae veritatis, repellendus nam adipisci fuga nulla eos nobis." in a black font on a white background.

1. **Purpose:** Acts as a container for other **HTML** elements.
2. **Non-Semantic:** Doesn't provide inherent meaning to enclosed content.
3. **Styling:** Commonly used for layout and styling via **CSS**.
4. **Flexibility:** Highly versatile and can be customized using classes or IDs.

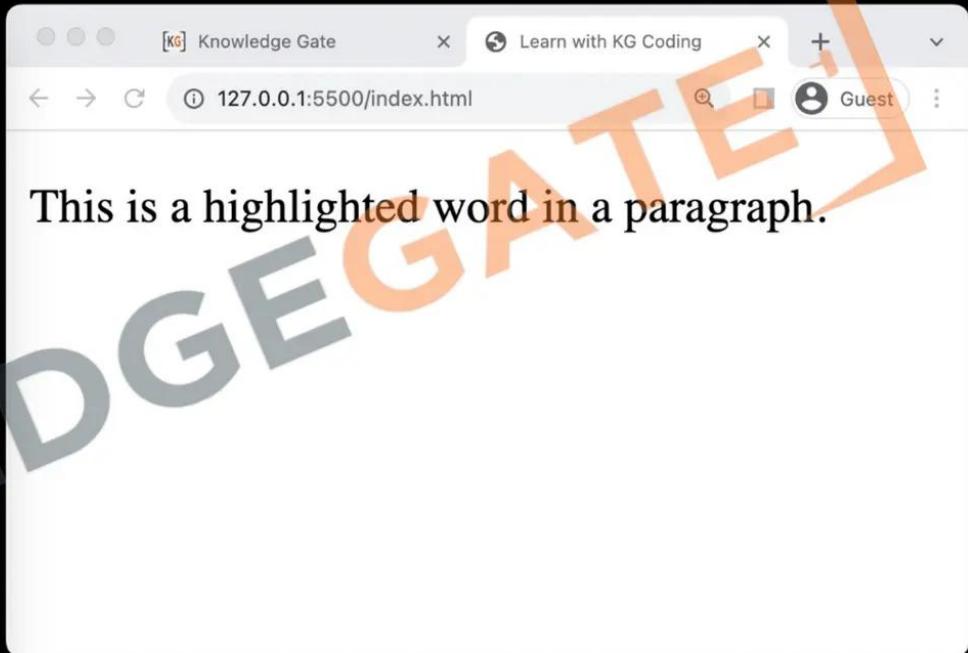
4.4 Span Tags



A screenshot of a code editor window titled "project". The file "index.html" is open, showing the following HTML code:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <p>This is a <span class="highlight">highlighted</span> word in a paragraph.</p>
</body>
</html>
```

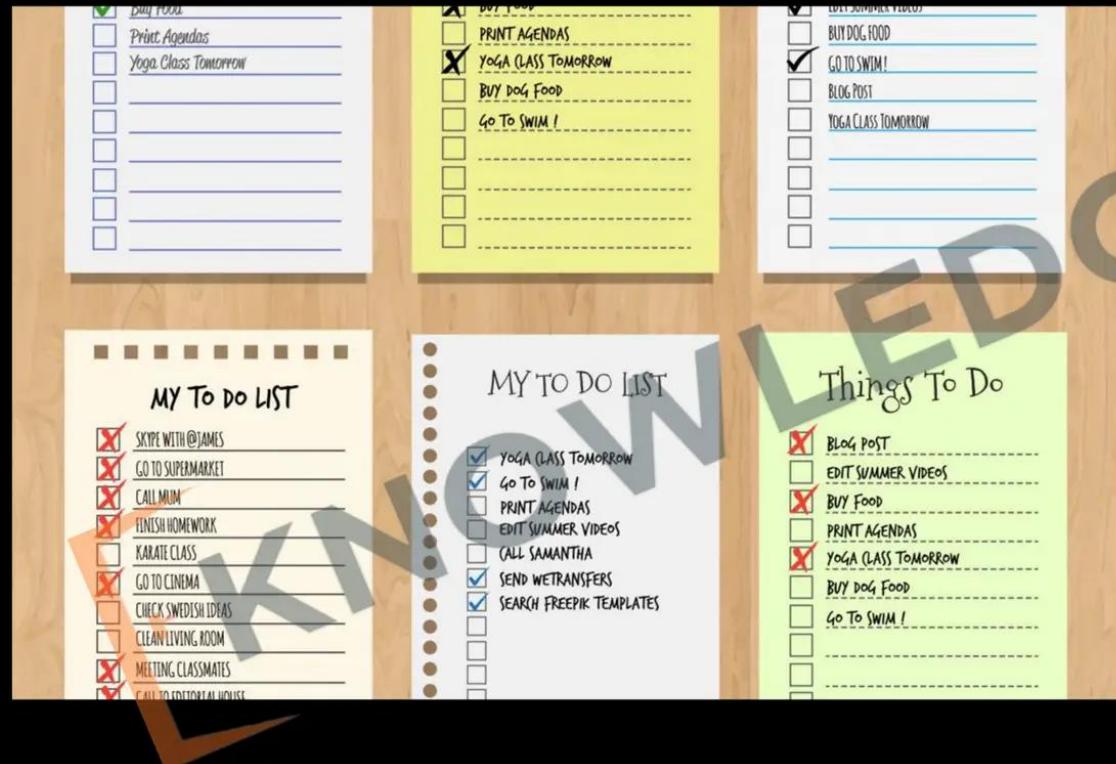
The word "highlighted" is highlighted with a blue background and white text, indicating it is selected or styled by a CSS class.



1. **Purpose:** Used for inline elements to style or manipulate a portion of text.
2. **Non-Semantic:** Doesn't add specific meaning to the enclosed text.
3. **Styling:** Commonly used for changing color, font, or adding effects via CSS.
4. **Inline Nature:** Doesn't break text flow or create a new block-level element.

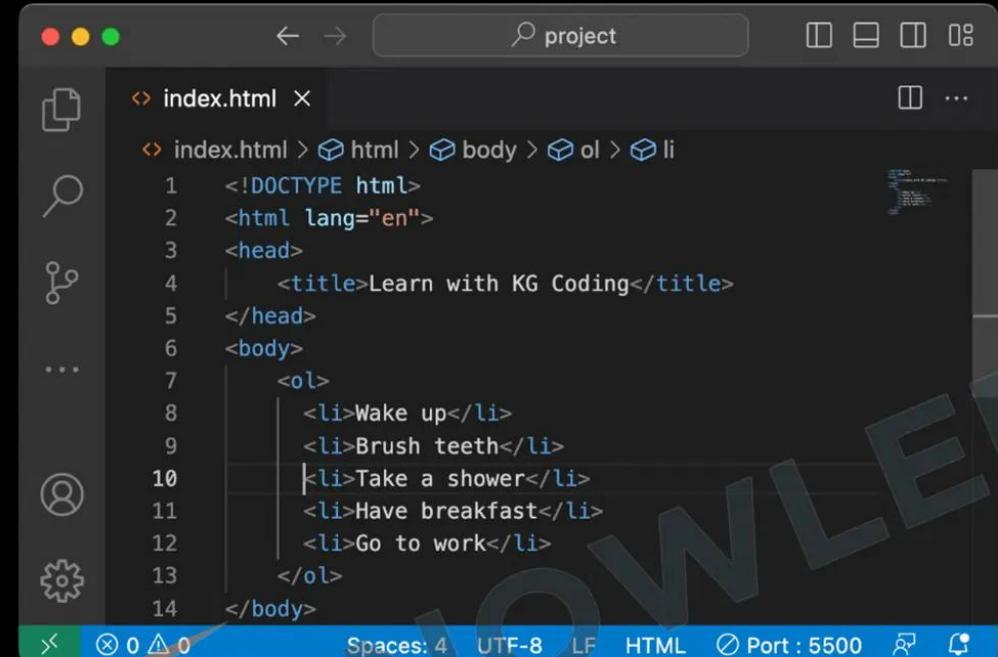
Level 5

List, Tables & Forms



KNOWLEDGE GATE
1. List Tag

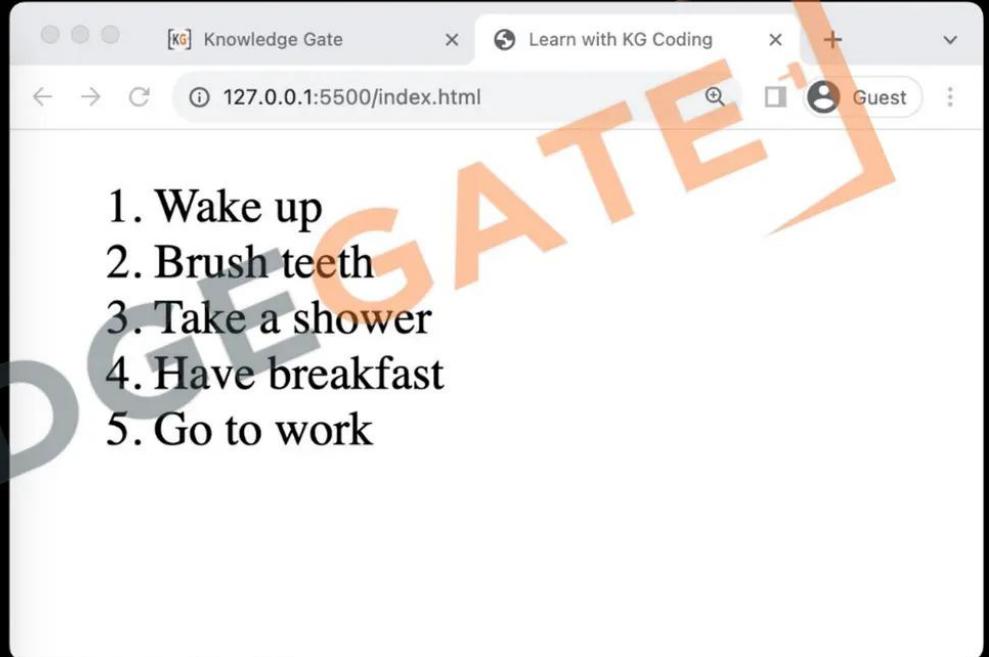
1.1 Ordered Lists



A screenshot of a code editor window titled "index.html". The code displays an ordered list:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <ol>
        <li>Wake up</li>
        <li>Brush teeth</li>
        <li>Take a shower</li>
        <li>Have breakfast</li>
        <li>Go to work</li>
    </ol>
</body>
```

The editor interface includes a sidebar with icons for file operations, a search bar, and a bottom status bar showing "Spaces: 4", "UTF-8", "LF", "HTML", "Port : 5500", and a refresh icon.



