Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

200
1822 - 2022

CREATING A SIMPLE PAGE

(HTML OVERVIEW)

Man Geni Addysg Uwch yng Nghymru
Where Higher Education Began in Wales

www.uwtsd.ac.uk

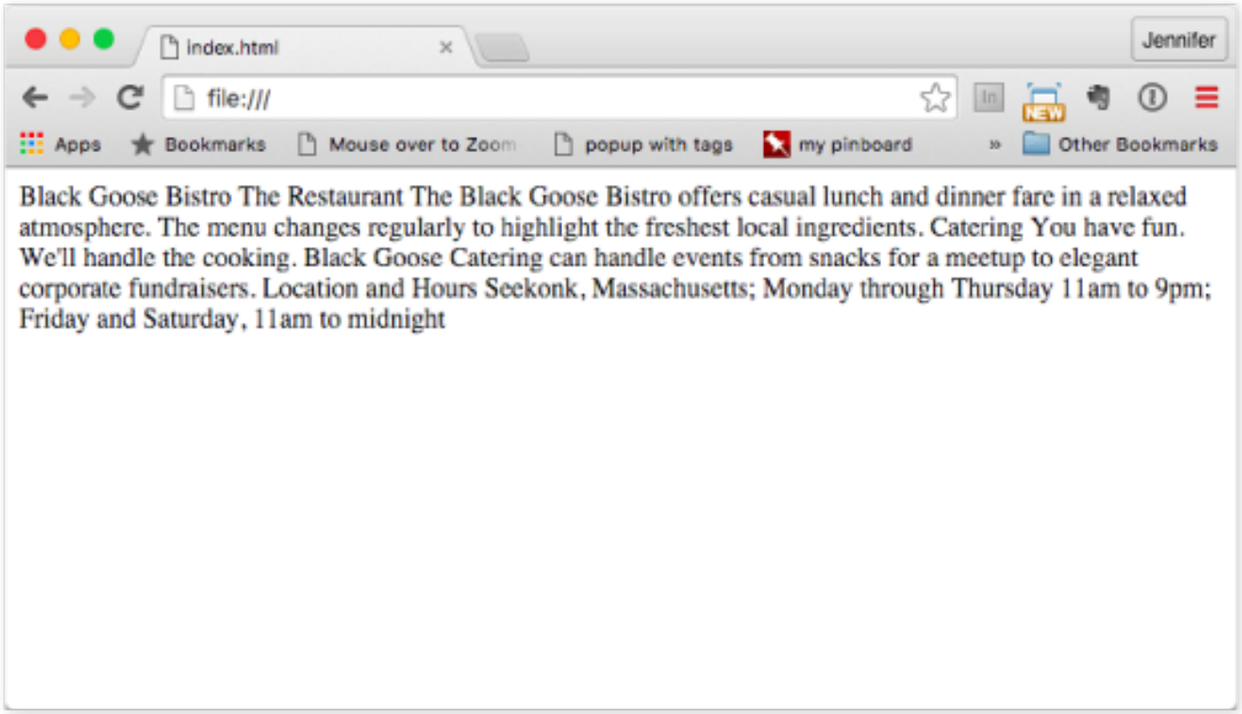
OVERVIEW

- How markup works: Elements and attributes
- Minimal HTML document structure
- Identifying text elements: Block and inline
- Troubleshooting and validating HTML

Content Without Markup

Without HTML markup to describe content structure, text runs together; line breaks are ignored:

```
Black Goose Bistro


The Restaurant

The Black Goose Bistro offers casual lunch
and dinner fare in a relaxed atmosphere. The
menu changes regularly to highlight the
freshest local ingredients.


Catering

You have fun. We'll handle the cooking. Black
Goose Catering can handle events from snacks
for a meetup to elegant corporate
fundraisers.

Location and Hours

Seekonk, Massachusetts;


Monday through Thursday 11am to 9pm; Friday
and Saturday, 11am to midnight
```



Week2_ex1.txt-in Moodle

What Browsers Ignore

- Multiple character spaces (white space)
- Line breaks (carriage returns)
- Tabs
- Unrecognized markup

Markup Basics

Text must be marked up meaningfully and accurately (semantically)

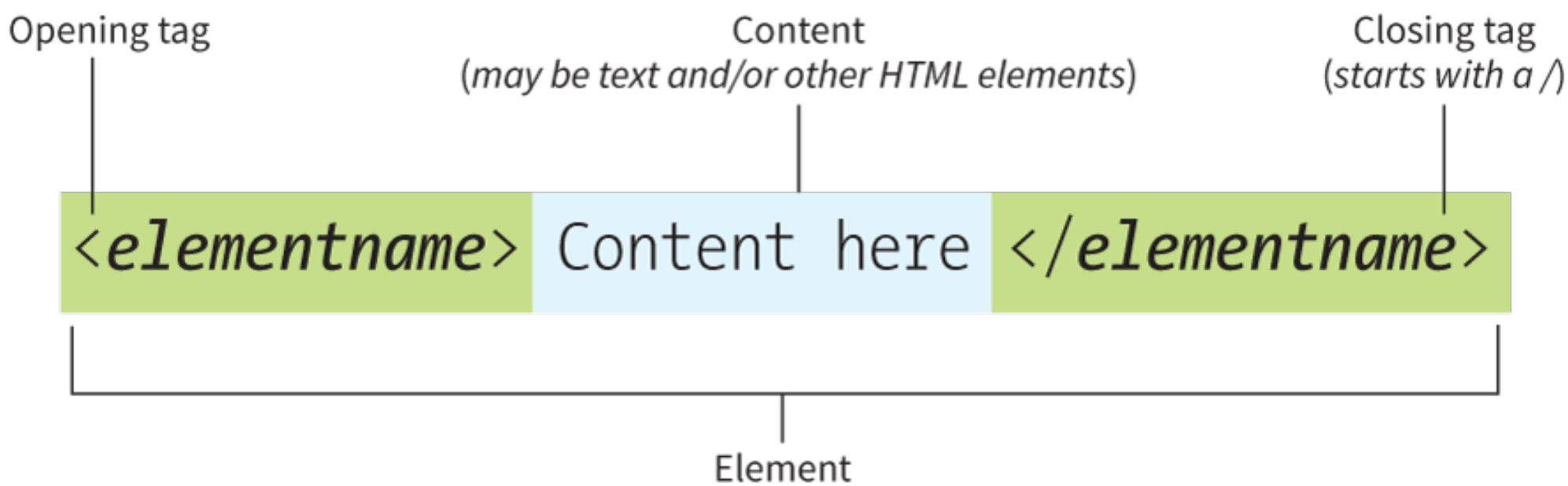
with HTML tags:

- Browsers need markup to display content correctly.
- Markup makes content elements available to scripts and style rules.
- Markup aids search engines.

Anatomy of an HTML Element

tag
The element name in angle brackets

element
The content and its markup (start and end tags)



Example: `<h1>Black Goose Bistro</h1>`

Some Elements Are Empty

Some elements have no content and provide a simple directive. They are called **empty elements**:

```
<element-name>
```

Example: The **br** element inserts a line break.

```
<p>1005 Gravenstein Highway North<br>Sebastopol, CA 95472</p>
```

Attributes

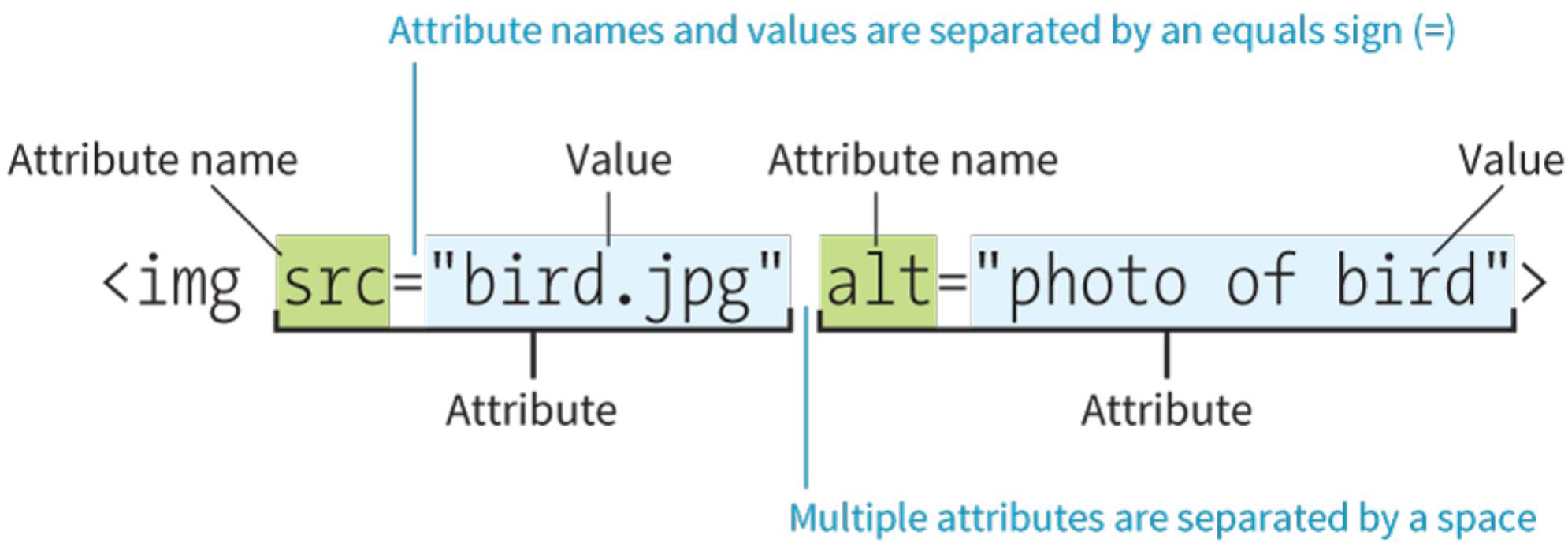
Attributes are instructions that clarify or modify an element. They appear in the opening tag after the element name:

```
<element attribute="value">Content</element>
```

```
<a href="http://oreilly.com">O'Reilly site</a>
```

Attributes (cont'd)

There can be more than one attribute in a tag:



They are separated by spaces and can go in any order.

Attributes (cont'd)

- Most attributes take values, which follow an = sign; some are single descriptive words.
- A value might be a number, word, string of text, URL, or measurement.
- Quotation marks aren't strictly required but are recommended for consistency.
- Single or double quotation marks are okay.
- Attribute names and values are defined in the HTML specification.
- Some attributes are required.

Nesting Elements

Putting elements inside other elements is called **nesting**. Make sure closing tags don't overlap:

```
<div>
  <h1>Headline</h1>
  <p>This is <em>emphasized</em>
text.</p>
</div>
```

HTML Comments

To leave a note in an HTML document, mark it up as a comment:

```
<!-- start global navigation -->
<ul>
…
</ul>
<!-- end global navigation
and begin the main header
for content page -->
```

Text between <!-- and --> won't display in the browser. Keep in mind that they are still visible in the source.

