Web Programming Lab
BCSE203E

Assignment – 1-B

Submitted By:

Vyom Khurana

23BDS0081

Submitted To:

Prof. Sathya K

ACTIVITY 4

1)div and span

Code Screenshot –

```
ASS 1B > <> 1_23bds0081.HTML > ⬡ html > ⬡ body > ⬡ span
  1   <!DOCTYPE html>
  2   <html lang="en">
  3   <head>
  4       <meta charset="UTF-8">
  5       <meta name="viewport" content="width=device-width, initial-scale=1.0">
  6       <title>Document</title>
  7   </head>
  8   <body>
  9       <div>
 10           Hello this is a example of div.
 11       </div>
 12       <span>
 13           Hello this is a example for span.|
 14       </span>
 15   </body>
 16   </html>
```
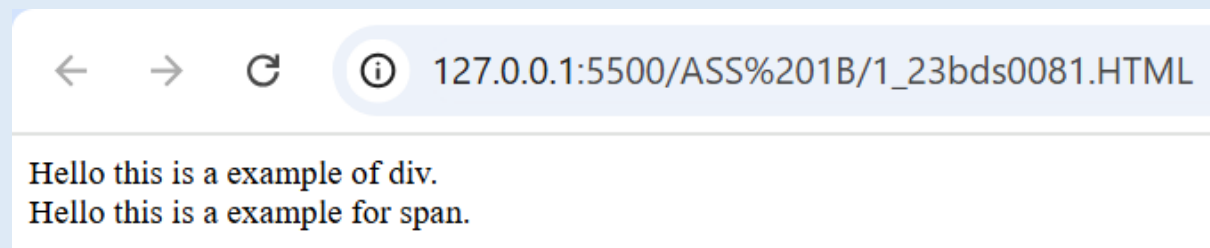
Output screenshot –

```
 ←    →    C      ⓘ  127.0.0.1:5500/ASS%201B/1_23bds0081.HTML

Hello this is a example of div.
Hello this is a example for span.
```

Div – A block-level container element that divides or sections off parts of a document.

Span – An inline container element used to group and style text within a line.

Inference –

Similarities-

DIV	SPAN
Container element to hold content	Container element to hold content
Has no semantic meaning	Has no semantic meaning
Can use global HTML attributes (id, class, etc.)	Can use global HTML attributes (id, class, etc.)
Can be styled with CSS	Can be styled with CSS
Can be nested inside other elements	Can be nested inside other elements
Used for grouping and organizing content	Used for grouping and organizing content

Difference-

DIV	SPAN
Block-level element	Inline element
Creates new line before and after	No automatic line breaks
Takes full width available	Takes only necessary width
Can have vertical margins	Cannot have vertical margins
Used for sectioning layouts and content blocks	Used for styling text portions within content
Starts on new line	Flows with surrounding text
Major structural divisions	Minor text-level semantics
Creates vertical space	No vertical spacing impact

2)Div and Section

Code screenshot –

```
ASS 1B > <> 2_23bds0081.html > ⊘ html > ⊘ body > ⊘ section > ⊘ ul > ⊘ li
 1   <!DOCTYPE html>
 2   <html lang="en">
 3   <head>
 4       <meta charset="UTF-8">
 5       <meta name="viewport" content="width=device-width, initial-scale=1.0">
 6       <title>Document</title>
 7   </head>
 8   <body>
 9       <h1 style="color:█green">
10           Vyom khurana
11       </h1>
12       <div style="background-color:█rgb(223, 109, 87)">
13           <h2>
14               This is heading inside Div tag.
15           </h2>
16           <p>
17               This is paragraph inside Div tag.
18           </p>
19       </div>
20
21       <p style="color:█rgb(0, 157, 255)">
22           This is outside div tag
23       </p>
24
25       <section>
26           <h2>Sections Tag </h2>
27           <ul>
28               <li>Machine learning</li
29               <li>DSA</li>
30               <li>Competitive programming</li>
31               <li>Web-Development</li>
32               <li>Java</li>
33           </ul>
34       </section>
35   </body>
36   </html>
```

Output screenshot –

Vyom khurana

This is heading inside Div tag.