1. Purpose: Used for creating lists with items that have a specific order.
2. Default: Items are automatically numbered.
3. Nesting: Can be nested within other lists.

1.2 Types of Ordered Lists

Ordered Lists

- **Numeric:** Default type, (1, 2, 3, ...)
Attribute: `type="1"`
- **Uppercase Letters:** (A, B, C, ...)
Attribute: `type="A"`
- **Lowercase Letters:** (a, b, c, ...)
Attribute: `type="a"`
- **Uppercase Roman:** (I, II, III, ...)
Attribute: `type="I"`
- **Lowercase Roman:** (i, ii, iii, ...)
Attribute: `type="i"`

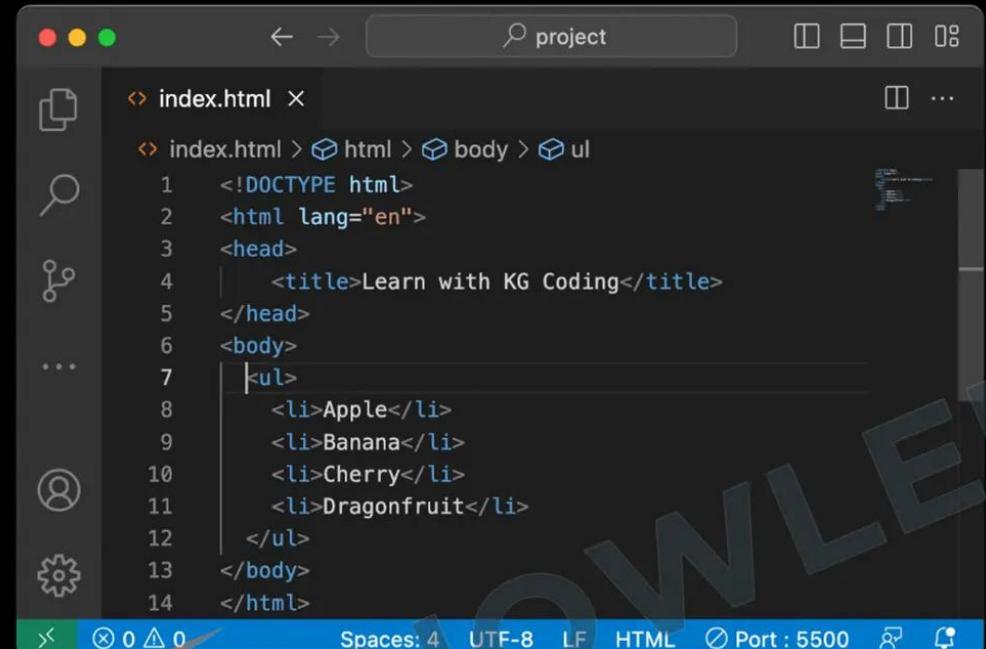
A. Apple
B. Banana
C. Cherry
D. Dragonfruit

a. Apple
b. Banana
c. Cherry
d. Dragonfruit

I. Apple
II. Banana
III. Cherry
IV. Dragonfruit

i. Apple
ii. Banana
iii. Cherry
iv. Dragonfruit

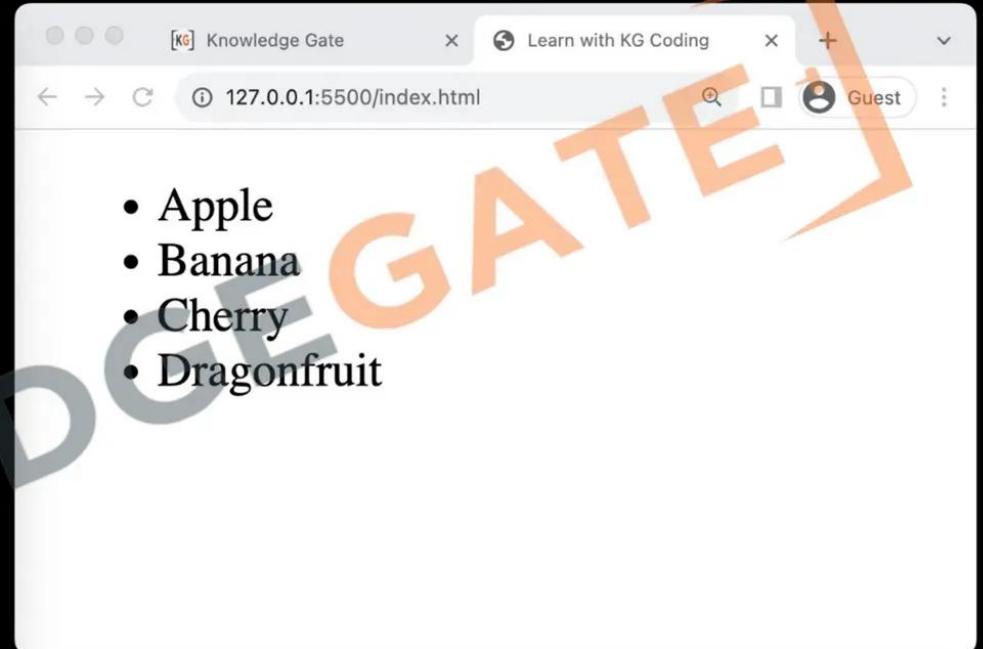
1.3 Unordered Lists



A screenshot of a code editor window titled "index.html". The code displays an HTML document structure with a title and an unordered list of fruit items:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <ul>
        <li>Apple</li>
        <li>Banana</li>
        <li>Cherry</li>
        <li>Dragonfruit</li>
    </ul>
</body>
</html>
```

The editor interface includes a sidebar with icons for file operations, a search bar, and a status bar at the bottom indicating "Spaces: 4", "UTF-8", "LF", "HTML", and "Port : 5500".



1. **Purpose:** Used for lists where the order of items doesn't matter.
2. **Default:** Items are usually bulleted.
3. **Nesting:** Can be nested within other lists.

Level 5

List, Tables & Forms



EDGE 2 GATE 1
Table
Tag

2.1 <tr>, <td>, <th> Tags

The image shows a code editor on the left and a browser window on the right. The code editor displays the file 'index.html' with the following content:

```
<!DOCTYPE html>
<html>
  <head>
    <title>Learn with KG Coding</title>
  </head>
  <body>
    <table border="1">
      <tr>
        <th>Name</th>
        <th>Age</th>
        <th>Email</th>
      </tr>
      <tr>
        <td>John</td>
        <td>30</td>
        <td>john@email.com</td>
      </tr>
    </table>
  </body>
</html>
```

The browser window shows the rendered HTML as a table with three columns: Name, Age, and Email. The data rows contain John (30, john@email.com) and Jane (25, jane@email.com).

1. **<tr> Table Row** : Used to define a row in an HTML table.
2. **<th> Table Header** : Used for header cells within a row.
Text is bold and centered by default.
3. **<td> Table Data** : This Holds the actual data.

2.2 Captions

The image shows a code editor on the left and a browser window on the right. The code editor displays the following HTML code:

```
<!DOCTYPE html>
<html>
  <head>
    <title>Learn with KG Coding</title>
  </head>
  <body>
    <table border="1">
      <caption>Student Information</caption>
      <tr>
        <th>Name</th>
        <th>Age</th>
        <th>Email</th>
      </tr>
      <tr>
        <td>John</td>
        <td>30</td>
        <td>john@email.com</td>
      </tr>
    </table>
  </body>
</html>
```

The browser window shows the rendered HTML with the title "Student Information" centered above a table. The table has three columns: Name, Age, and Email. It contains two rows of data: John (30, john@email.com) and Jane (25, jane@email.com).

1. **Purpose:** Provides a title or description for a table.
2. **Placement:** Must be inserted **immediately after** the `<table>` opening tag.
3. **Alignment:** **Centered** above the table by default.
4. **Accessibility:** Helps screen readers understand the table's purpose.

2.3 Col Spans

The image shows a code editor on the left and a browser window on the right. The code editor displays the following HTML code:

```
<th>Email</th>
<tr>
<tr>
    <td>John</td>
    <td>30</td>
    <td>john@email.com</td>
</tr>
<tr>
    <td colspan="3">This cell spans 3 columns</td>
</tr>
</table>
</body>
</html>
```

The browser window shows a table with three columns: Name, Age, and Email. It contains two rows of data: John, 30, and john@email.com. Below the table, a single row spans all three columns with the text "This cell spans 3 columns".

1. **Attribute:** Uses the `colspan` attribute in `<td>` or `<th>` tags.
2. **Purpose:** Allows a cell to **span multiple columns horizontally**.
3. **Alignment:** Takes the space of the **specified number of columns**.
4. **Layout:** Useful for combining cells to create complex table layouts.

Level 5

List, Tables & Forms



KNOWLEDGE GATE 3. Forms

3.1 Input Tag

The image shows a code editor on the left and a browser window on the right. The code editor displays the following HTML code:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <form>
        Text: <input type="text" placeholder="Enter Text"><br>
        Password: <input type="password"><br>
    </form>
</body>
</html>
```

The browser window shows the rendered HTML with two input fields. The first input field is a text input with the placeholder "Enter Text" containing the value "Hello". The second input field is a password input containing the value ".....". A large, semi-transparent watermark reading "KNOWLEDGE GATE" is overlaid across both screens.

