Chương 2: Tổng quan về HTML

TS. NGUYỄN THÀNH HUY

Nội dung

- HTML defined
- HTML SYNTAX
- STRUCTURE OF HTML
- QUICK TOUR OF HTML

Hypertext Markup Language

- **HTML** – **H**yper **T**ext **M**arkup **L**anguage
  - A **notation for describing**
    - document structure (semantic markup)
    - formatting (presentation markup)
  - Looks (looked?) like:
    - A Microsoft Word document
- The markup tags **provide information** about the page content structure
- A **HTML** document **consists of many tags**

Creating HTML Pages

- An **HTML** document must have an **.htm** or **.html** file extension
- **HTML** files can be created with text editors:
  - *Notepad*
  - *Notepad++*
  - *Sublime Text 2/3*
  - *Atom*
  - *Visual Studio Code*
- Or **HTML** editors (WYSIWYG Editors):
  - Microsoft WebMatrix
  - Microsoft Expression Web
  - Microsoft Visual Studio
  - Adobe Dreamweaver

HTML – Past, Present, Future

- 1991 – HTML first mentioned – Tim Berners-Lee – HTML tags
- 1993 – HTML (first public version, published at IETF)
- 1993 – HTML 2 draft
- 1995 – HTML 2 – W3C
- 1995 – HTML 3 draft
- 1997 – HTML 3.2 – “Wilbur”
- 1997 – HTML 4 – ”Cougar” – CSS
- 1999 – HTML 4.01 (final)
- 2000 – XHTML draft
- 2001 – XHTML (final)
- 2008 – HTML5 / XHTML5 draft
- 2011 – feature complete HTML5

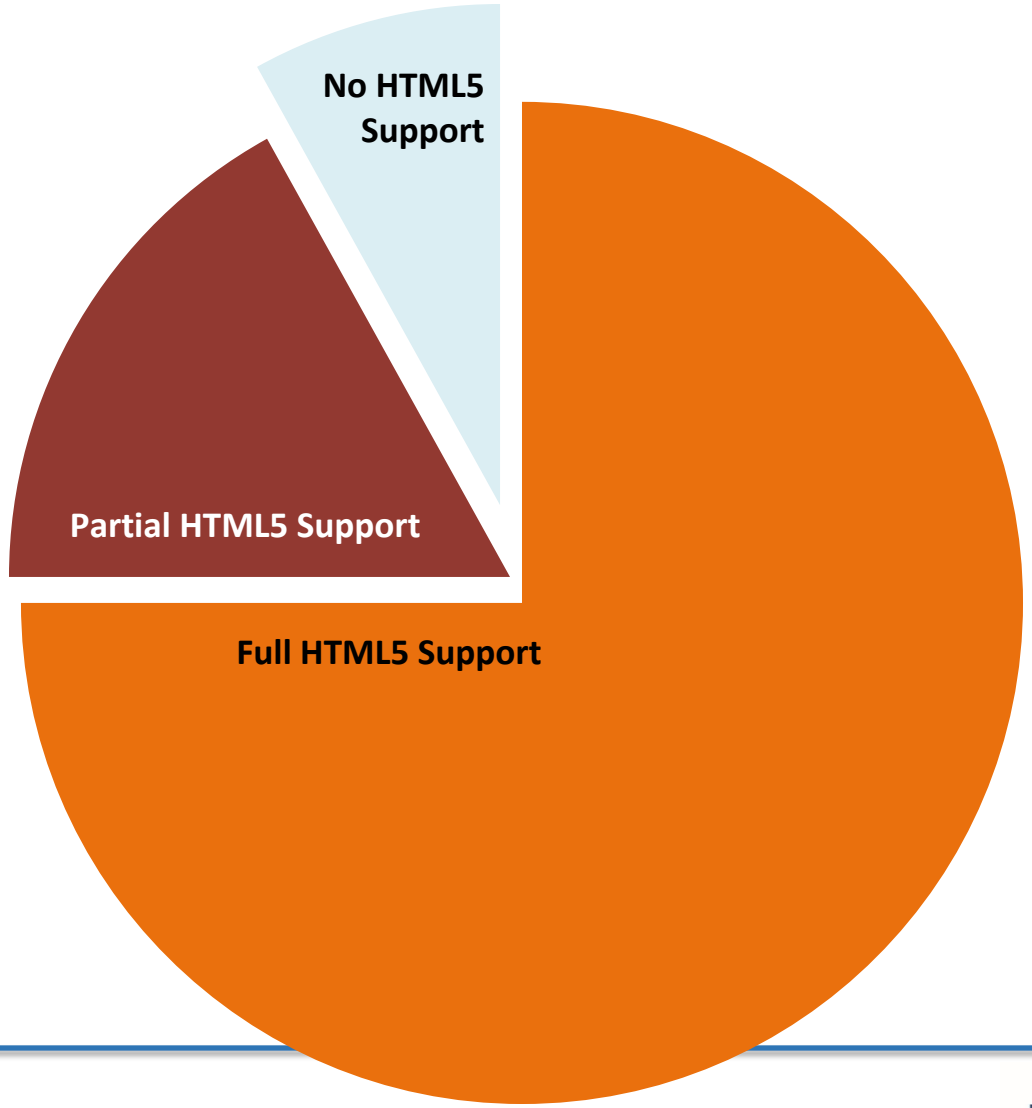
HTML5

Three main aims

There are three main aims to HTML5:

- Specify unambiguously how browsers should deal with invalid markup.
- Provide an open, non-proprietary programming framework (via Javascript) for creating rich web applications.
- Be backwards compatible with the existing web.