This is paragraph inside Div tag.

This is outside div tag

Sections Tag

- Machine learning
- DSA
- Competitive programming
- Web-Development
- Java

Inference –

Similarities –

DIV	SECTION
Block-level element	Block-level element
Container element to group content	Container element to group content
Can be styled with CSS	Can be styled with CSS
Can use global HTML attributes (id, class, etc.)	Can use global HTML attributes (id, class, etc.)
Can contain other HTML elements	Can contain other HTML elements
Used for structuring webpage layout	Used for structuring webpage layout
Can have multiple elements inside	Can have multiple elements inside

Difference-

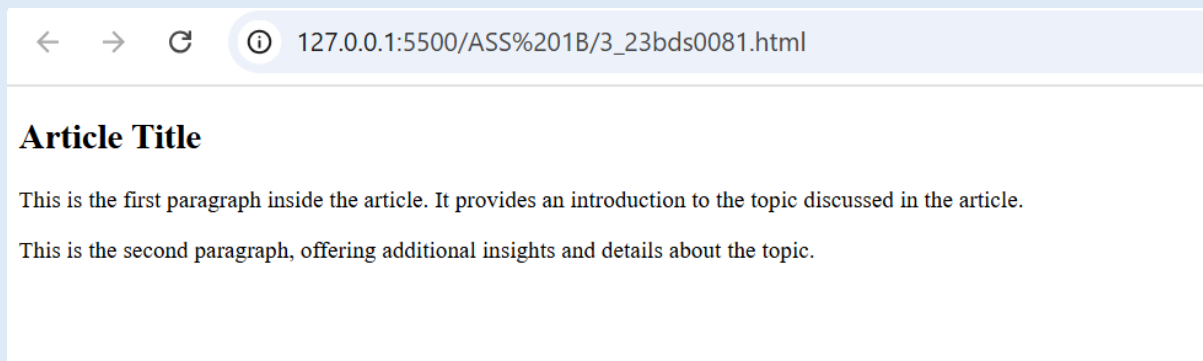| DIV	SECTION
No semantic meaning	Has semantic meaning representing a thematic grouping
Generic container	Represents a standalone section of content
Used for styling/layout purposes	Used for logical grouping of related content
Can be used anywhere for grouping	Should be used only when content needs thematic grouping
Does not require heading element	Typically should contain a heading element
Doesn't appear in document outline	Contributes to document outline structure
More general purpose/flexible usage	More specific semantic purpose
Default styling is minimal	May have default styling in some browsers

3)Paragraph and Article

Code Screenshot –

```
ASS 1B > <> 3_23bds0081.html > @ html > @ body > @ article > @ p
1   <!DOCTYPE html>
2   <html lang="en">
3   <head>
4       <meta charset="UTF-8">
5       <meta name="viewport" content="width=device-width, initial-scale=1.0">
6       <title>Paragraph and Article</title>
7   </head>
8   <body>
9       <article>
10          <h1>Article Title</h1>
11          <p>This is the first paragraph inside the article. It provides an introduction to the topic discussed in the article.</
            p>
12          <p>This is the second paragraph, offering additional insights and details about the topic.</p>
13      </article>
14  </body>
15  </html>
16
```

Output Screenshot-

127.0.0.1:5500/ASS%201B/3_23bds0081.html

Article Title

This is the first paragraph inside the article. It provides an introduction to the topic discussed in the article.

This is the second paragraph, offering additional insights and details about the topic.

Inference –

<p> Tag	<article> Tag	
Definition	Represents a paragraph of text.	Represents a self-contained piece of content.
Purpose	Used for individual blocks of text.	Used for grouping related content or sections.
Semantics	Inline text content only.	Content intended to be standalone or reusable.
Content	Typically contains plain text or inline elements like <b>, <i>, etc.	Can include headings, paragraphs, lists, images, and more.