1. **Purpose:** Used within a `<form>` element to collect user input.
2. **Self-Closing:** The `<input>` tag is self-closing; doesn't require a closing tag.
3. **Attributes:** Common attributes are `name`, `value`, `placeholder`, and `required`.

3.2 Action attribute

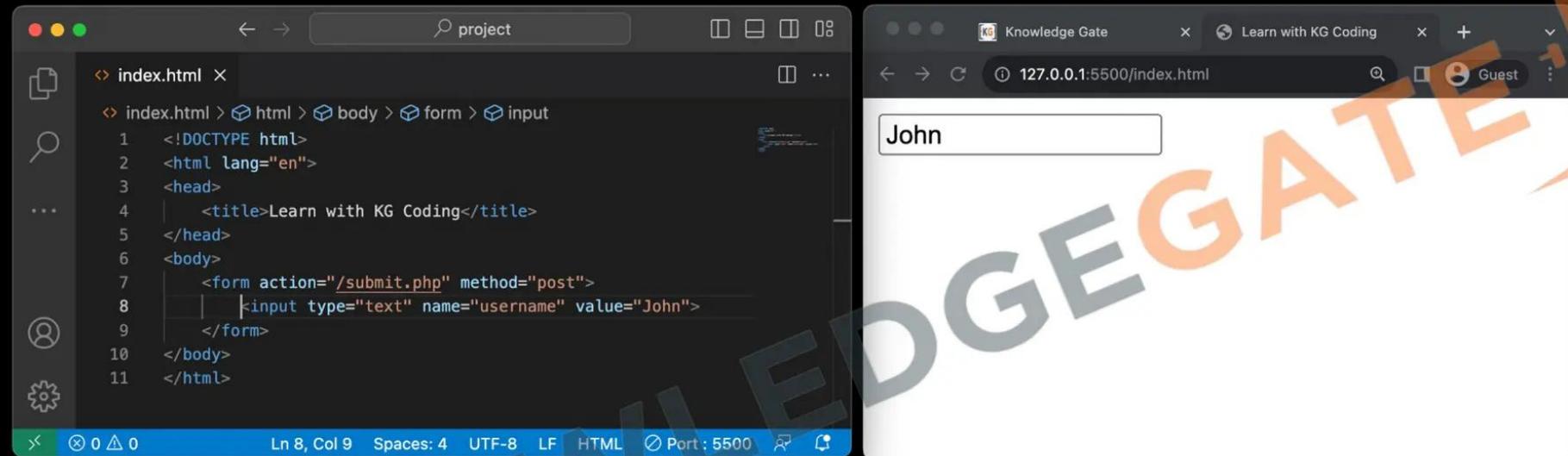
The image shows a code editor on the left and a browser window on the right. The code editor displays the file 'index.html' with the following content:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <form action="/submit.php" method="post">
        <input type="text" name="name">
        <input type="submit" value="Submit">
    </form>
</body>
</html>
```

The browser window shows the rendered HTML with a text input field and a submit button labeled 'Submit'. A large, semi-transparent watermark reading 'KNOWLEDGE GATE' is overlaid across both screens.

1. **Purpose:** Specifies the URL to which the form data should be sent when submitted.
2. **Default:** If not specified, the form will be submitted to the **current page's URL**.
3. **Server-Side:** Usually points to a server-side script (like **PHP**, **Python**, etc.) that processes the form data.

3.3 Name and Value property



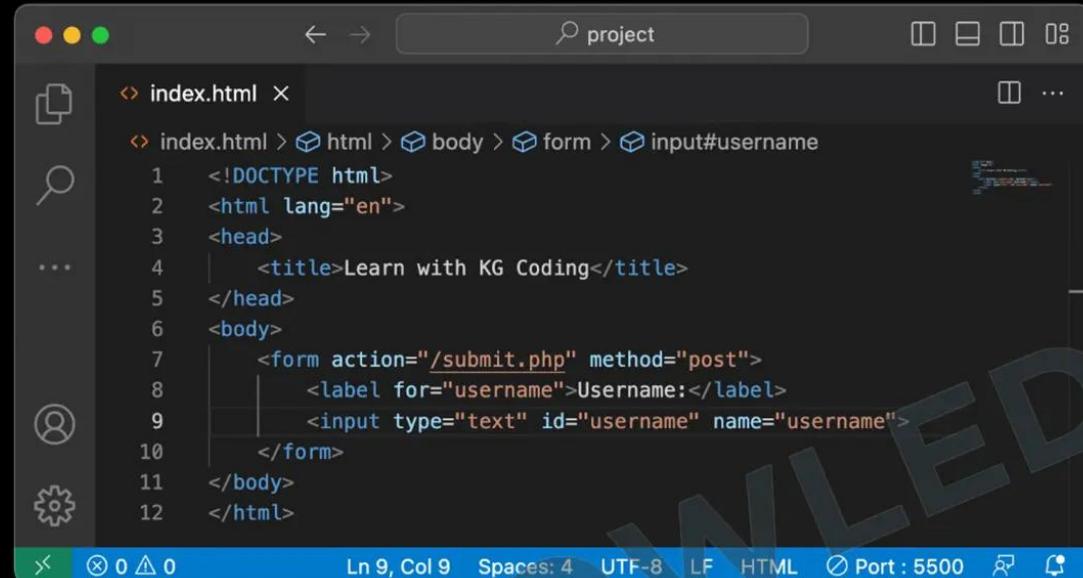
The image shows a code editor window on the left and a browser window on the right. The code editor displays the file 'index.html' with the following content:

```
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4  |   <title>Learn with KG Coding</title>
5  </head>
6  <body>
7  |   <form action="/submit.php" method="post">
8  |   |   <input type="text" name="username" value="John">
9  |   </form>
10 </body>
11 </html>
```

The browser window shows the URL '127.0.0.1:5500/index.html' and displays a single text input field containing the value 'John'. A large, semi-transparent watermark reading 'KNOWLEDGE GATE' is overlaid across both windows.

- `name` Property:
 - ID for Data: Identifies form elements when submitting.
 - Unique: Should be unique to each element for clarity.
- `value` Property:
 - Default Data: Sets initial value for input elements.
 - Sent to Server: This is the data sent when form is submitted.

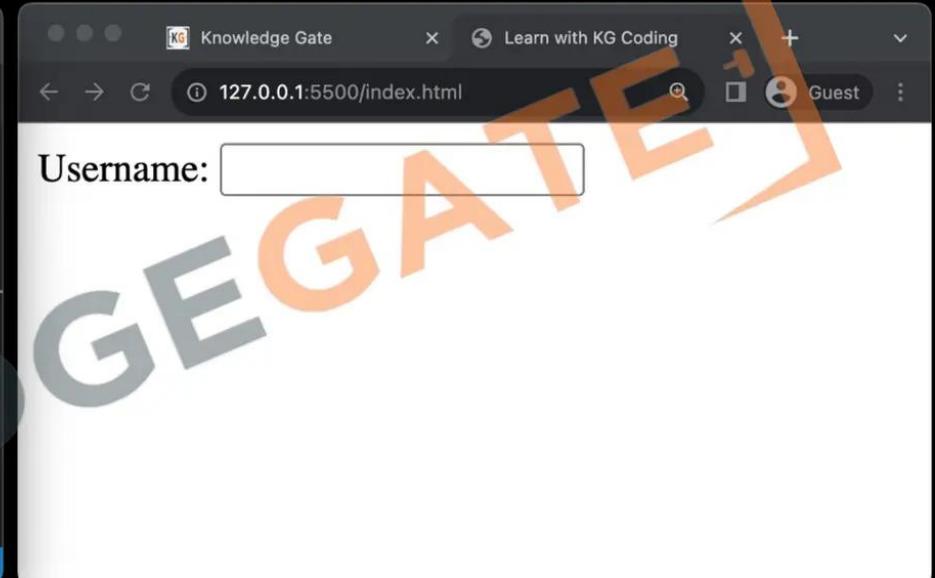
3.4 Label Tag



A screenshot of a code editor window titled "project". The file "index.html" is open, displaying the following HTML code:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <form action="/submit.php" method="post">
        <label for="username">Username:</label>
        <input type="text" id="username" name="username">
    </form>
</body>
</html>
```

The code editor interface includes a sidebar with icons for file, search, and more, and a bottom status bar showing "Ln 9, Col 9" and "Port : 5500".



- **Purpose:** Adds a text description to form elements.
- **for Attribute:** Connects the label to a specific **form element** using the element's id.
- **Accessibility:** Makes the form more accessible.
- **Readability:** Enhances form readability and usability.