HTML5 Support in Browsers




TRƯỜNG ĐẠI HỌC KINH TẾ TP. HỒ CHÍ MINH
1976
UNIVERSITY OF ECONOMICS HO CHI MINH CITY

HTML SYNTAX

HTML Terminology

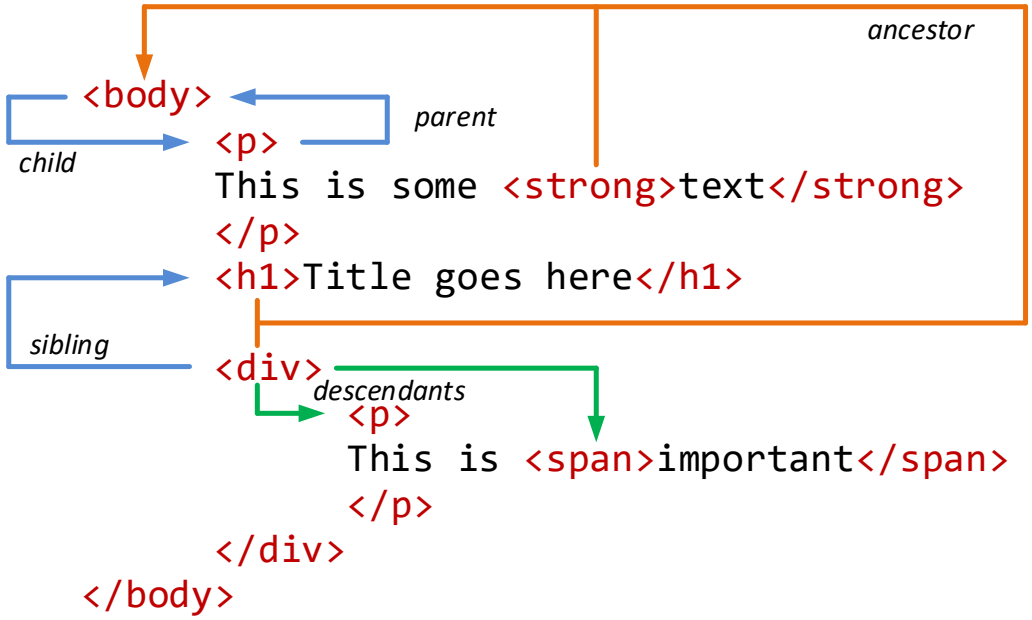
- **Tags**
  - Opening tag and closing tag
  - The smallest piece in HTML
- **Attributes**
  - Properties of the tag
  - Size, color, etc…
- **Elements**
  - Combination of opening, closing tag and attributes

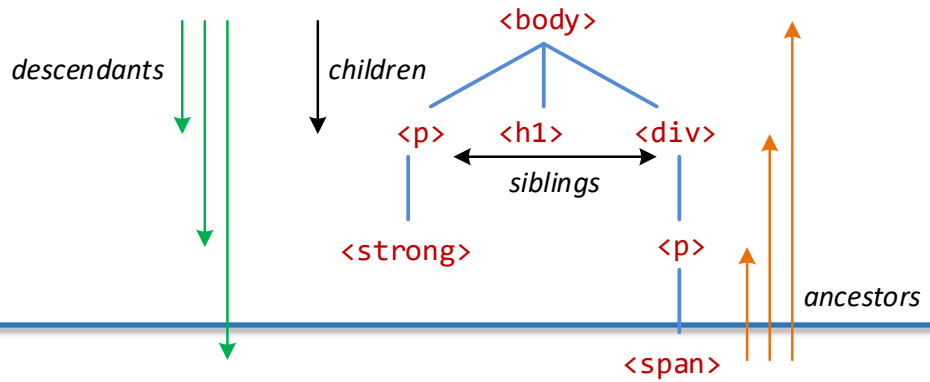
Elements and Attributes

HTML Tags

- **Tags** are the **smallest piece** in HTML Document
  - Start with < and end with >
- Two kinds of **tagsOpening**
  - Mark the start of an HTML element
- **Closing**
  - Mark the end of an HTML element
  - Starts with </

Hierarchy of elements



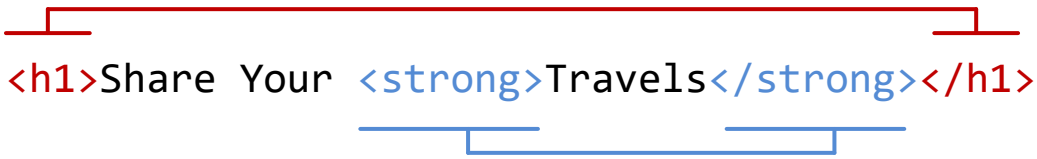


Nesting HTML elements

In order to properly construct a hierarchy of elements, your browser expects each HTML nested element to be properly nested.

That is, a child's ending tag must occur before its parent's ending tag.

Correct Nesting



Incorrect Nesting

Attributes

- Attributes are **properties of HTML Elements**
  - Used to **set size, color, border, etc…**
  - Put **directly in the tags**
  - Has value surrounded by **single ' ' or double " " quotes**
    - The value is always a string

```
<!-- makes a hyperlink to Google -->
<a href="http://google.com"> go to Google</a>

<!-- makes a horizontal line -->
<hr width="95%" size="3px"/>

<!-- adds an image in the web page -->
<img src="images/SEB-Ninja.png"/>
```

Most Common Attributes

- There are some **attributes that are common** for every HTML element
  - **id, class, name, style**
- Some attributes are **specific**
  - For example the attribute src of the img element
    - Shows the path to the image to be shown