	<p> Tag	<article> Tag
Structure	Does not act as a container for multiple paragraphs or sections.	Acts as a container for multiple elements and sections.
Usage Context	For short text segments, usually as part of a larger section.	For articles, blog posts, news, or self-contained sections.
Examples	This is a paragraph.	<article> Title Content </article>
Global Attributes	Supports all global attributes (e.g., class, id).	Supports all global attributes.
Accessibility (ARIA)	Not typically used for large content sections.	Indicates standalone or contextually complete content.
SEO Importance	Limited SEO impact as it's for inline text.	Higher SEO importance for structured content.

4) Navigation and Anchor –

Code screenshot –

```
ASS 1B > <> 4_23bds0081.html > html > head > title
  1   <!DOCTYPE html>
  2   <html lang="en">
  3   <head>
  4       <meta charset="UTF-8">
  5       <meta name="viewport" content="width=device-width, initial-scale=1.0">
  6       <title>Navigation and Anchor</title>
  7   </head>
  8   <body>
  9       <nav>
 10           <ul>
 11               <li><a href="#home">Home</a></li>
 12               <li><a href="#about">About</a></li>
 13               <li><a href="#contact">Contact</a></li>
 14           </ul>
 15       </nav>
 16
 17       <h1 id="home">Home Section</h1>
 18       <p>Welcome to the home section of the website.</p>
 19
 20       <h1 id="about">About Section</h1>
 21       <p>Learn more about our website in this section.</p>
 22
 23       <h1 id="contact">Contact Section</h1>
 24       <p>Get in touch with us in the contact section.</p>
 25   </body>
 26   </html>
 27
```
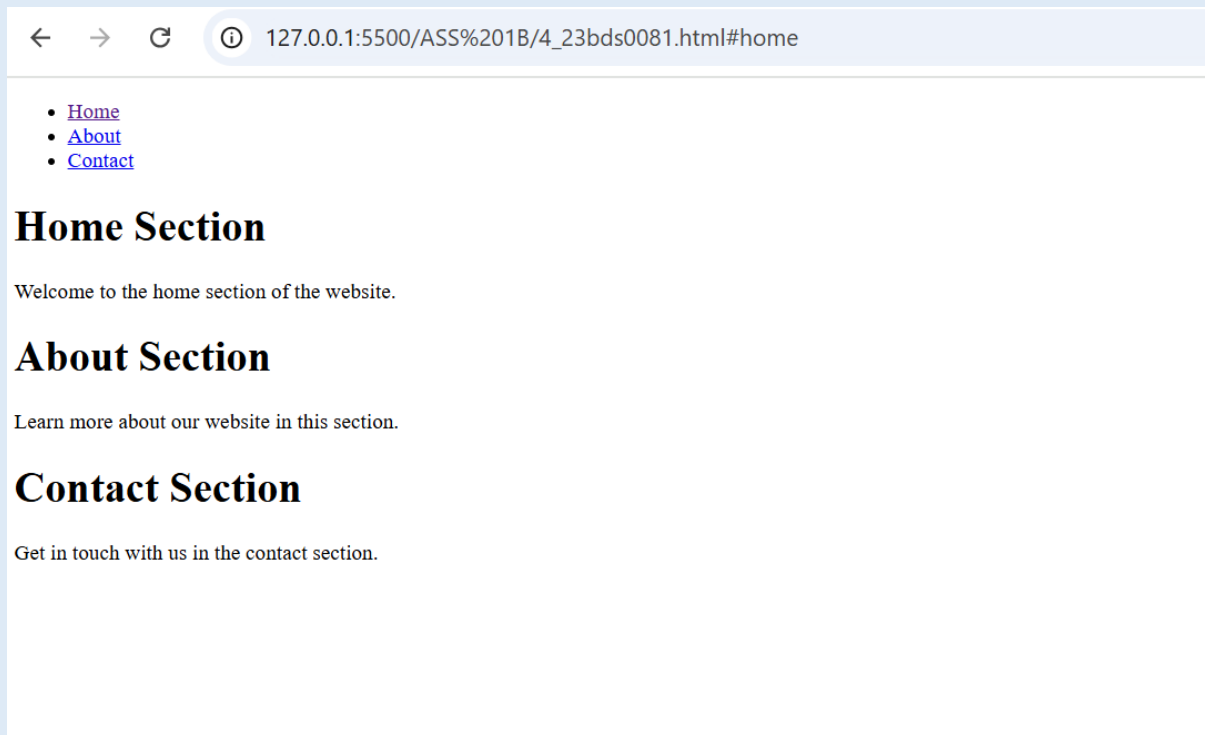
Output screenshot –

- Home
- About
- Contact

Home Section

Welcome to the home section of the website.