3.5 Input type: Date

The image shows a code editor on the left and a web browser on the right. The code editor displays the file `index.html` with the following content:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <form>
        Text: <input type="text" placeholder="Enter Text"><br>
        Password: <input type="password"><br>
        Date: <input type="date"><br>
    </form>
</body>
</html>
```

The browser window shows the rendered HTML. It has three input fields:

- A text input field labeled "Text:" containing "hello".
- A password input field labeled "Password:" containing ".....".
- A date input field labeled "Date:" containing "16/08/2023".

A large watermark reading "KNOWLEDGE GATE" is diagonally across the center of the image.

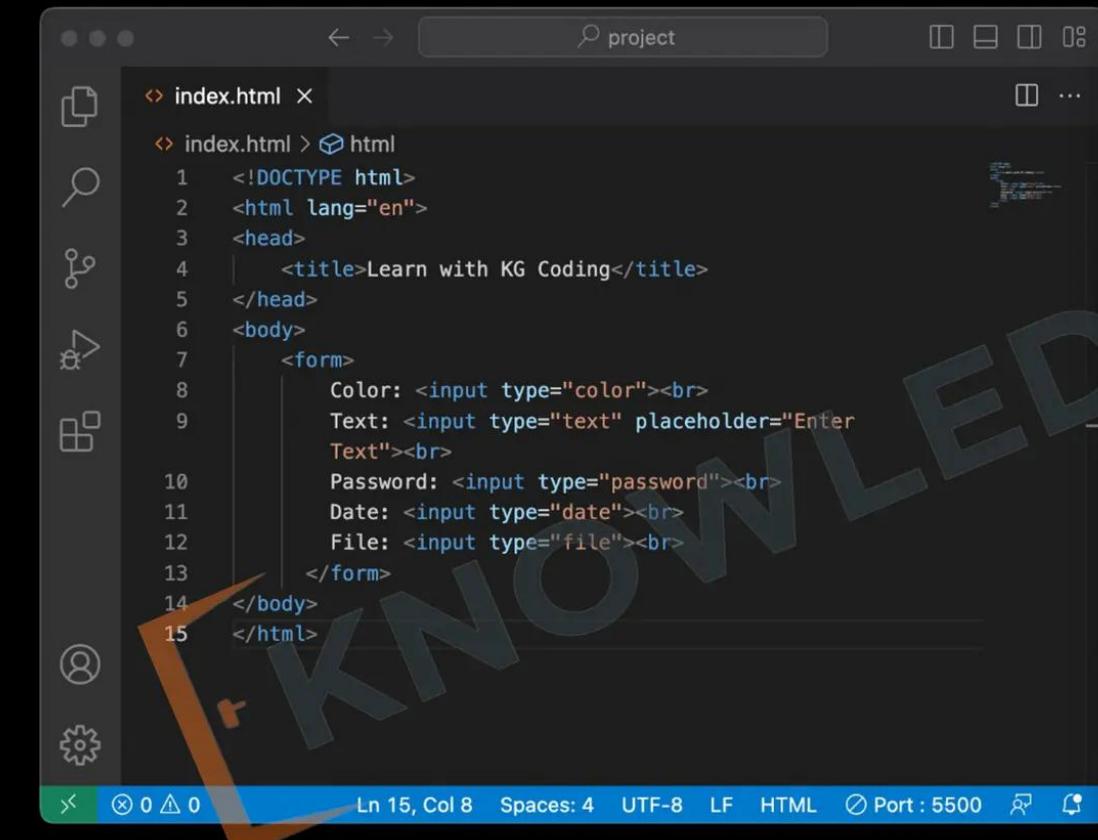
3.5 Input type: File

The image shows a code editor on the left and a web browser on the right. The code editor displays the file `index.html` with the following content:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <form>
        Text: <input type="text" placeholder="Enter Text"><br>
        Password: <input type="password"><br>
        Date: <input type="date"><br>
        File: <input type="file"><br>
    </form>
</body>
</html>
```

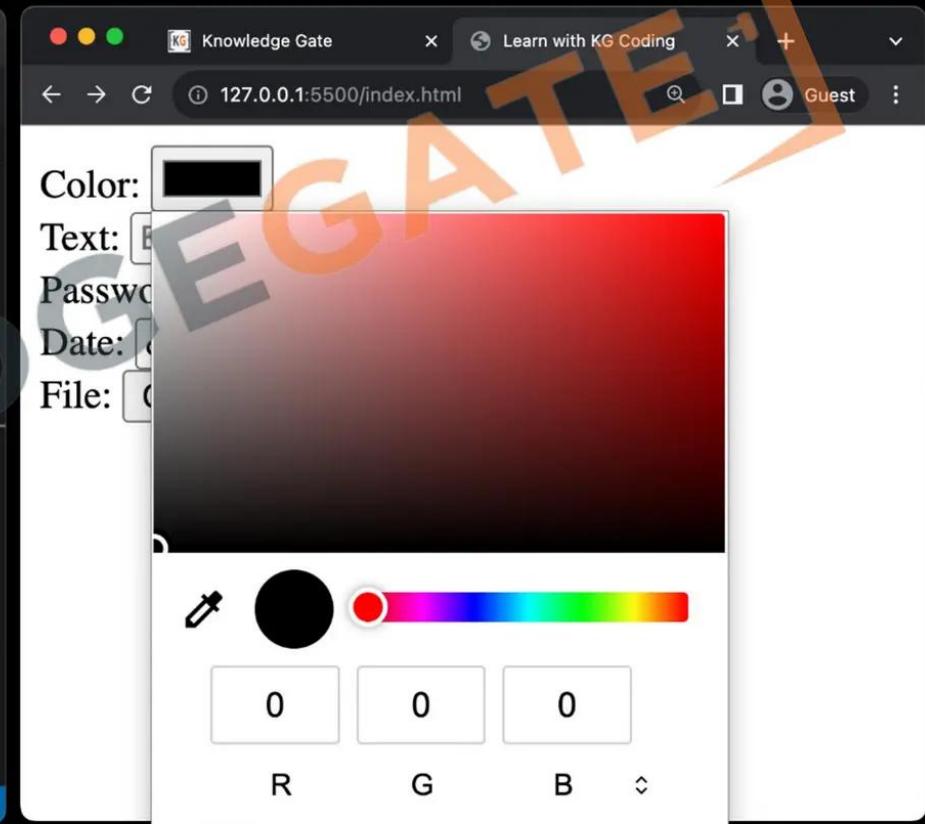
The browser window shows the rendered HTML with four input fields: a text input, a password input, a date input, and a file input. The file input field has the placeholder "Choose file No file chosen".

3.5 Input type: Color

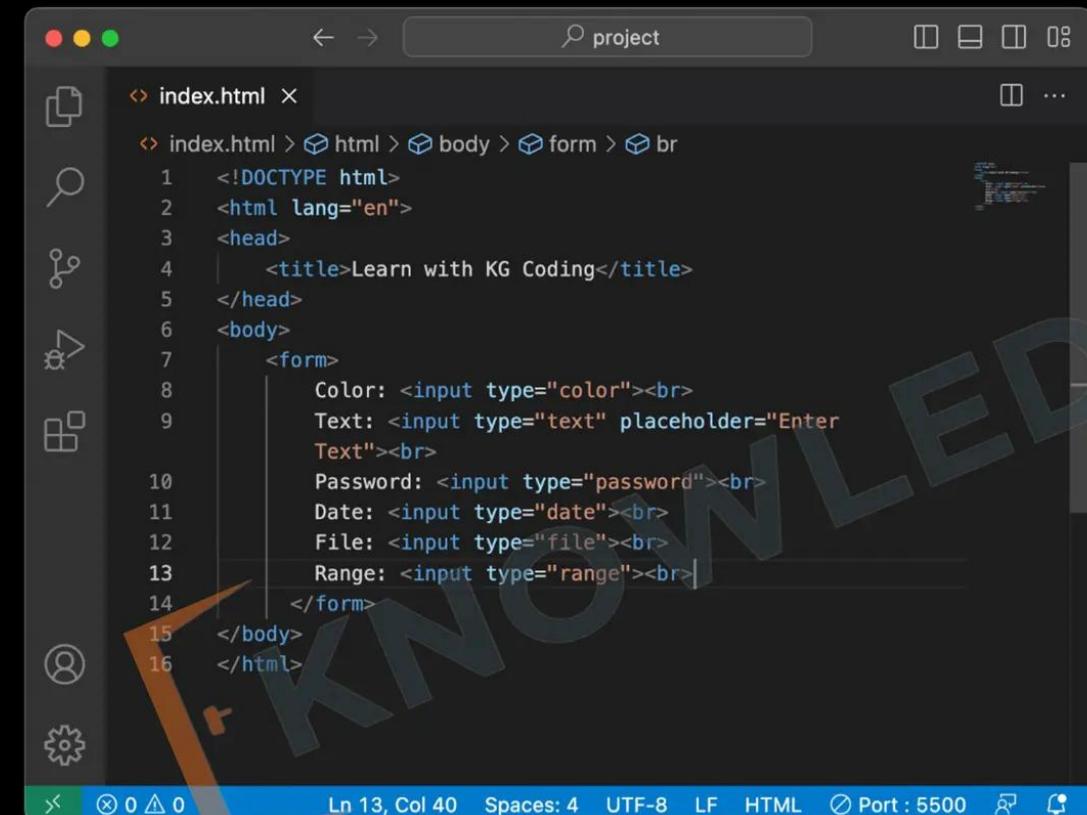


```
project
index.html X
index.html > html
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <title>Learn with KG Coding</title>
5  </head>
6  <body>
7      <form>
8          Color: <input type="color"><br>
9          Text: <input type="text" placeholder="Enter Text"><br>
10         Password: <input type="password"><br>
11         Date: <input type="date"><br>
12         File: <input type="file"><br>
13     </form>
14  </body>
15  </html>
```