STRUCTURE OF HTML

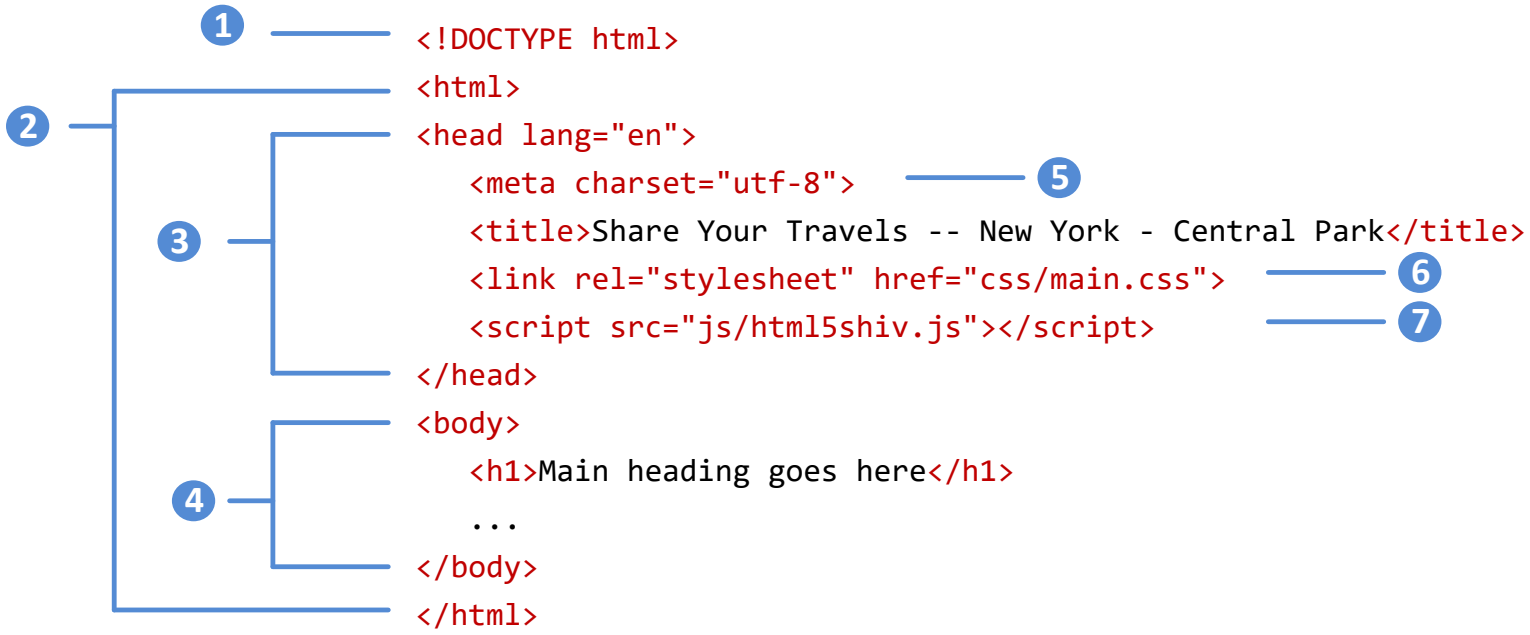
Simplest HTML document

1

```
<!DOCTYPE html>
<title>A Very Small Document</title>
<p>This is a simple document with not much content</p>
```

The <title> element (Item 1) is used to provide a broad description of the content. The title is not displayed within the browser window. Instead, the title is typically displayed by the browser in its window and/or tab.

A more complete document

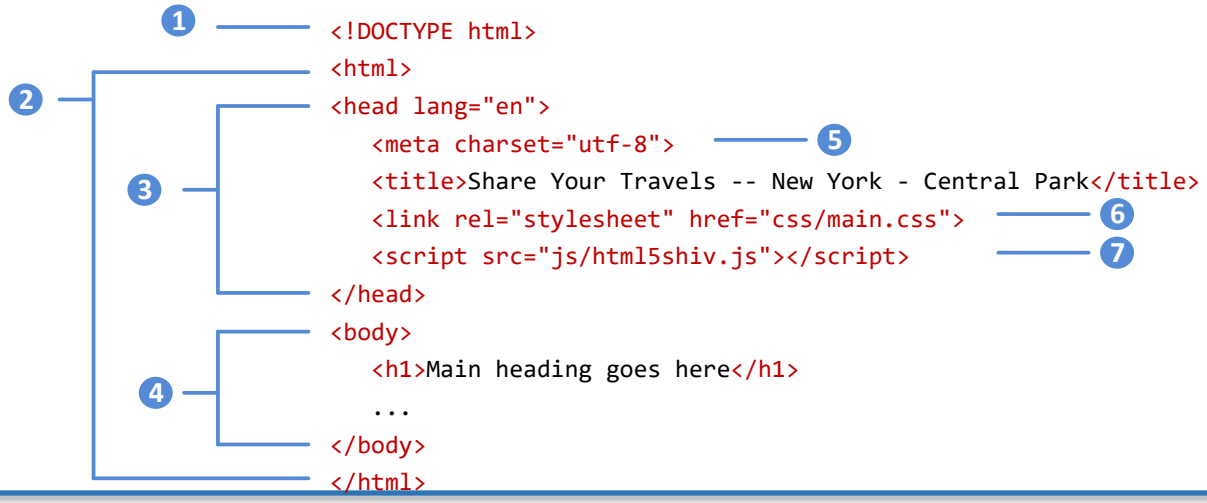


1 DOCTYPE

(short for **Document Type Definition**)

Tells the browser (or any other client software that is reading this HTML document) what type of document it is about to process.

Notice that it does not indicate what version of HTML is contained within the document: it only specifies that it contains HTML.