About Section

Learn more about our website in this section.

Contact Section

Get in touch with us in the contact section.

Inference –

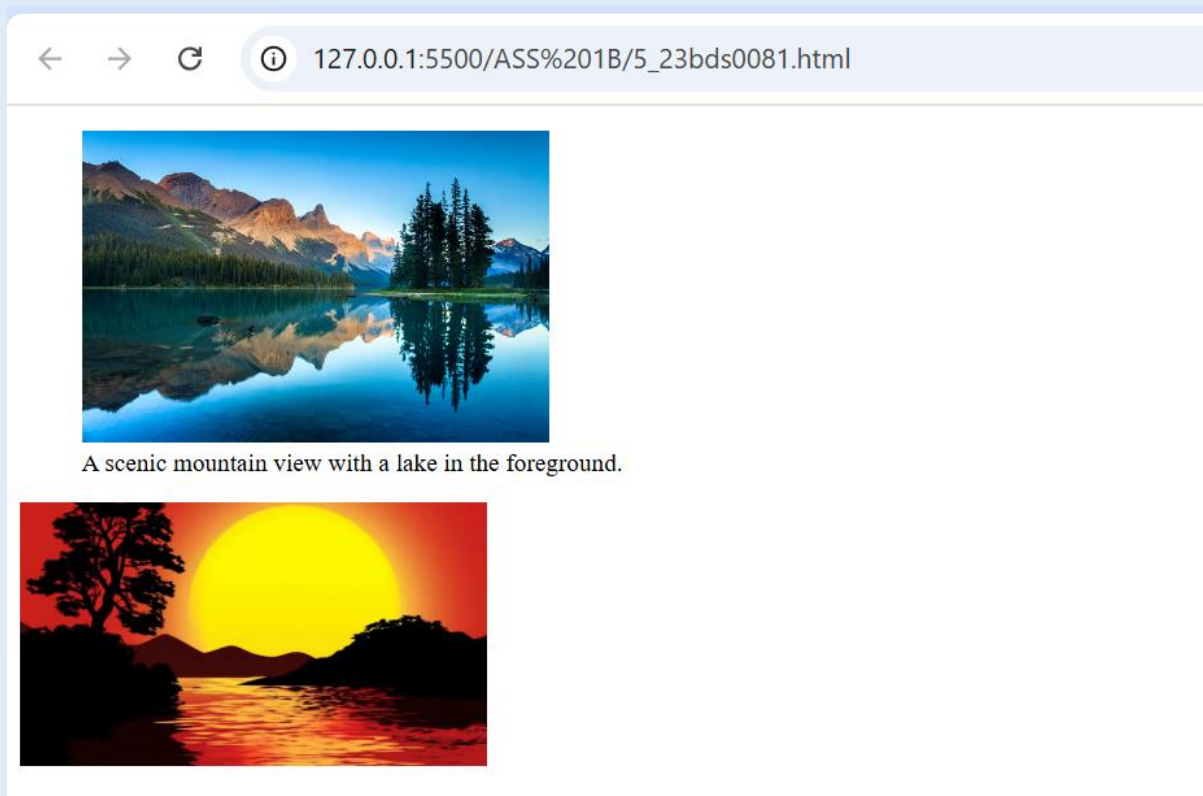|	Navigation tag	Anchor tag
Definition	Represents a section of navigation links.	Defines a hyperlink to another page or section.
Purpose	Groups related navigation links.	Provides a clickable link to navigate to a resource.
Semantics	Indicates navigation intent for a set of links.	Inline text or an element for redirection.
Content	Typically contains lists of links (<a>).	Contains text or elements describing the link target.
Structure	Acts as a container for links.	An inline element for linking to a resource.