Minimal Document Structure

It is recommended that HTML documents have the following minimal structure:

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <title>Title here</title>
  </head>
  <body>
    <!-- Page content goes here.-->
  </body>
</html>
```

Minimal Document Structure (cont'd)

The DOCTYPE declaration lets browsers know that the document is written according to the HTML5 specification:

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <title>Title here</title>
  </head>
  <body>
    [Page content goes here.]
  </body>
</html>
```

Minimal Document Structure (cont'd)

The **`html`** element is the root element that contains all the elements in the document:

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <title>Title here</title>
  </head>
  <body>
    [Page content goes here.]
  </body>
</html>
```

Minimal Document Structure (cont'd)

The **head** element contains elements that pertain to the document and are not rendered as content, such as title, metadata, style sheets, and scripts:

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <title>Title here</title>
  </head>
  <body>
    [Page content goes here.]
  </body>
</html>
```

Minimal Document Structure (cont'd)

`meta` elements provide document **metadata**. In this case, it says that the document uses an expanded **character set** (UTF-8). It could also provide keywords, author information, publishing status, and more:

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <title>Title here</title>
  </head>
  <body>
    [Page content goes here.]
  </body>
</html>
```

Minimal Document Structure (cont'd)

The **`title`** element is required. Titles display in the browser tab and bookmark lists, and are used by search engines:

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <title>Title here</title>
  </head>
  <body>
    [Page content goes here.]
  </body>
</html>
```

Minimal Document Structure (cont'd.)

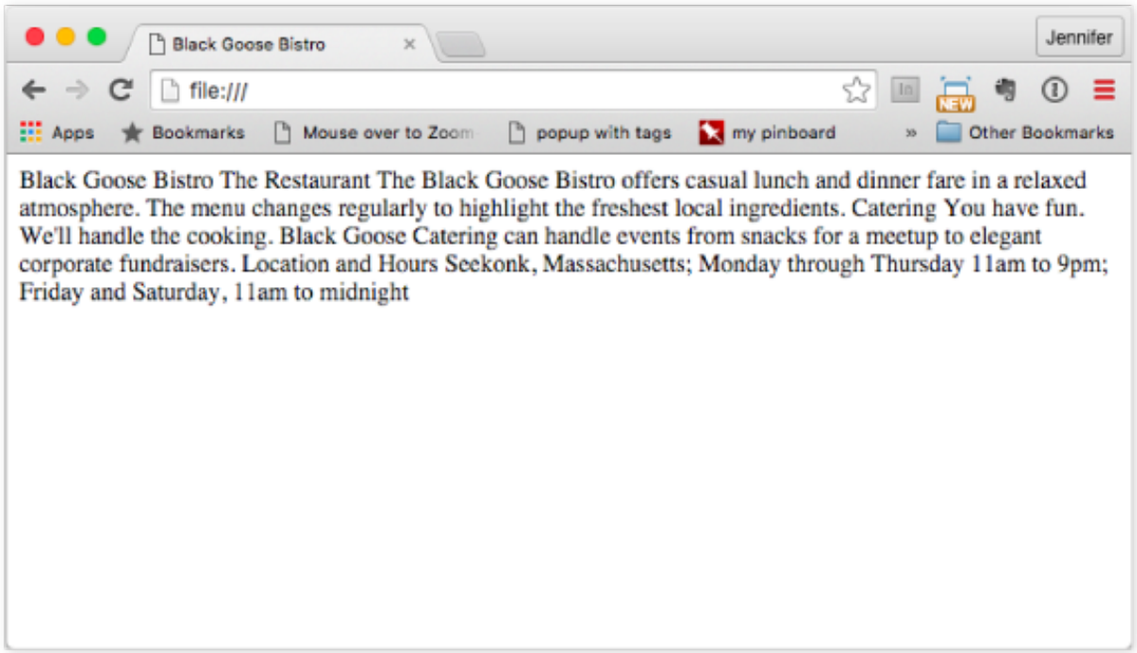
The **body** element contains the content of the document. The content is everything you want to show up in the browser window:

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <title>Title here</title>
  </head>
  <body>
    [Page content goes here.]
  </body>
</html>
```

A Structured Document

With the document structure in place, there is a title in the browser tab, but the content is still unstructured.

```
<!DOCTYPE html>
<html>
<head>
  <meta charset="utf-8">
  <title>Black Goose Bistro</title>
</head>
<body>
Black Goose Bistro