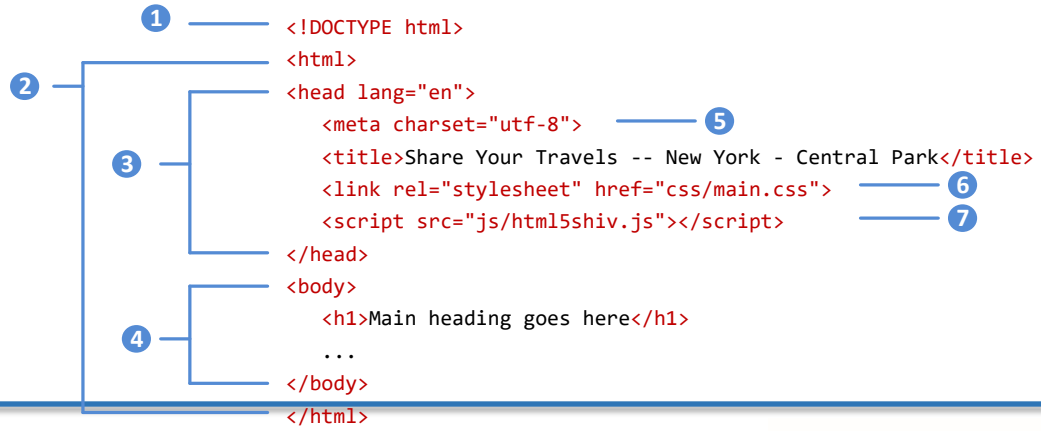


HTML, Head, and Body

HTML5 does not require the use of the <html>, <head>, and <body>.

However, in XHTML they were required, and most web authors continue to use them.

The <html> element is sometimes called the **root element** as it contains all the other HTML elements in the document.

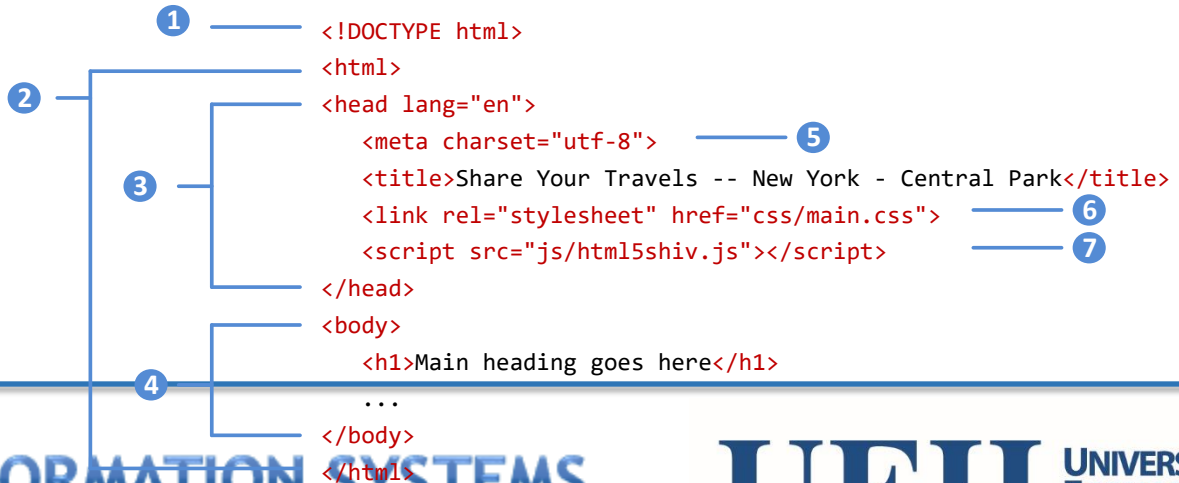


Head and Body

HTML pages are divided into two sections: the **head** and the **body**, which correspond to the <head> and <body> elements.

3. The head contains descriptive elements *about* the document

4. The body contains content that will be displayed by the browser.



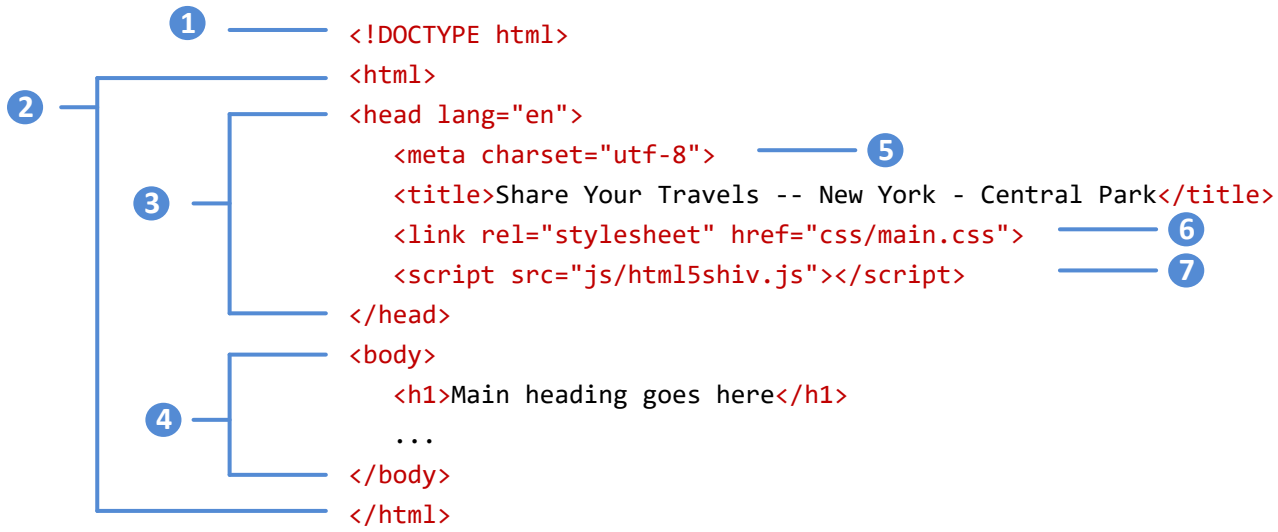
Inside the head

There are no brains

You will notice that the <head> element contains a variety of additional elements.