Ln 15, Col 8 Spaces: 4 UTF-8 LF HTML Port : 5500



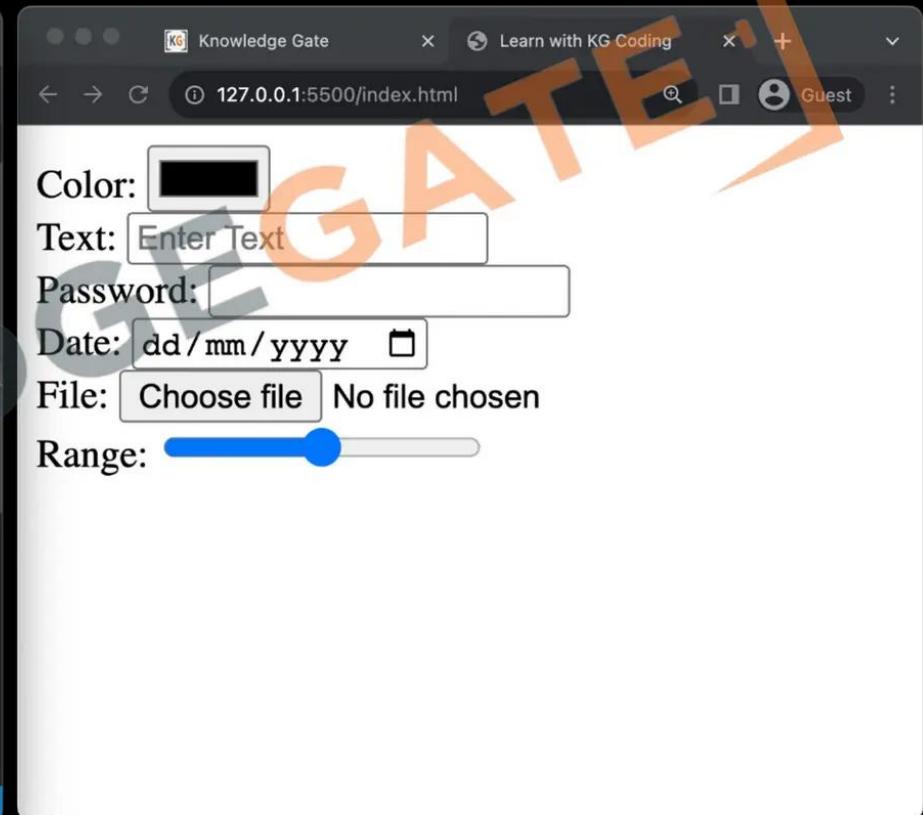
3.5 Input type: Range



A screenshot of a code editor window titled "project". The file "index.html" is open, displaying the following HTML code:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <form>
        Color: <input type="color"><br>
        Text: <input type="text" placeholder="Enter Text"><br>
        Password: <input type="password"><br>
        Date: <input type="date"><br>
        File: <input type="file"><br>
        Range: <input type="range"><br>
    </form>
</body>
</html>
```

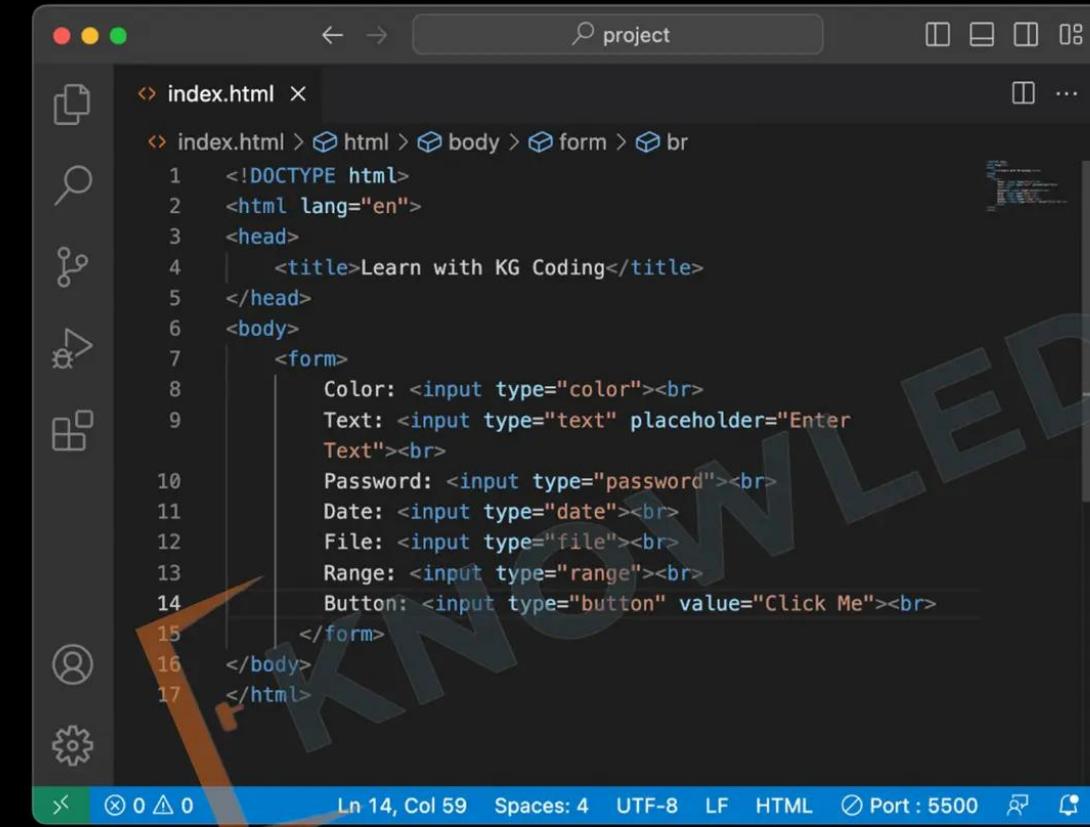
The code editor has a dark theme with light-colored syntax highlighting. The status bar at the bottom shows "Ln 13, Col 40" and "Port : 5500".



A screenshot of a web browser window titled "Knowledge Gate". The URL is "127.0.0.1:5500/index.html". The page displays a form with the following fields:

- Color: A color picker input.
- Text: An input field with placeholder text "Enter Text".
- Password: An input field for a password.
- Date: An input field for a date in "dd/mm/yyyy" format.
- File: An input field for a file, showing "Choose file" and "No file chosen".
- Range: An input field of type "range" with a blue slider and a horizontal track.

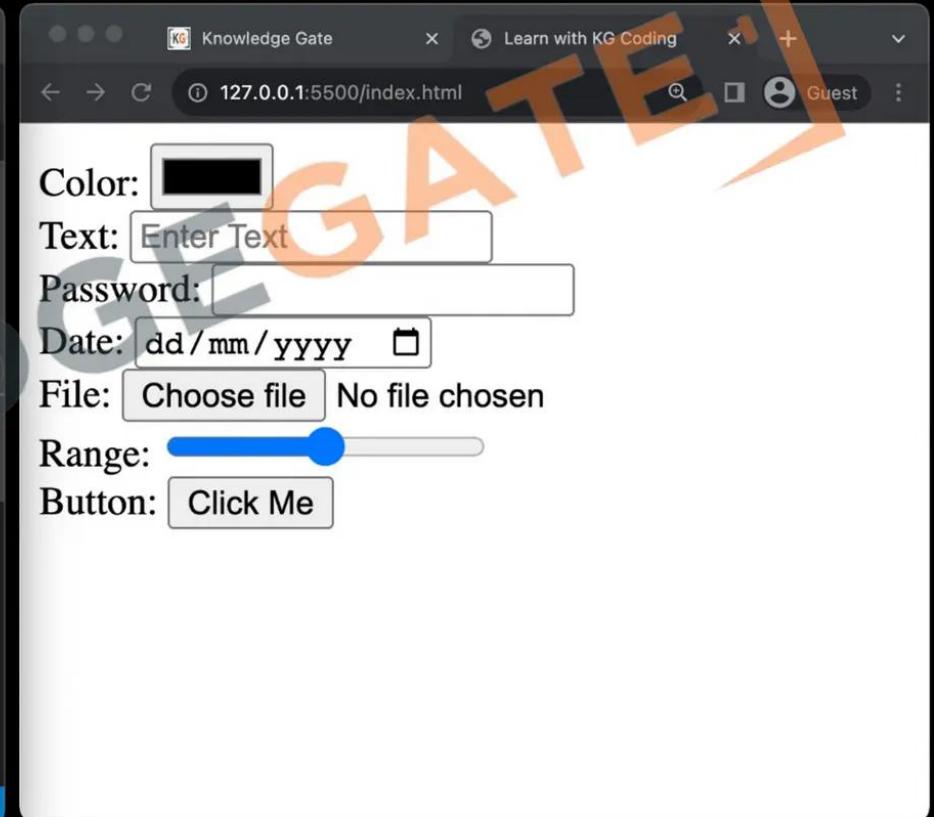
3.5 Input type: Button



A screenshot of a code editor window titled "project". The file "index.html" is open, showing the following HTML code:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <form>
        Color: <input type="color"><br>
        Text: <input type="text" placeholder="Enter Text"><br>
        Password: <input type="password"><br>
        Date: <input type="date"><br>
        File: <input type="file"><br>
        Range: <input type="range"><br>
        Button: <input type="button" value="Click Me"><br>
    </form>
</body>
</html>
```

The code editor interface includes a sidebar with icons for file, search, and other project management functions. The status bar at the bottom shows "Ln 14, Col 59" and "Port: 5500".