The Restaurant
The Black Goose Bistro offers casual
lunch and dinner fare in a relaxed
atmosphere. The menu changes
regularly to highlight the freshest
local ingredients.
…
Location and Hours
Seekonk, Massachusetts;
Monday through Thursday 11am to 9pm;
Friday and Saturday, 11am to
midnight
</body>
</html>
```



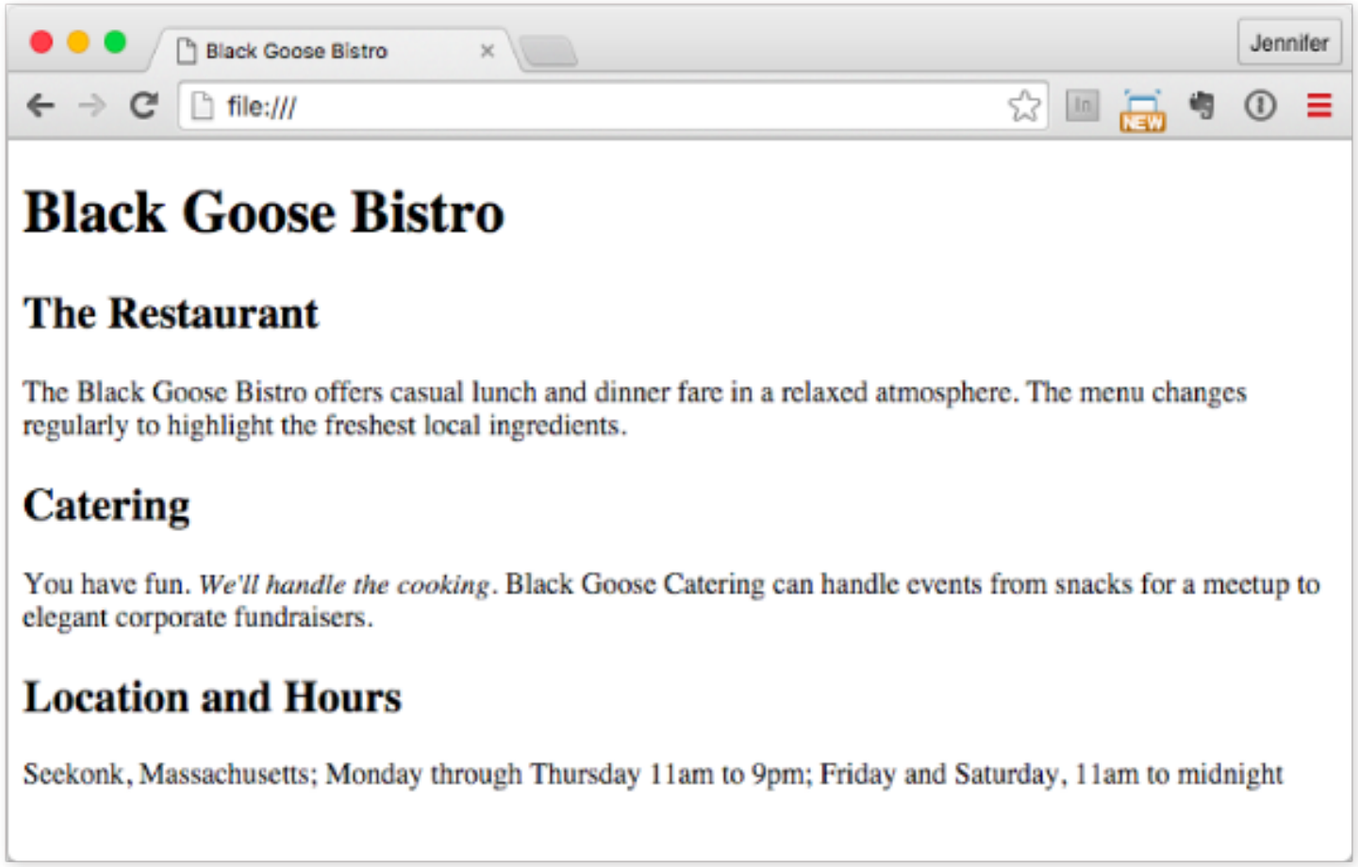
Marking Up Content

- The purpose of HTML is to add meaning and structure to the content. This is called **semantic markup**.
- It is **not** intended to describe how the content should look (its presentation).
- The way elements relate to one another forms an outline-like structure called the **DOM (Document Object Model)**.
- The DOM is the foundation on which you apply styles and scripts.

Basic Text Elements

With headings (<h1>) and paragraphs (<p>) identified, the browser can display the content appropriately:

```
…
<body>
<h1>Black Goose Bistro</h1>

<h2>The Restaurant</h2>
<p>The Black Goose Bistro
offers casual lunch and
dinner fare in a relaxed
atmosphere. The menu changes
regularly to highlight the
freshest local
ingredients.</p>