The first of these is the <meta> element. Our example declares that the character encoding for the document is UTF-8.

5

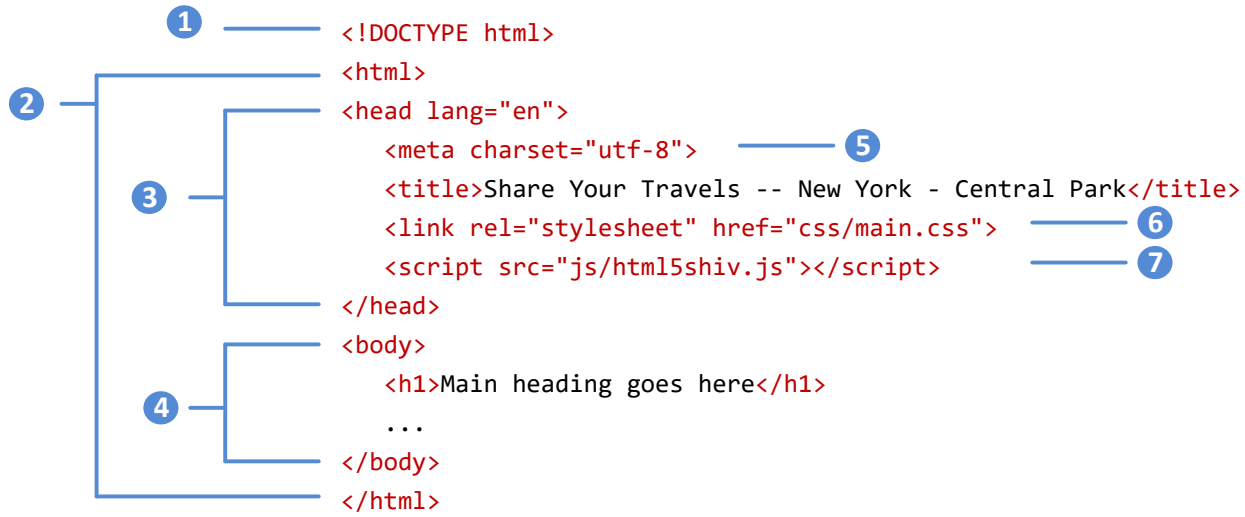


Inside the head

No brains but metas, styles and javascripts

6. Our example specifies an external CSS style sheet file that is used with this document.

7. It also references an external Javascript file.



QUICK TOUR OF HTML

Sample Document

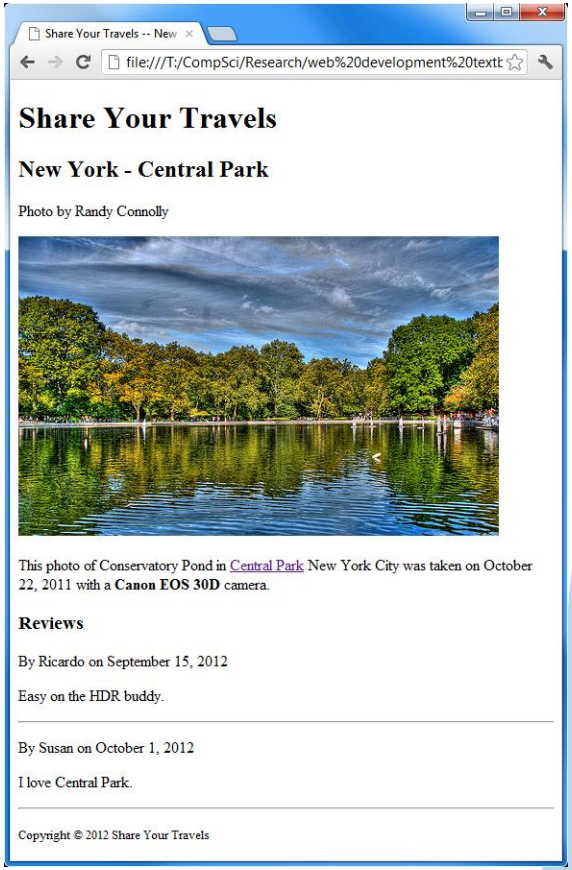
```
<body>
   <h1>Share Your Travels</h1>
   <h2>New York - Central Park</h2>
   <p>Photo by Randy Connolly</p>
   <p>This photo of Conservatory Pond in
      <a href="http://www.centralpark.com/">Central Park</a>
      New York City was taken on October 22, 2011 with a
      <strong>Canon EOS 30D</strong> camera.
   </p>
   <img src="images/central-park.jpg" alt="Central Park" />

   <h3>Reviews</h3>
   <div>
      <p>By Ricardo on <time>September 15, 2012</time></p>
      <p>Easy on the HDR buddy.</p>
   </div>

   <div>
      <p>By Susan on <time>October 1, 2012</time></p>
      <p>I love Central Park.</p>
   </div>

   <p><small>Copyright &copy; 2012 Share Your Travels</small></p>
</body>
```