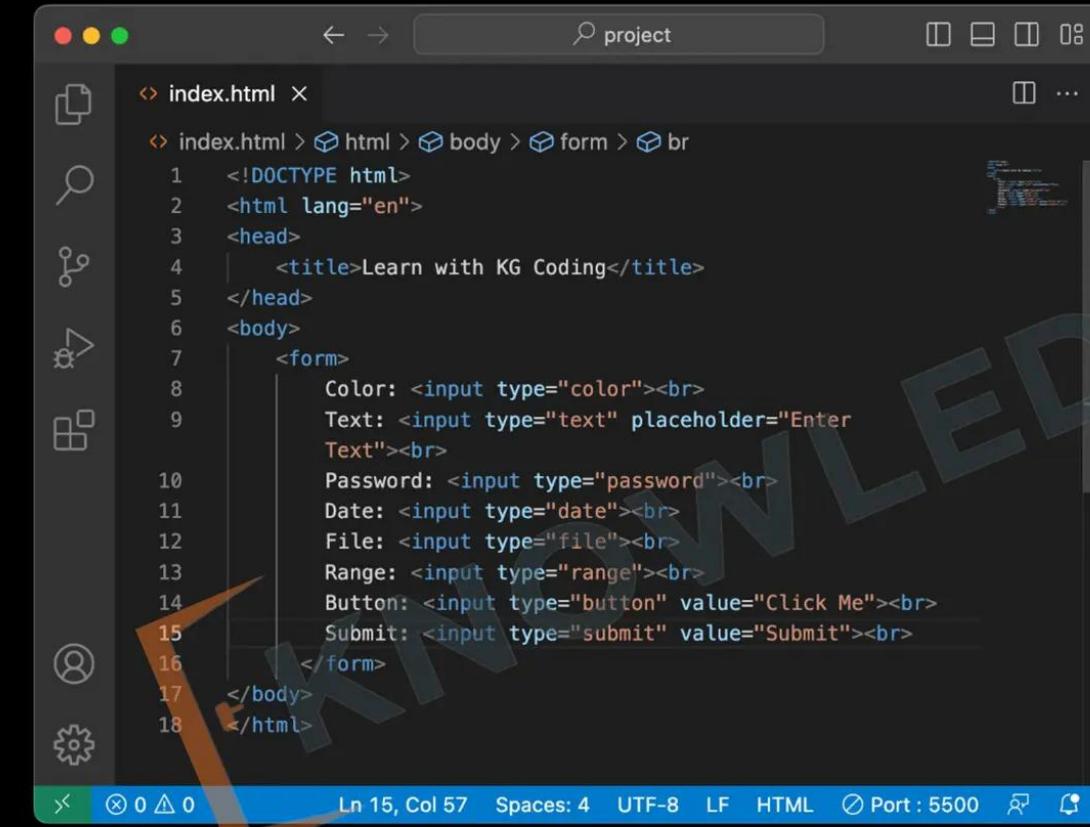


A screenshot of a web browser window titled "Knowledge Gate". The URL is "127.0.0.1:5500/index.html". The page displays a form with the following fields:

- Color:
- Text:
- Password:
- Date: dd/mm/yyyy
- File: Choose file No file chosen
- Range:
- Button:

The browser interface includes standard navigation buttons and a status bar at the bottom.

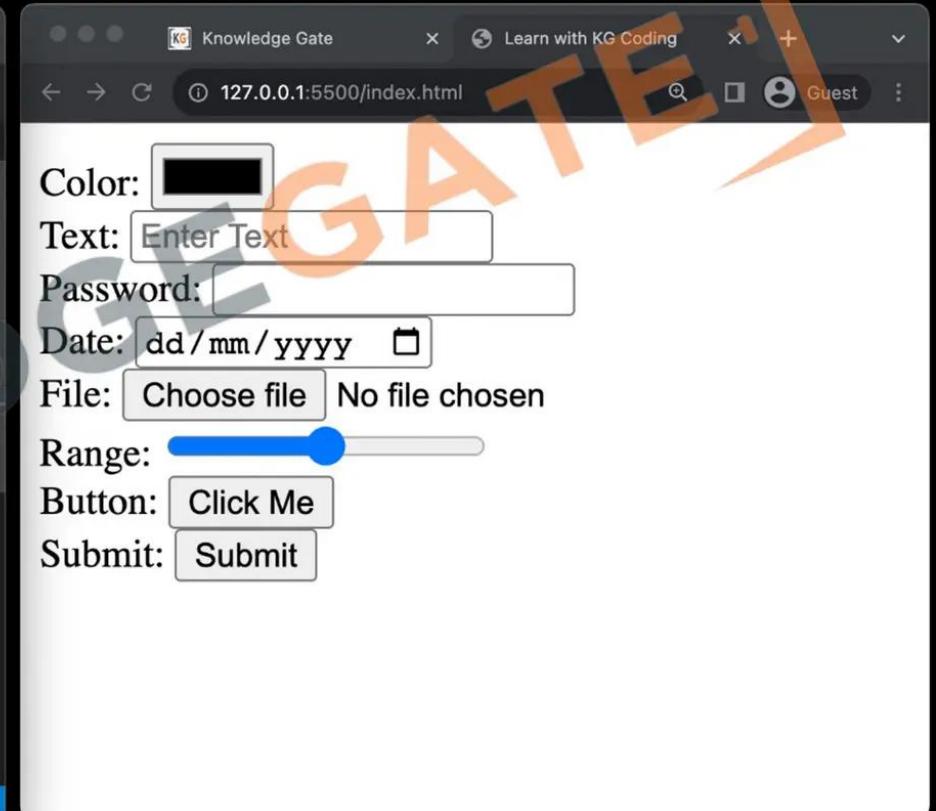
3.5 Input type: Submit



A screenshot of a code editor window titled "project". The file "index.html" is open, displaying the following HTML code:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <form>
        Color: <input type="color"><br>
        Text: <input type="text" placeholder="Enter Text"><br>
        Password: <input type="password"><br>
        Date: <input type="date"><br>
        File: <input type="file"><br>
        Range: <input type="range"><br>
        Button: <input type="button" value="Click Me"><br>
        Submit: <input type="submit" value="Submit"><br>
    </form>
</body>
</html>
```

The code editor has a dark theme with light-colored syntax highlighting. The status bar at the bottom shows "Ln 15, Col 57" and "Port : 5500".

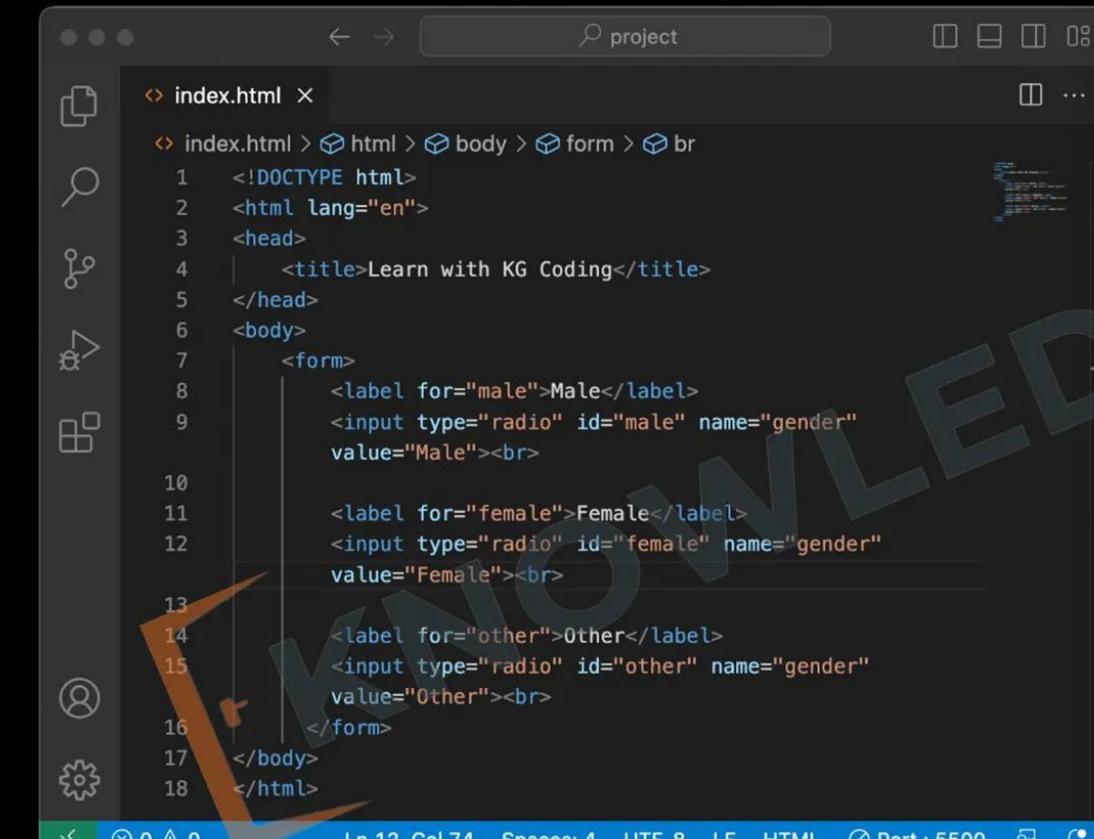


A screenshot of a web browser window titled "Knowledge Gate". The URL is "127.0.0.1:5500/index.html". The page displays a form with the following fields:

- Color:
- Text:
- Password:
- Date: dd/mm/yyyy
- File: Choose file No file chosen
- Range:
- Button:
- Submit:

The browser has a light theme. A large orange watermark reading "KNOWLEDGE GATE" is overlaid across the entire image.

3.5 Input type: Radio

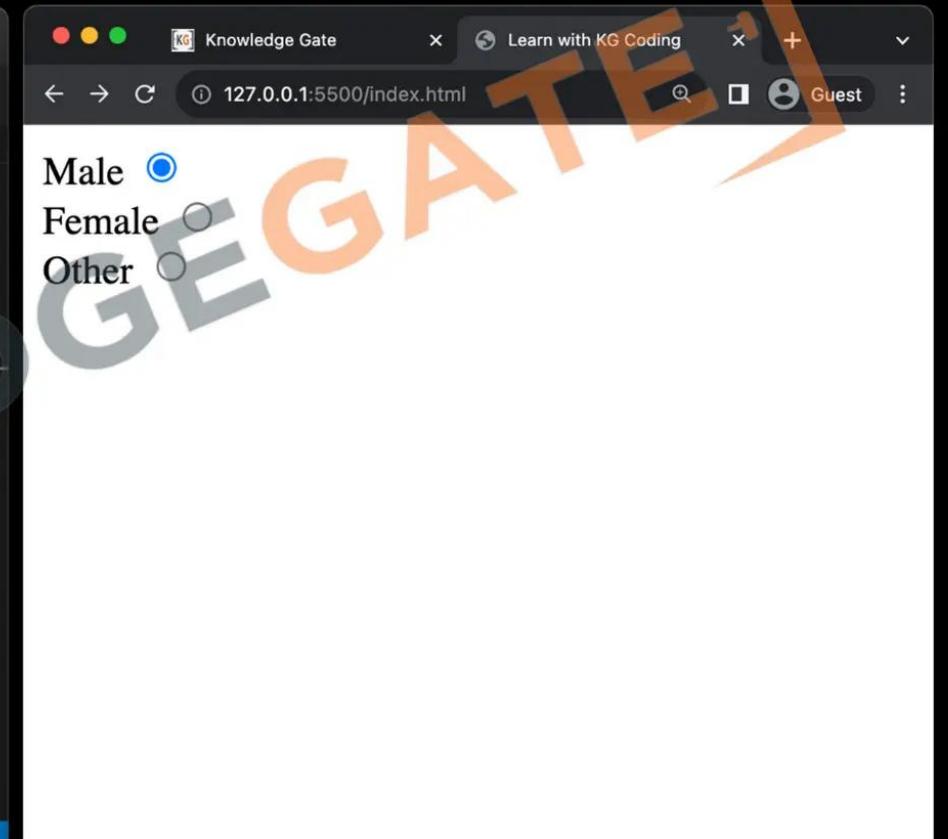


A screenshot of a code editor showing the file `index.html`. The code defines a form with three radio buttons for gender selection:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <form>
        <label for="male">Male</label>
        <input type="radio" id="male" name="gender" value="Male"><br>

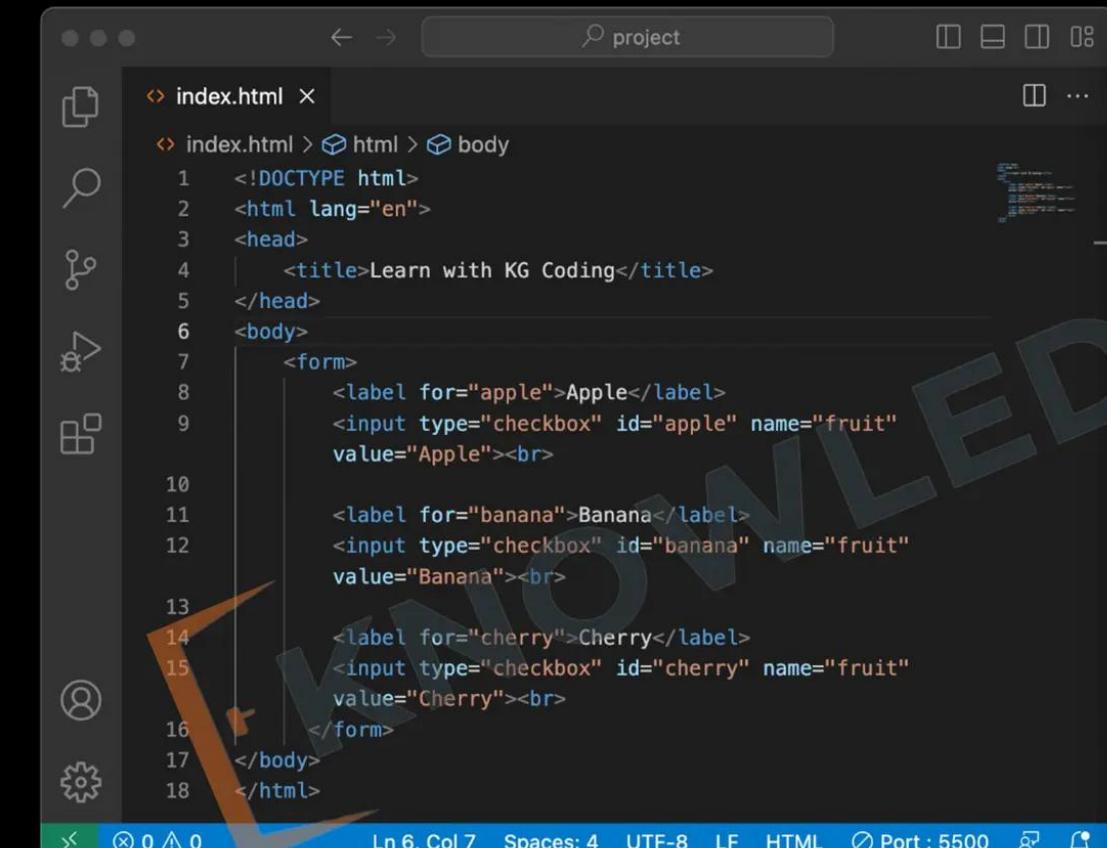
        <label for="female">Female</label>
        <input type="radio" id="female" name="gender" value="Female"><br>

        <label for="other">Other</label>
        <input type="radio" id="other" name="gender" value="Other"><br>
    </form>
</body>
</html>
```