<!--more content-->
</body>
```



Block and Inline Elements

Block elements

Major components of the page that display like rectangular blocks stacking up on the page

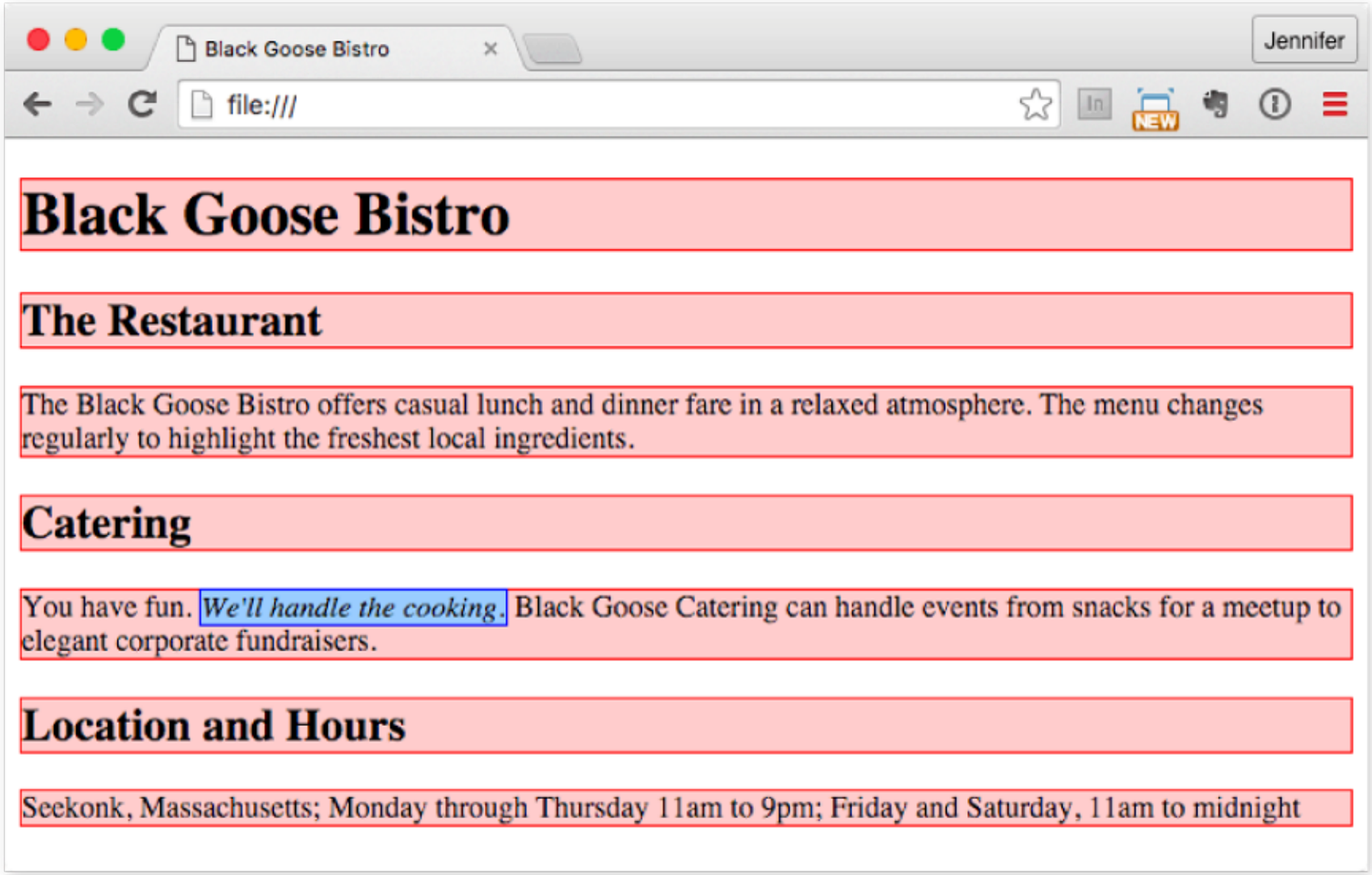
Example: headings, paragraphs, long quotations

Inline elements

Appear within the text flow of a block element

Example: emphasized text, links, abbreviations

Block and Inline Elements (cont'd)



Block elements (headings, paragraphs) outlined in RED.

Inline element (emphasized text) outlined in BLUE.

Troubleshooting HTML

Small mistakes and missing characters can cause HTML documents to "break."

Common mishaps:

- Missing closing tag (or / in closing tag)
- Missing closing bracket in a tag
- Missing quotation mark around an attribute value
- Not saving your document before viewing changes in the browser

Troubleshooting (cont'd)

When a slash is omitted, the browser doesn't know when the element ends:

```
<h2>Catering</h2>
<p>You have fun. <em>We'll handle the cooking.<em> Black Goose
Catering can handle events from snacks for a meetup to elegant
corporate fundraisers.</p>
```

g.

Catering

You have fun. *We'll handle the cooking. Black Goose Catering can handle events from snacks for a meetup to elegant corporate fundraisers.*

Location and Hours

Seekonk, Massachusetts;
Monday through Thursday 11am to 9pm;
Friday and Saturday, 11am to midnight

Troubleshooting (cont'd)

A missing end bracket makes the browser interpret all the following characters as part of the tag:

```
<h2The Restaurant</h2>
<p>The Black Goose Bistro offers casual lunch and dinner fare
in a relaxed atmosphere. The menu changes regularly to highlight
the freshest local ingredients.</p>
```

<h2The

Missing subhead

Without the bracket, all the following characters are interpreted as part of the tag, and "The Restaurant" disappears from the page.

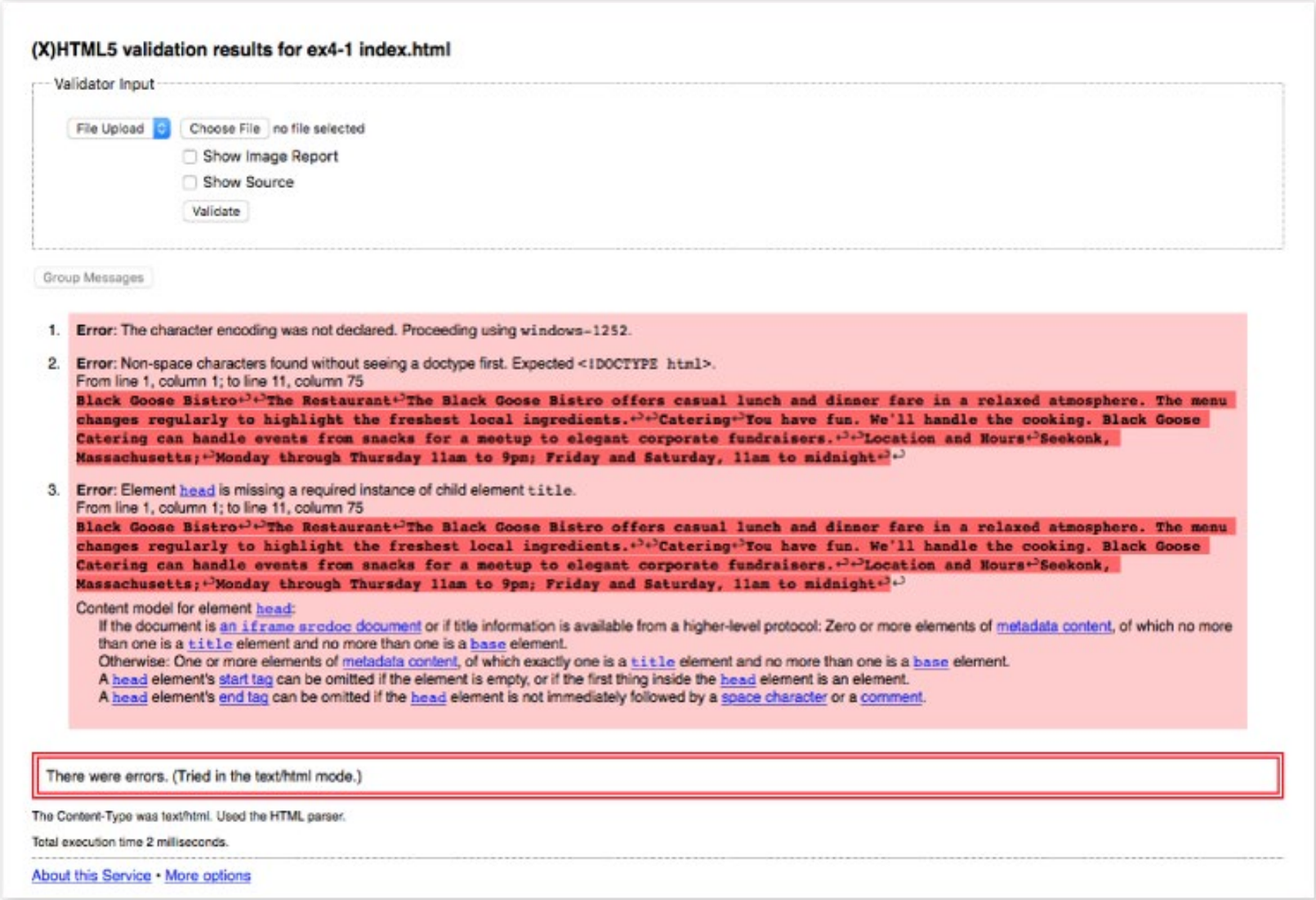
Validating Your Documents

Validate a document to make sure that you have abided by the HTML rules and that there are no errors:

- Include the DOCTYPE declaration
- Indicate the character encoding
- Include required attributes
- Don’t use non-standard elements
- Don’t mismatch tags
- Nest elements correctly (no overlaps)
- Check for typos and other minor errors

Validating Your Documents

- Use a validator tool like the one at https://validator.w3.org/
- Upload a document or provide a link, and the validator returns an error report.



MARKING UP TEXT

- It is important to mark up content semantically, in a way that accurately describes the content's meaning or function.
- This ensures your content is accessible in the widest range of viewing environments:
  - Desktop and mobile browsers
  - Assistive reading devices
  - Search engine indexers

Paragraphs

** **

Paragraphs are the most rudimentary elements in a text document.