1 2 3 4 5 6 7 8 9

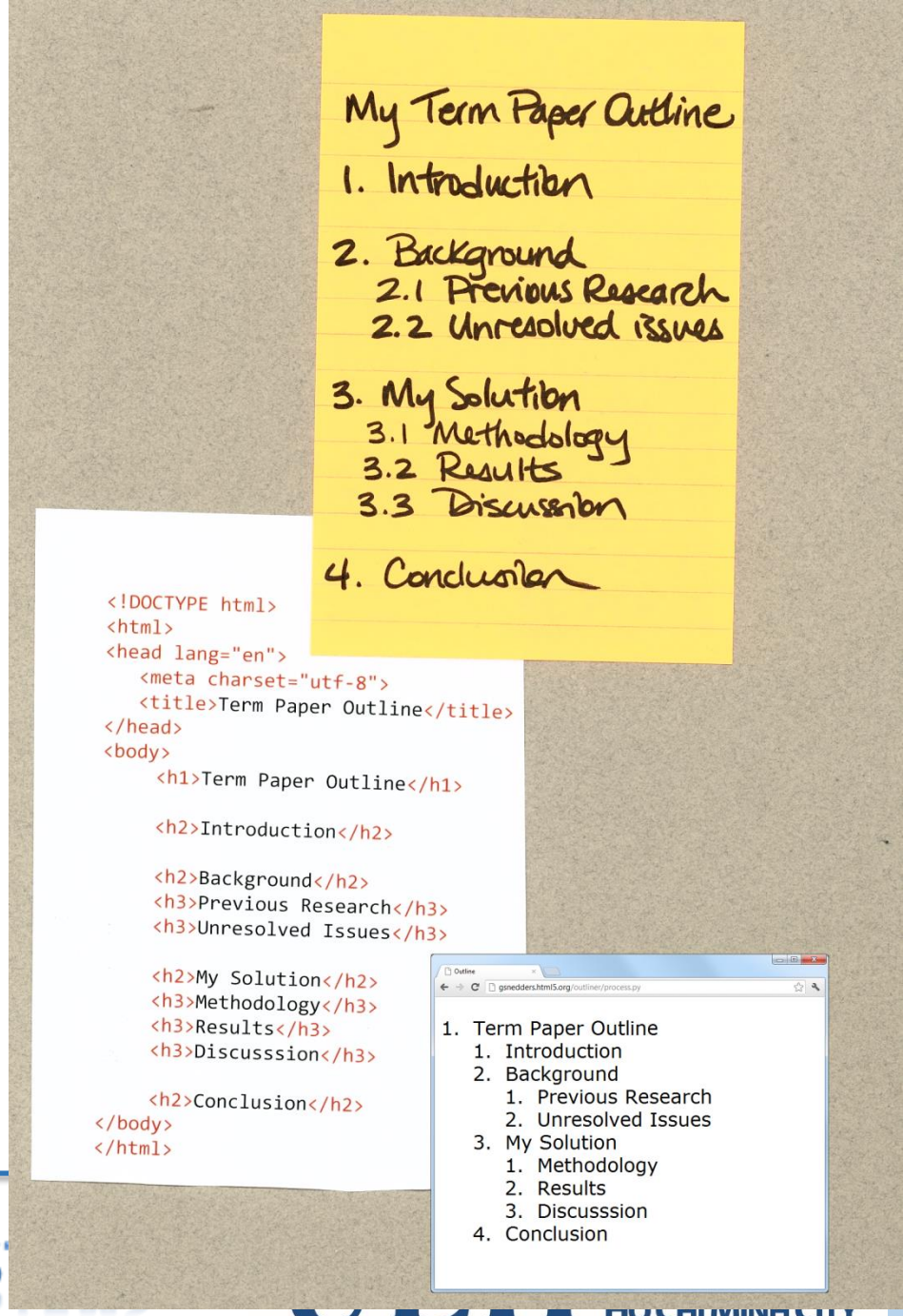


1 Headings

<h1>, <h2>, <h3>, etc

HTML provides six levels of heading (**h1, h2, h3**, …), with the higher heading number indicating a heading of less importance.

Headings are an essential way for document authors use to show their readers the structure of the document.



Headings

The browser has its own default styling for each heading level.

However, these are easily modified and customized via CSS.

2 Paragraphs

<p>

Paragraphs are the most basic unit of text in an HTML document.

Notice that the **<p>** tag is a container and can contain HTML and other **inline HTML elements**

inline HTML elements refers to HTML elements that do not cause a paragraph break but are part of the regular “flow” of the text.

6 Divisions

This ** ** tag is also a container element and is used to create a logical grouping of content

- The element has no intrinsic presentation.
- It is frequently used in contemporary CSS-based layouts to mark out sections.

❸ Links

<a>

Links are created using the **<a>** element (the “a” stands for anchor).

A link has two main parts: the destination and the label.

```
<a href="http://www.centralpark.com">Central Park</a>
```

Destination

Label (text)

```
<a href="index.html"><img src="logo.gif" /></a>
```

Label (image)

Different link destinations

Link to external site

```
<a href="http://www.centralpark.com">Central Park</a>
```

Link to resource on external site

```
<a href="http://www.centralpark.com/logo.gif">Central Park</a>
```

Link to another page on same site as this page

```
<a href="index.html">Home</a>
```

Link to another place on the same page

```
<a href="#top">Go to Top of Document</a>
```

Link to specific place on another page

```
<a href="productX.html#reviews">Reviews for product X</a>
```

Link to email

```
<a href="mailto://person@somewhere.com">Someone</a>
```

Link to javascript function

```
<a href="javascript://OpenAnnoyingPopup();">See This</a>
```

Link to telephone (automatically dials the number when user clicks on it using a smartphone browser)

