Web Basics - HTML
Lesson 1. HTML Basics

Capgemini

Lesson Objectives

After completing this lesson, you will be able to:
- Understand the structure of an HTML page.
- Learn to apply physical/logical character effects.
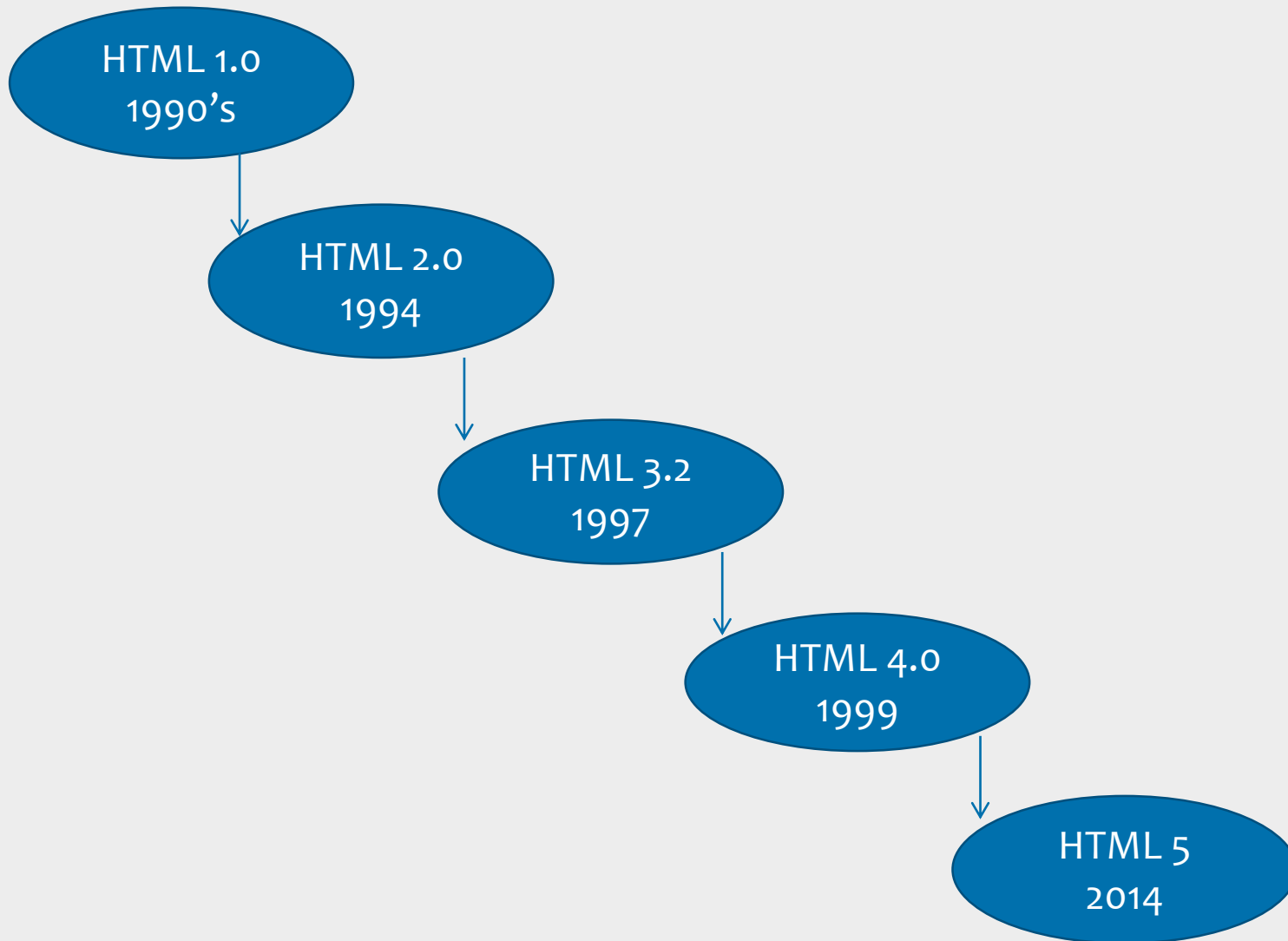- Learn to manage document spacing.
- New Semantic Elements in HTML 5

What is HTML?