```
<p>Serif typefaces have small slabs at the ends
of letter strokes. In general, serif fonts can
make large amounts of text easier to read.</p>
```

Headings

<h#> </h#>

There are six levels of headings (**h1** to **h6**).

```
<h1>Top-Level Heading</h1>
<p>This is a regular paragraph that will display at the browser's
default font size and weight for comparison.</p>

<h2>Second-Level Heading</h2>
<h3>Third-Level heading</h3>
<p>This is another paragraph for comparison. Of course, you can
change the presentation of all of these elements with your own style
sheets.</p>
```

Headings (cont'd)

h1

Top-Level Heading

This is a regular paragraph that will display at the browser's default font size and weight for comparison.

h2

Second-Level Heading

h3

Third-Level heading

This is another paragraph for comparison. Of course, you can change the presentation of all of these elements with your own style sheets.

h4

Fourth Level Heading

h5

Fifth Level Heading

h6

Sixth-Level Heading

This is another paragraph to show the default relationship of headings to body paragraphs. Of course, you can change the presentation of all of these elements with your own style sheets.

Long Quotations (blockquotes)

<blockquote> </blockquote>

```
<p>Renowned type designer, Matthew Carter, has this to say about his
profession:</p>

<blockquote>
  <p>Our alphabet hasn't changed in eons; there isn't much latitude
in what a designer can do with the individual letters.</p>

  <p>Much like a piece of classical music, the score is written down.
It's not something that is tampered with, and yet, each conductor
interprets that score differently. There is tension in the
interpretation.</p>
</blockquote>
```

Renowned type designer, Matthew Carter, has this to say about his profession:

> Our alphabet hasn't changed in eons; there isn't much latitude in what a designer can do with the individual letters.
>
> Much like a piece of classical music, the score is written down. It's not something that is tampered with, and yet, each conductor interprets that score differently. There is tension in the interpretation.

Preformatted Text

<pre> </pre>

Preformatted text preserves white space when it is important for conveying meaning. By default, **`pre`** text displays in a constant-width font, such as Courier.

```
<pre>
This is                an                example of
      text with a          lot of
                          curious
                          whitespace.
</pre>
```

```
This is                an                example of
      text with a          lot of
                          curious
                          whitespace.
```

Line Breaks

**
**

The empty br element inserts a line break.

```
<p>So much depends <br>upon <br><br>a red wheel <br>barrow</p>
```

So much depends
upon

a red wheel
barrow

Thematic Breaks (Horizontal Rules)

<hr>

Indicates one topic has completed and another one is beginning. Browsers display a horizontal rule (line) in its place:

```
<h3>Times</h3>
<p>Description and history of the Times typeface.</p>
<hr>
<h3>Georgia</h3>
<p>Description and history of the Georgia typeface.</p>
```

Times

Description and history of the Times typeface.

Georgia

Description and history of the Georgia typeface.

Lists

There are three types of lists in HTML:

- Unordered lists
- Ordered lists
- Description lists

Unordered Lists

In unordered lists items may appear in any order (examples, names, options, etc.). Most lists fall into this category.

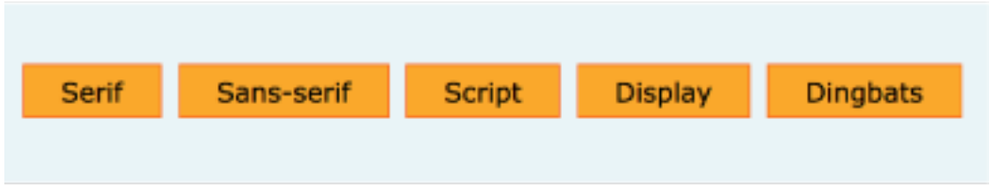
`<ul> </ul>`	Defines the whole list
`<li> </li>`	Defines each list item

Unordered Lists (cont'd)