A screenshot of a web browser window titled "Knowledge Gate" showing the URL `127.0.0.1:5500/index.html`. The page displays three radio buttons labeled "Male", "Female", and "Other". The "Male" option is selected, indicated by a blue circle.

3.5 Input type: Checkbox



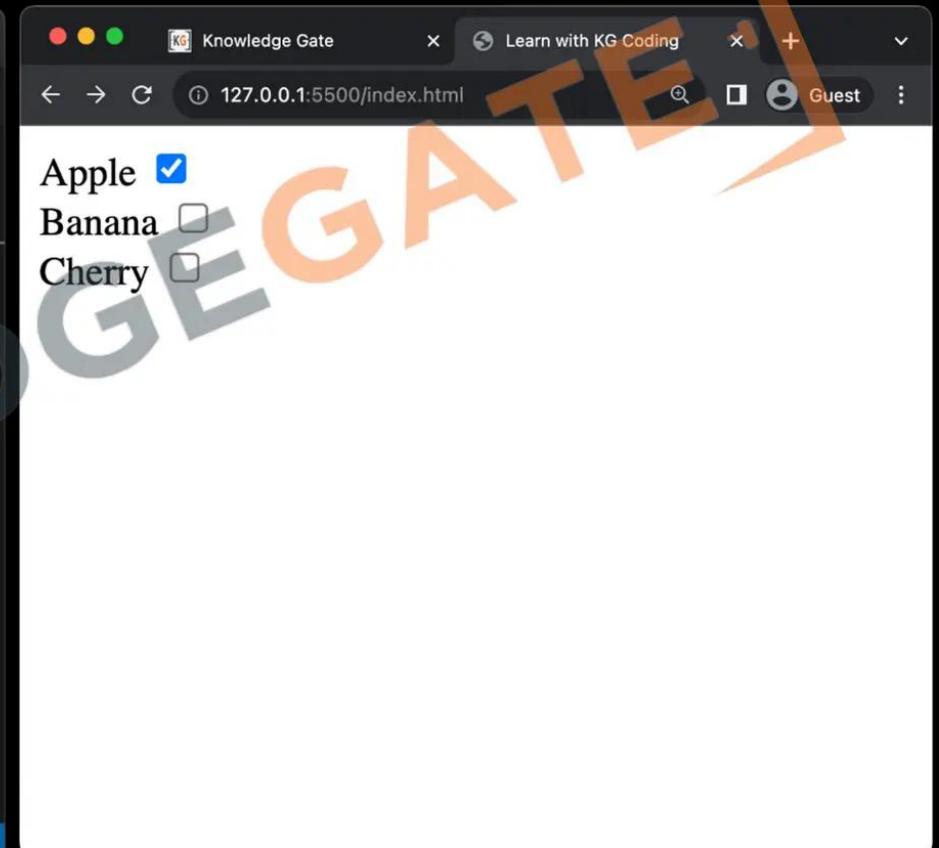
A screenshot of a code editor window titled "project". The file "index.html" is open, displaying the following HTML code:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <form>
        <label for="apple">Apple</label>
        <input type="checkbox" id="apple" name="fruit" value="Apple"><br>

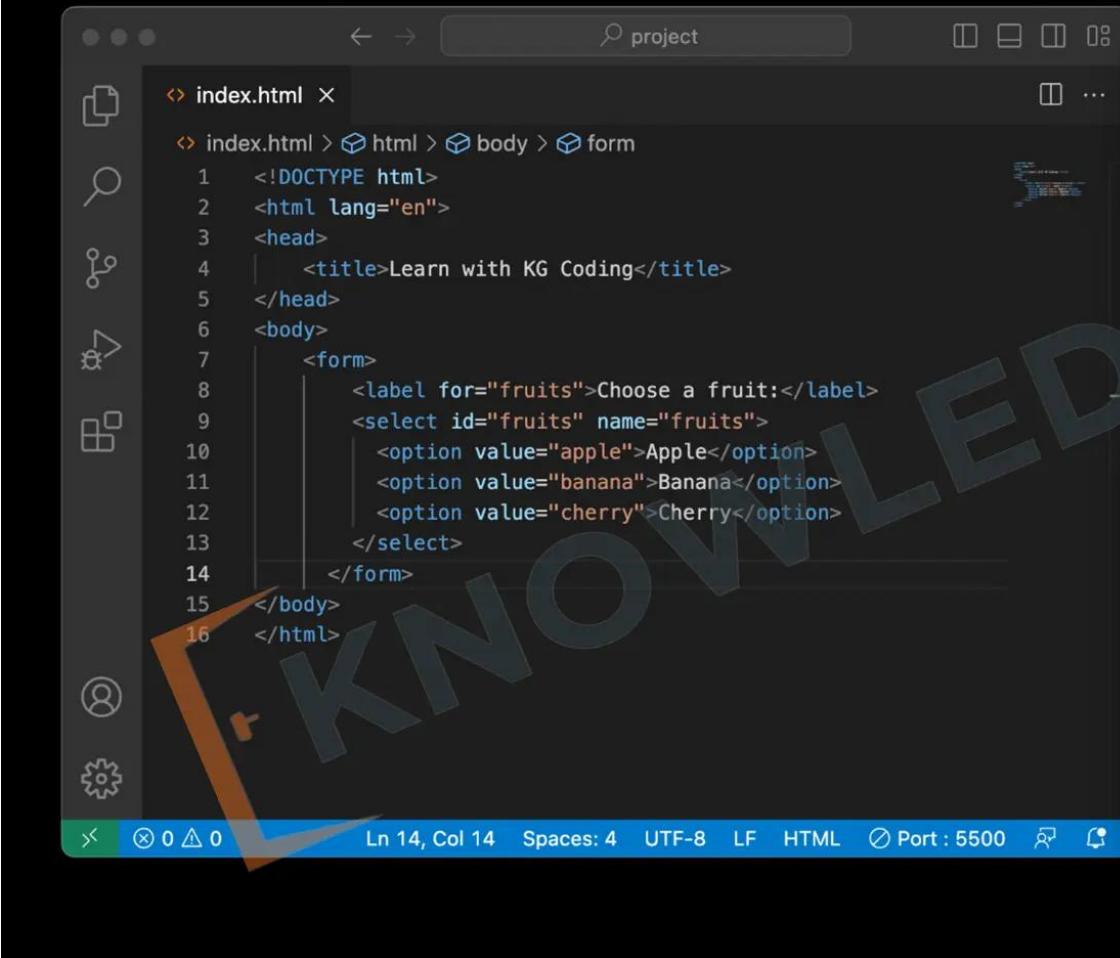
        <label for="banana">Banana</label>
        <input type="checkbox" id="banana" name="fruit" value="Banana"><br>