HTML is a language for describing web pages.
- It stands for Hyper Text Markup Language
- HTML is a markup language and not a programming language
- HTML uses markup tags to describe web pages.

Evolution of HTML

HTML 1.0
1990's

HTML 2.0
1994

HTML 3.2
1997

HTML 4.0
1999

HTML 5
2014

HTML5 – The Good News !!!

Good support on modern mobile devices (iOS, Android)

Simpler, more intuitive syntax

Video and Audio can be included without requiring a plug-in

Incremental improvements to previous HTML challenges

Much needed next step in HTML evolution

Creative enhancements: Rounded corners, gradients, text layout

Promising support of Mobile JS Frameworks (Sencha, jQTouch)

HTML5 - Browser Support

Android 2.2

Chrome 6

Firefox 4.0

Safari Mobile

Opera 10.6

IE 9

Safari 5

HTML Elements

Most Web documents are created using HTML.

Documents are saved with extension .html or .htm.

Tags are strings in the language surrounded by a less-than (<) and a greater-than (>) sign.

- Opening tag: <html>   Ending tag: </html>

Can have Attributes

- Attributes are Name-Value pairs added to HTML start tags.

Rules applicable for HTML5 Tags

Rules for HTML5 Tags are:
- The document must included with an HTML5 DOCTYPE.
- Tags and attriutes are case-insensitive.
- Attributes do not need to be quoted.
- End tags are not required for every element.
- Some attributes may be empty such as checked and disabled .
  - For example, <input type=checkbox checked>
- Only void elements such as br, img and link may be "self-closed" with />.

HTML Elements (Code)

Code Snippet

```
An HTML document appears as follows:
<!DOCTYPE HTML>
<html>
    <head>
            <title>Title of page</title>
    </head>
    <body>
            This is my first homepage. <b>This text is
bold</b>
    </body>
</html>
```

HTML Document Sections

HTML Head Section:
- \<head\>…\</head\>
  - Page Title, Base URL, Meta Information

HTML Body Section:
- \<body\>…\</body\>
  - Text, Images, Tables Colors, etc.

Head Section: Page Title (Code)

Code Snippet

```
Document Title is displayed using <title>…..</title> tag.
<!DOCTYPE HTML>
<html>
    <head>
            < title>
                    My First Page
            </ title>
    </head>
</html>
```

Demo

Firstpage.html

Head Section: Document Base URL

Code Snippet

```
<!DOCTYPE HTML>
<html>
    <head>
            <title> Document Base URL Manipulation </title>
            <base href="URL/">
    </head>
</html>
```

More Examples:

```
<base href="http://www.state.edu/images/">
<base href="ftp://ftp.state.edu/images/">
```

Head Section: Meta Information

The <meta> tag provides metadata about the HTML document such as descriptions and keywords for search engine.
Metadata will not be displayed on the page, but will be machine parsable.
Examples:

```
<meta … … .>

<meta name="keywords" content="HTML, CSS" />

<meta name="author" content="Username">

<meta http-equiv=refresh content=60 />

<meta http-equiv=refresh content="20;url=c:/html/htm3.htm" />

<meta charset="UTF-8">
```

Demo

Meta.html

HTML Body Section

<body> Element:
- Represents information content.
- Each document can have at most one <body> element.
- Body element is placed between </head> and </html> elements.
- Attributes supported in <body> element are:
  - Event Handler attributes like ononline, onoffline, onunload, onpagehide, onpageshow, etc..
  - Global attributes like id, style, class, hidden, lang, etc..

Document (Body) Contents

Body Text

- HTML truncates spaces in your text.
- Use <br> to insert new lines.
- Use <p> tag to create paragraphs.

Other Elements of Body Section:

- <table> tags are used to create tables.
- <img> tags are used to insert images.

Comments in HTML Document

Increase code readability.

Ignored by the browser.

Example of HTML comment:

- <!-- This is a Sample HTML Comment -->

Demo

Body.html

Home Page Concepts

Most popular home pages reflects the personality of the sponsoring organization or corporation.