```
<ul>
   <li>Serif</li>
   <li>Sans-serif</li>
   <li>Script</li>
   <li>Display</li>
   <li>Dingbats</li>
</ul>
```

- Serif
- Sans-serif
- Script
- Display
- Dingbats

You can change the appearance of the list dramatically with style sheet rules.



Ordered Lists

In ordered lists items occur in a particular order, such as step-by-step instructions or driving directions.

`<ol> </ol>`	Defines the whole list
`<li> </li>`	Defines each list item

Ordered Lists (cont'd.)

```
<ol>
   <li>Gutenberg develops moveable type (1450s)</li>
   <li>Linotype is introduced (1890s)</li>
   <li>Photocomposition catches on (1950s)</li>
   <li>Type goes digital (1980s)</li>
</ol>
```

1. Gutenberg develops moveable type (1450s)
2. Linotype is introduced (1890s)
3. Photocomposition catches on (1950s)
4. Type goes digital (1980s)

Week2_ex6-in Moodle

Description Lists

Description lists are used for any type of name/value pairs, such as terms/definitions, questions/answers, etc.

`<dl> </dl>`	Defines the whole list
`<dt> </dt>`	Defines a name, such as a term
`<dd> </dd>`	Defines a value, such as a definition

Description Lists (cont'd)

```
<dl>
  <dt>Linotype</dt>
  <dd>Line-casting allowed type to be selected, used, then recirculated
into the machine automatically. This advance increased the speed of
typesetting and printing dramatically.</dd>

  <dt>Photocomposition</dt>
  <dd>Typefaces are stored on film then projected onto photo-sensitive
paper. Lenses adjust the size of the type.</dd>
</dl>
```

Linotype

Line-casting allowed type to be selected, used, then recirculated into the machine automatically. This advance increased the speed of typesetting and printing dramatically.

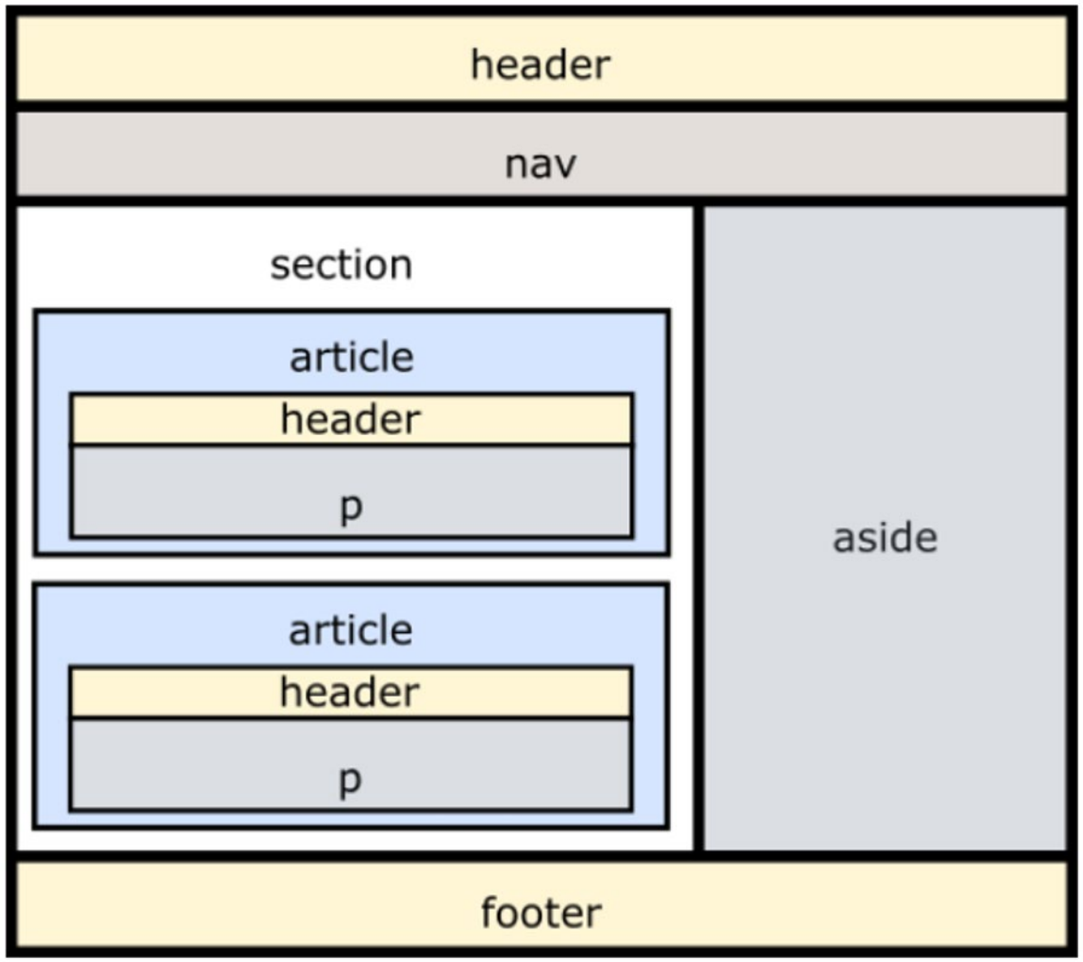
Photocomposition

Typefaces are stored on film then projected onto photo-sensitive paper. Lenses adjust the size of the type.

Page Organizing Elements

HTML5 introduced elements that give meaning to the typical sections of a web page:

- `main`
- `header`
- `footer`
- `section`
- `article`
- `aside`
- `nav`



Typical structure of a web page using semantic HTML.

Main Content

<main> </main>

- Identifies the primary content of a page or application
- Helps users with screen readers get to the main content of the page