	Navigation tag	Anchor tag
Usage Context	Used for main navigation menus (e.g., header, sidebar).	Used for individual links within or outside <nav>.
Examples	<nav> Link </nav>	Visit Site
Global Attributes	Supports all global attributes (e.g., class, id).	Supports all global attributes.
Accessibility (ARIA)	Enhances accessibility for screen readers by indicating a navigation section.	Adds title or aria-label for extra link context.
SEO Importance	Improves SEO by defining navigation sections.	Helps link to external or internal pages, boosting SEO.

5)Figure and Image.

Code Screenshot –

```
ASS 1B > <> 5_23bds0081.html > ⊘ html > ⊘ head > ⊘ title
  1   <!DOCTYPE html>
  2   <html lang="en">
  3   <head>
  4       <meta charset="UTF-8">
  5       <meta name="viewport" content="width=device-width, initial-scale=1.0">
  6       <title>Figure and Image</title>
  7   </head>
  8   <body>
  9
 10       <figure>
 11           <img src="mountains.jpg" alt="A scenic mountain view" width="300">
 12           <figcaption>A scenic mountain view with a lake in the foreground.</figcaption>
 13       </figure>
 14
 15
 16       <img src="sunset.jpg" alt="A beautiful sunset over the ocean" width="300">
 17   </body>
 18   </html>
 19
```

Output screenshot –

Inference –

Definition	Represents self-contained content, often with a caption.	Represents an image in the document.
Purpose	Groups media (like images, videos) with captions.	Displays an image directly on the page.
Semantics	Provides context for grouped media elements.	Provides visual content.
Content	Can contain <img>, <figcaption>, and other media.	Self-closing tag; no child elements.
Structure	Acts as a container for media and its description.	A standalone element for displaying images.
Usage Context	Used for images with captions or descriptions.	Used for inserting images directly into the page.
Examples	<figure><img src="..."><figcaption>...</figcaption></figure>	<img src="example.jpg" alt="Description">
Global Attributes	Supports all global attributes (e.g., class, id).	Supports all global attributes.

Accessibility	Enhances accessibility by associating images with captions.	Requires alt attribute for descriptive text.
SEO Importance	Groups media with captions, improving context.	Directly contributes to visual content SEO via alt.

6)Label and Legends

Code screenshot –

```html
1    <!DOCTYPE html>
2  ∨ <html lang="en">
3  ∨ <head>
4        <meta charset="UTF-8">
5        <meta name="viewport" content="width=device-width, initial-scale=1.0">
6        <title>Label and Legend </title>
7    </head>
8  ∨ <body>
9
10 ∨     <form>
11            <label for="username">Username:</label>
12            <input type="text" id="username" name="username">
13            <br>
14            <label for="password">Password:</label>
15            <input type="password" id="password" name="password">
16        </form>
17
18
19 ∨     <form>
20 ∨         <fieldset>
21                <legend>Personal Information</legend>
22                <label for="name">Name:</label>
23                <input type="text" id="name" name="name">
24                <br>
25                <label for="email">Email:</label>
26                <input type="email" id="email" name="email">
27            </fieldset>
28        </form>
29    </body>
30    </html>
31
```

Output Screenshot –


```
←  →  C     ⓘ  127.0.0.1:5500/ASS%201B/6_23bds0081.html
```

Username: [_____]
Password: [_____]
┌─ Personal Information ─────────
│ Name: [_____]
│ Email: [_____]
└────────────────────────

Inference –

	<label> Tag	<legend> Tag
Definition	Describes a form control, like an input or textarea.	Provides a caption for a <fieldset> grouping related form controls.
Purpose	Improves form usability and accessibility.	Groups related form elements with a description.
Semantics	Associates a text description with an input.	Provides context for a group of inputs.
Content	Text content or inline elements describing the input.	Typically plain text or inline elements.
Structure	Placed outside or near individual input elements.	Must be placed directly inside a <fieldset>.
Usage Context	Used with individual input controls.	Used to group multiple related controls.
Examples	<label for="id">Text</label>	<fieldset><legend>Text</legend></fieldset>
Global Attributes	Supports all global attributes (e.g., class, id).	Supports all global attributes.