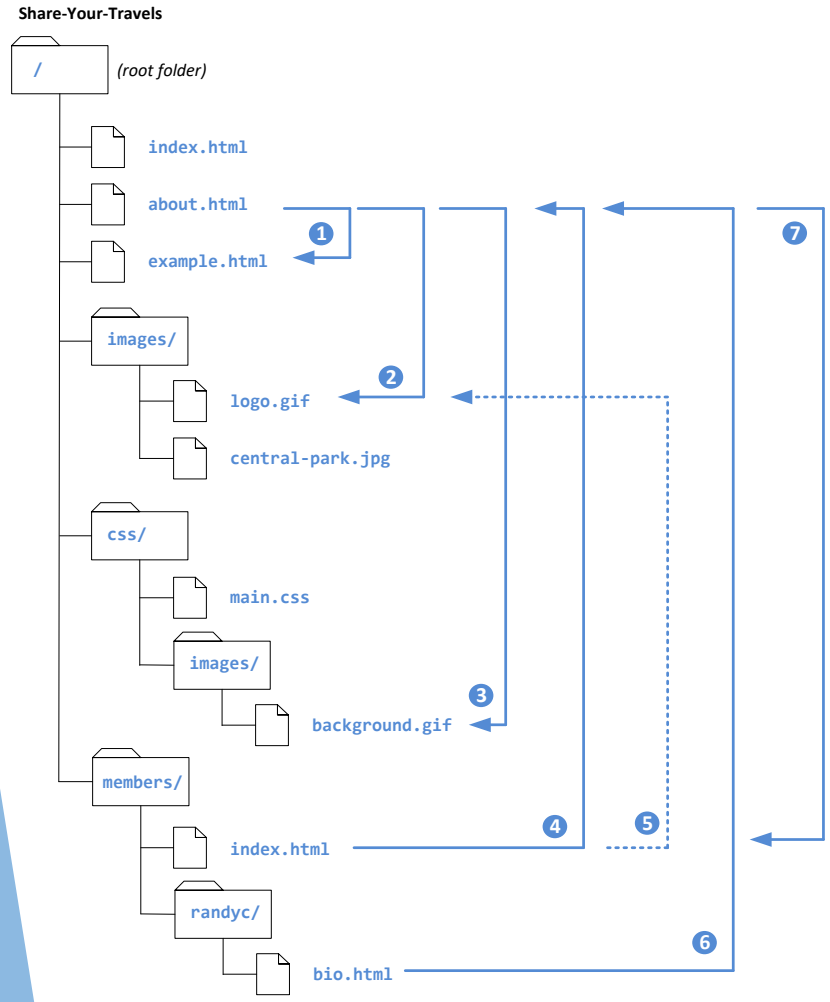
```
<a href="tel:+18009220579">Call toll free (800) 922-0579</a>
```

Pathnames

Pathnames on the web follow Unix conventions.

- Forward slashes (“/”) are used to separate directory names from each other and from file names.
- Double-periods (“..”) are used to reference a directory “above” the current one in the directory tree.

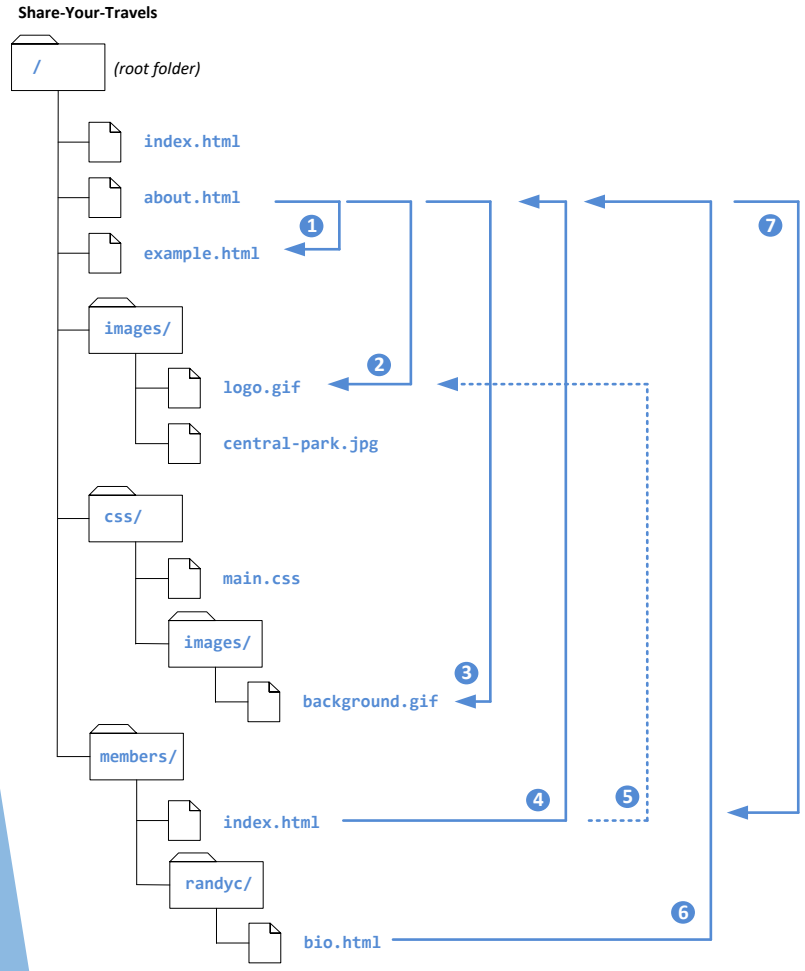
URL Relative Referencing



Relative Link Type	Example
Same Directory 1 To link to a file within the same folder, simply use the file name.	To link to example.html from about.html (in Figure 2.18), use: `<a href="example.html">`
Child Directory 2 To link to a file within a subdirectory, use the name of the subdirectory and a slash before the file name.	To link to logo.gif from about.html, use: `<a href="images/logo.gif">`
Grandchild/Descendant Directory 3 To link to a file that is multiple subdirectories *below* the current one, construct the full path by including each subdirectory name (separated by slashes) before the file name.	To link to background.gif from about.html, use: `<a href="css/images/background.gif">`

Parent/Ancestor Directory
4 Use "../" to reference a folder *above* the current one. If trying to reference a file several levels above the current one, simply string together multiple "../".
	To link to about.html from index.html in members, use:
	`<a href="../about.html">`
	To link to about.html from bio.html, use:
	`<a href="../../about.html">`

URL Relative Referencing



Sibling Directory

5

Use "../"to move up to the appropriate level, and then use the same technique as for child or grandchild directories.