```
<body>
<header>…</header>
<main>
  <h1>Humanist Sans Serif</h1>
  …content continues…
</main>
</body>
```

Headers and Footers

```
<header> </header>
<footer> </footer>
```

`header` identifies the introductory material that comes at the beginning of a page, section, or article (logo, title, navigation, etc.).

`footer` indicates the type of information that comes at the end of a page, section, or article (author, copyright, etc.)

Headers and Footers (cont'd)

```
<article>
  <header>
    <h1>More about WOFF</h1>
    <p>by Jennifer Robbins, <timedatetime="2017-11-11">
      November 11, 2017</time></p>
  </header>
  <!-- ARTICLE CONTENT HERE -->

  <footer>
    <p><small>Copyright &copy;2017 Jennifer
Robbins.</small></p>
    <nav>
    <ul>
      <li><a href="/">Previous</a></li>
      <li><a href="/">Next</a></li>
    </ul>
    </nav>
  </footer>
</article>
```

Footer Element in HTML

```
<footer>
  <p>&copy; 2026 My Cooking Hobby. All rights reserved.</p>
  <p>Contact: myemail@example.com</p>
<p>
    Follow us on:
   <a href="https://twitter.com" target="_blank">Twitter</a> |
   <a href="https://facebook.com" target="_blank">Facebook</a> |
   <a href="https://instagram.com" target="_blank">Instagram</a>
  </p>

</footer>
```

Inserting special characters

Symbol	Entity Name	Entity Number
& (ampersand)	&	&
< (less than)	<	<
> (greater than)	>	>
(nonbreaking space)		
¢ (cent)	¢	¢
£ (pound)	£	£
¥ (yen)	¥	¥
© (copyright)	©	©
® (registered trademark)	®	®
° (degree)	°	°
± (plus or minus)	±	±
† (dagger)	†	†
™ (trademark)	™	™

Sections

`<section> </section>`

`section` identifies thematic section of a page or an article. It can be used to divide up a whole page or a single article:

```
<section>
  <h2>Typography Books</h2>
  <ul>
     <li>…</li>
  </ul>
</section>

<section>
  <h2>Online Tutorials</h2>
  <p>These are the best tutorials on the Web.</p>
  <ul>
    <li>…</li>
  </ul>
</section>
```

Navigation

<nav> </nav>

nav identifies the primary navigation for a site or lengthy section or article. It provides more semantic meaning than a simple unordered list.

```
<nav>
<ul>
  <li><a href="/">Serif</a></li>
  <li><a href="/">Sans-serif</a></li>
  <li><a href="/">Script</a></li>
  <li><a href="/">Display</a></li>
  <li><a href="/">Dingbats</a></li>
</ul>
</nav>
```

Inline Elements

- Called **text-level semantic elements** in the spec.
- Describe the types of elements that appear in the flow of text.

`a`	`dfn`	`mark`	`s`
`em`	`code`	`time`	`u`
`strong`	`var`	`data`	`small`
`q`	`samp`	`ins/del`	`bdi/bdo`
`abbr`	`kbd`	`b`	`data`
`cite`	`sub/sup`	`i`	`span`

Emphasis

Text that should be emphasized. Usually displayed in italics.

```
<p><em>Arlo</em> is very smart.</p>
<p>Arlo is <em>very</em> smart.</p>
```


Text that is important, serious, or urgent. Usually displayed in bold.

```
<p>When returning the car, <strong>drop the keys in
the red box by the front desk</strong>.</p>
```

TIP: Use these elements semantically, not to achieve font styles.
Think of how it would be read with a screen reader.

Short Quotations

<q> </q>

For quoted phrases in the flow of text. Browsers add appropriate quotation marks automatically.

```
<p>Matthew Carter says, <q>Our alphabet hasn't changed in
eons.</q></p>
```

Matthew Carter says, "Our alphabet hasn't changed in eons."

Abbreviations and Acronyms

<abbr> </abbr>

The **`title`** attribute provides the long version of a shortened term, which is helpful for search engines and assistive devices.

```
<abbr title="Points">pts.</abbr>

<abbr title="American Type Founders">ATF</abbr>
```

Superscript and Subscript

****

****

Causes the selected text to display in a smaller size and slightly above (**sup**) or below (**sub**) the baseline.

```
<p>H<sub>2</sub>0</p>
```

```
<p>E=MC<sup>2</sup></p>
```

H_20 $E=MC^2$

Citations

<cite> </cite>

Identifies a reference to another document.

```
<p>Passages of this article were inspired by
<cite>The Complete Manual of Typography</cite> by
James Felici.</p>
```

Further Reading :

Part I: Getting Started

Part II: HTML Markup for Structure

Robbins, J., 2018, Learning Web Design: A Beginner’s Guide to HTML, CSS, JavaScript, and Web Graphics, O'Reilly Media

Tutorial 2

Create a webpage (HomePage.html) for an upcoming event of your choice.

- Identify target audience (e.g., students, families, professionals)
- Decide key message (why should people attend?)
- Use persuasive content on the website