Keep the initial home page short and to the point.

First element visitor sees is a collection of navigation buttons to navigate to other pages.

When you publish a URL in print or any other marketing material, it points to the location of your home page.

Physical Character Effects

Tags applies physical character effects by formatting the characters are listed below:

Tag Name	Description	Example
..	To specify bold text	**Language**
<i>..</i>	Displays content in italic to define a part of text in an alternate voice or mood	*Language*
<u>..</u>	Tags make text between them underlined	<u>Language</u>
<s>..</s>	Tags make text between them appear striked out	~~Language~~
_{..}	To specify subscript text	H_2o
^{..}	To define superscript text	27th May

Demo

PhysicalCharacterEffect.html

Logical Character Effects

Heading Styles:
- <hn>…………</hn>

Value of n can range from 1 to 6

Syn

<h1>This is level 1 heading</h1>

Logical Character Effects (Contd…)

<code>	Displays any code part in the web page.
<var>	Displays any variable on the web page.
<kbd>	Displays computer commands and arguments.
<em>	Highlights specific areas of text enclosed within it.
<strong>	Used for defining important text.
<dfn>	Designed specifically for words and phrases defined in text.
<address>	Specifies information about the creator e.g. Address, mailing address.

Special Characters in HTML

Character Entities
- Comprise following three parts:
  - Ampersand (&),
  - Entity name or a #
  - Character code
  - Semicolon (;)
- Included in HTML page using:
  - Character code/Entity number: Include any character using its ISO Latin 1 character code.
  - To display ">" symbol, character code is 62 i.e. >

Managing Document Spacing

Horizontal Spacing
- Use <hr> tag for including horizontal rule in an HTML document

Vertical Spacing
- <p>: Paragraph Break
-
: Line Break

Demo

LCharacterEffects.htm
Spacing.html

Preformatted Text (Code)

<pre>…</pre> Tags display preformatted blocks of text with a fixed-space font.

<pre> tag displays text with white space, line breaks, and tabs.

Examples:

```
<!DOCTYPE html>
<html>
    <head><title> Preformatted Text</title>
    <body>
            <pre>Browser would display this paragraph
            as you are viewing here.
            No need to provide line or paragraph breaks.
</pre>
    </body>
</html>
```

Divisions in an HTML Document (Code)

The <div> tag defines a division or a section in an HTML document.
The <div> tag is used to group block-elements to format them with CSS.
Syntax:

Example:

```
<div>………..</div>
```

```
<!DOCTYPE html>
<html>
<body>
<div style="text-align: center">Text is center aligned.</div>
<div style="text-align: left">Text is left aligned.</div>
</body>
</html>
```

<span> in an HTML Document

The HTML <span> tag is used for grouping and applying styles to inline elements.

The span tag is used with inline elements whilst the div tag is used with block-level content.

Example:

```
<!DOCTYPE html>

<html>

<body>

HyperText Markup Language is the standard markup language

used to create <span style="color:blue;font-weight:bold">

static </span> web pages </body>

</html>
```

Block level element

Block elements separate content into blocks

Each block element is displayed on its own with a line break before and after it

Example for block elements are <p>,<div>, <ol>, <ul>, <li> etc..

- <div> element is a block level element that can be used as a container for other HTML elements

Inline element

Inline elements wont separate content into blocks

Inline elements are normally displayed without line breaks.

Inline element is just displayed in the flow of the paragraph

Example for Inline elements are <b>,<i>,<u>,<em>, <a>, <td>, <img>, etc..

- <span> element is an inline element that can be used as a container for text.