To link to logo.gif from index.html in members, use:

```
<a href="../images/about.html">
```

To link to background.gif from bio.html, use:

```
<a href="../../css/images/background.gif">
```

Root Reference

6

An alternative approach for ancestor and sibling references is to use the so-called **root reference** approach. In this approach, begin the reference with the root reference (the "/") and then use the same technique as for child or grandchild directories. **Note that these will only work on the server! That is, they will not work when you test it out on your local machine.**

To link to about.html from bio.html, use:

```
<a href="/about.html">
```

To link to background.gif from bio.html, use:

```
<a href="/images/background.gif">
```

Default Document

7

Web servers allow references to directory names without file names. In such a case, the web server will serve the default document, which is usually a file called index.html (apache) or default.html (IIS). **Again, this will only generally work on the web server.**

To link to index.html in members from about.html, use either:

```
<a href="members">
```

Or

```
<a href="/members">
```

Inline Text Elements

Do not disrupt the flow

Inline elements do not disrupt the flow of text (i.e., cause a line break).

HTML5 defines over 30 of these elements.

e.g., <a>,
, ,

Images

Specifies the URL of the image to display
(note: uses standard relative referencing)

Text in title attribute will be displayed in a popup tool tip when user moves mouse over image.

```
<img src="images/central-park.jpg" alt="Central Park" title="Central Park" width="80" height="40" />
```

Text in alt attribute provides a brief description of image's content for users who are unable to see it.

Specifies the width and height of image in pixels.

Lists

HTML provides three types of lists

Unordered lists. Collections of items in no particular order; these are by default rendered by the browser as a bulleted list.

Ordered lists. Collections of items that have a set order; these are by default rendered by the browser as a numbered list.

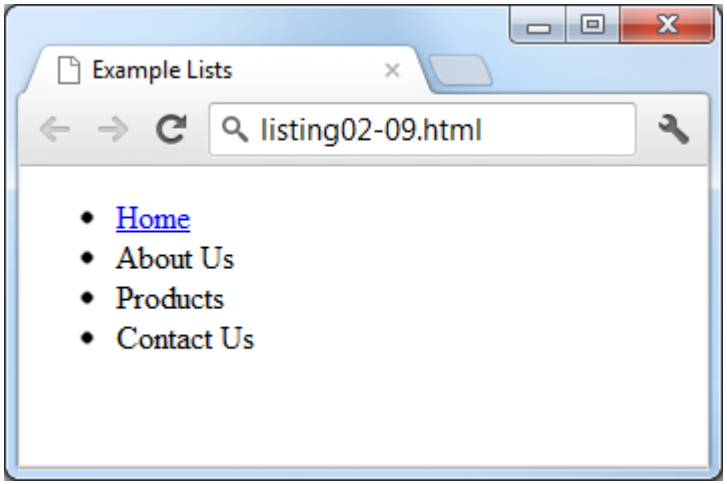
Definition lists. Collection of name and definition pairs. These tend to be used infrequently. Perhaps the most common example would be a FAQ list.

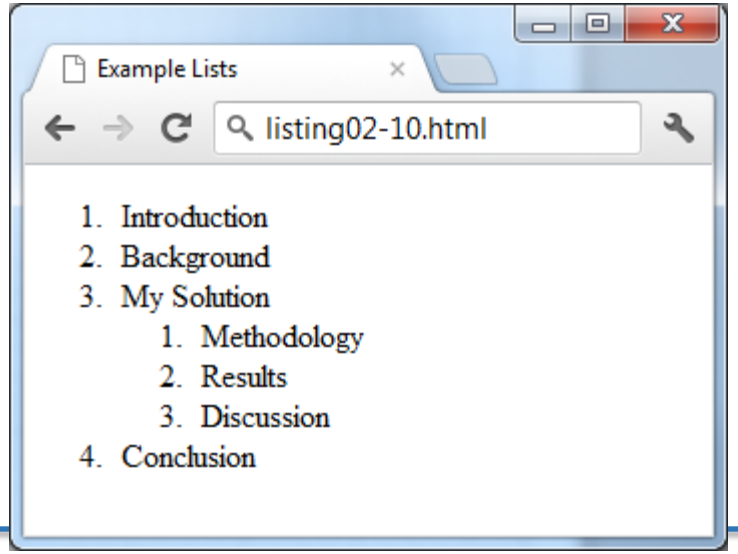
Lists

Notice that the list item element can contain other HTML elements

```
<ul>
   <li><a href="index.html">Home</a></li>
   <li>About Us</li>
   <li>Products</li>
   <li>Contact Us</li>
</ul>
```

```
<ol>
   <li>Introduction</li>
   <li>Background</li>
   <li>My Solution</li>
   <li>
      <ol>
         <li>Methodology</li>
         <li>Results</li>
         <li>Discussion</li>
      </ol>
   </li>
   <li>Conclusion</li>
</ol>
```





Character Entities

These are special characters for symbols for which there is either no way easy way to type in via a keyboard (such as the copyright symbol or accented characters) or which have a reserved meaning in HTML (for instance the “<” or “>” symbols).

They can be used in an HTML document by using the entity name or the entity number.

e.g.,   and ©


TRƯỜNG ĐẠI HỌC KINH TẾ TP. HỒ CHÍ MINH
UEH
1976
UNIVERSITY OF ECONOMICS HO CHI MINH CITY

Q&A