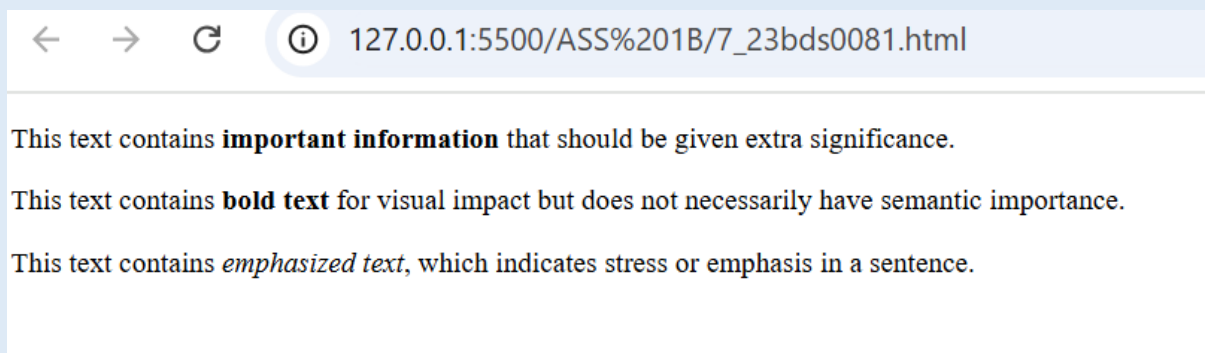| <label> Tag	<legend> Tag	
Accessibility	Enhances usability for screen readers by associating labels with inputs.	Improves screen reader navigation for grouped fields.
SEO Importance	Primarily affects usability, not SEO.	Primarily affects usability, not SEO.

7) Strong vs bold vs emphasis tag

Code screenshot –

```
ASS 1B > <> 7_23bds0081.html > ⊘ html > ⊘ head > ⊘ meta
  1   <!DOCTYPE html>
  2   <html lang="en">
  3   <head>
  4       <meta charset="UTF-8">
  5       <meta name="viewport" content="width=device-width, initial-scale=1.0">
  6       <title>Strong, Bold, and Emphasis </title>
  7   </head>
  8   <body>
  9
 10       <p>This text contains <strong>important information</strong> that should be given extra significance.</p>
 11
 12
 13       <p>This text contains <b>bold text</b> for visual impact but does not necessarily have semantic importance.</p>
 14
 15
 16       <p>This text contains <em>emphasized text</em>, which indicates stress or emphasis in a sentence.</p>
 17   </body>
 18   </html>
 19
```

Output Screenshot –

← → C ⓘ 127.0.0.1:5500/ASS%201B/7_23bds0081.html

This text contains **important information** that should be given extra significance.

This text contains **bold text** for visual impact but does not necessarily have semantic importance.

This text contains *emphasized text*, which indicates stress or emphasis in a sentence.

Inference –

Feature	 Tag	 Tag	 Tag
Definition	Indicates important content with semantic emphasis.	Displays text in bold for visual styling only	Indicates stress or emphasis in the

Feature	 Tag	 Tag	 Tag
		(no semantic meaning).	content with semantic meaning.
Purpose	Highlights content as critical or essential.	Highlights content visually without implying importance.	Conveys content that should be stressed or emphasized in meaning.
Semantics	Strong semantic importance, understood by screen readers.	No semantic meaning, purely visual.	Semantic emphasis, understood by screen readers.
Content	Typically plain text or inline elements.	Typically plain text or inline elements.	Typically plain text or inline elements.
Structure	Inline element, often used within paragraphs.	Inline element, often used within paragraphs.	Inline element, often used within paragraphs.
Usage Context	When content is critical to understanding.	When bold styling is needed for	When content needs stress or emphasis

Feature	 Tag	 Tag	 Tag
		aesthetic reasons.	for proper interpretation.
Examples	Important	Bold	Emphasized
Global Attributes	Supports all global attributes.	Supports all global attributes.	Supports all global attributes.
Accessibility	Screen readers recognize and emphasize it.	Screen readers treat it as plain text.	Screen readers recognize and emphasize it.
SEO Importance	May affect SEO by signaling critical content.	Minimal SEO impact as it is purely visual.	May affect SEO by signaling emphasized content.