        <label for="cherry">Cherry</label>
        <input type="checkbox" id="cherry" name="fruit" value="Cherry"><br>
    </form>
</body>
</html>
```

The code editor has a dark theme with light-colored syntax highlighting. A large watermark reading "KNOWLEDGE GATE" is overlaid across the center of the screen.

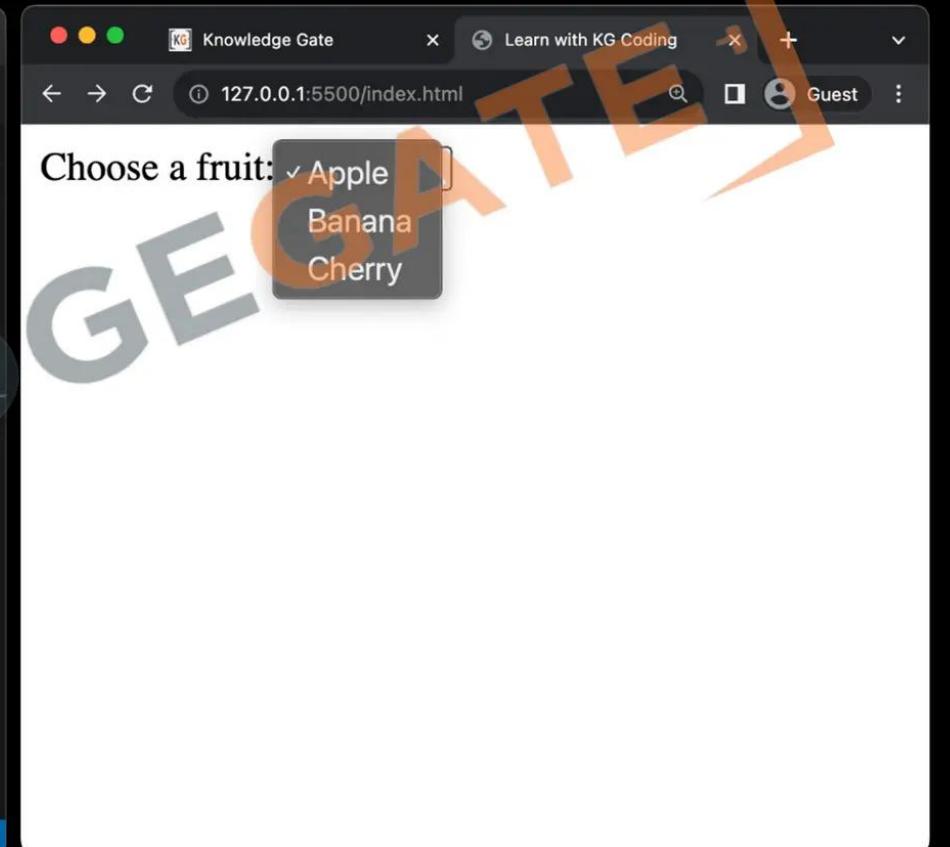


3.5 Input type: Select



A screenshot of a code editor showing the file `index.html`. The code defines a form with a label "Choose a fruit:" and a select dropdown with three options: Apple, Banana, and Cherry. The selected option is Apple.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <form>
        <label for="fruits">Choose a fruit:</label>
        <select id="fruits" name="fruits">
            <option value="apple">Apple</option>
            <option value="banana">Banana</option>
            <option value="cherry">Cherry</option>
        </select>
    </form>
</body>
</html>
```



3.5 Input type: TextArea

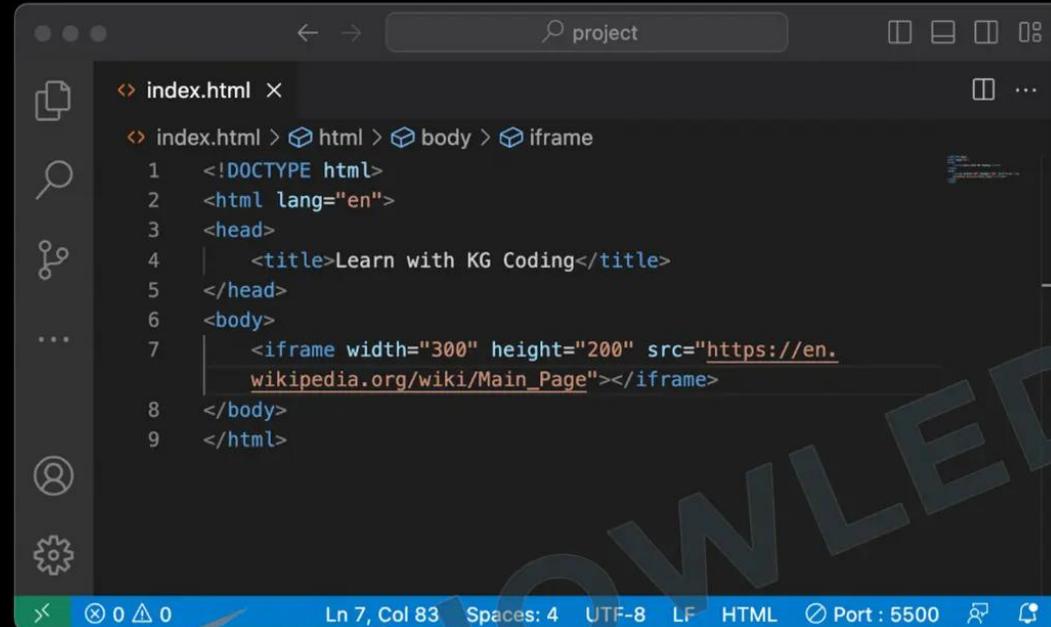
The image shows a code editor on the left and a browser window on the right. The code editor displays the file 'index.html' with the following content:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <textarea rows="4" cols="40">
        Default text here.
    </textarea>
</body>
</html>
```

The browser window shows the rendered HTML with a text area containing the text "Default text here.". A large, semi-transparent watermark reading "KNOWLEDGE GATE" is overlaid across both screens.

1. Purpose: `<textarea>` is used for multi-line text input in forms.
 1. **rows Property:** Specifies the visible number of lines in the textarea.
 2. **cols Property:** Sets the visible width measured in average character widths.
2. Resizable: Some browsers allow users to manually resize the textarea.

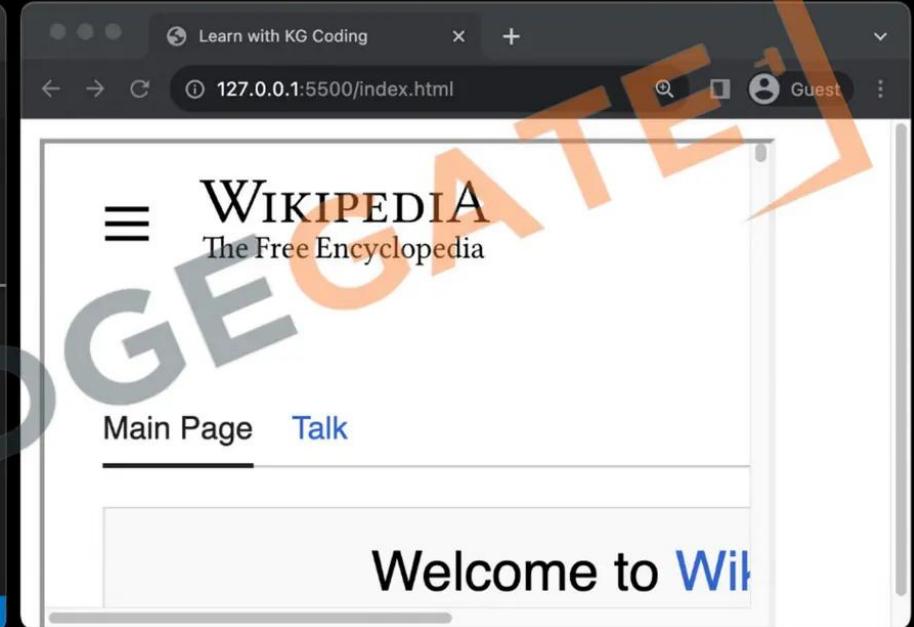
4.1 Using iFrames



A screenshot of a code editor window titled "project". The file "index.html" is open, showing the following code:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Learn with KG Coding</title>
</head>
<body>
    <iframe width="300" height="200" src="https://en.wikipedia.org/wiki/Main_Page"></iframe>
</body>
</html>
```

The status bar at the bottom shows: Ln 7, Col 83, Spaces: 4, UTF-8, LF, HTML, Port : 5500.



1. **Embedded Content:** Allows you to embed another webpage or multimedia content within a webpage.
2. **src Attribute:** Specifies the **URL** of the content to be embedded.
3. **Dimensions:** **Width** and **height** can be set using width and height attributes.