Rules

All inline elements and text need to be nested inside another block element before they can go in the <body> element

Block elements are not allowed inside an inline element

Keep block elements out of your <p> element

Put text and inline elements inside block elements before adding them to a <blockquote>

For an example:

- and <ul> can have only
- We can put text, inline elements or block elements inside

Example of Inline and Block elements

```
<!DOCTYPE html>
<html>
<body>
<p>HyperText Markup Language is the standard markup
language used to create <span style="color:blue;font-
weight:bold"> static </span> web pages. JavaScript is a
scripting language used to make web page content as
<span style="color:orange;font-
weight:bold">dynamic</span>.</p>
</body>
</html>
```
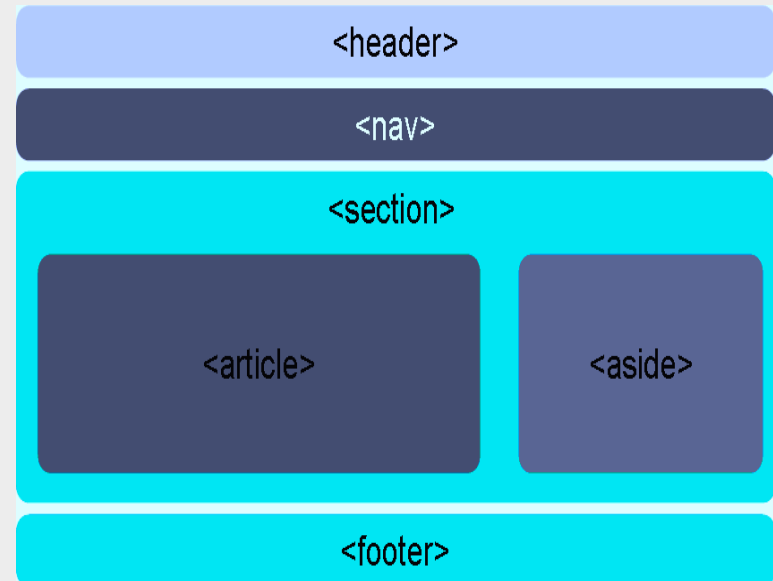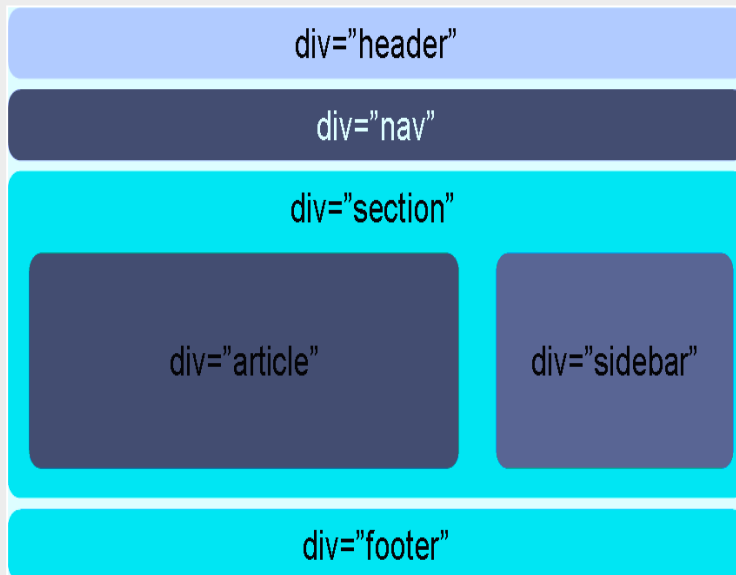
Laying out a page with HTML5

Most HTML 4 pages include a variety of common structures, such as headers, footers and columns

It's common to mark them up using div elements, giving each a descriptive id or class

HTML 5 addresses this issue by introducing new elements for representing each of these different sections

Elements that make it much easier to structure pages

div="header"

div="nav"

div="section"

div="article"	div="sidebar"

div="footer"

<header>

<nav>

<section>

<article>	<aside>

<footer>

New Semantic Elements in HTML 5

HTML Tag	Description
<article>	Defines a complete, self-contained block of related elements.
<aside>	Defines some content aside from the content it is placed in (like a sidebar
<footer>	Defines a footer for a document or section which contains the author of the document, copyright information, links to terms of use, contact information
<header>	Defines a header for a document or section. It can be used as a container for introductory content.
<nav>	Defines a set of navigation links
<section>	Defines a section in a document

Demo

LayoutDemo.html

Lab Session

Lab 1

Summary

In this lesson, you have learnt about
- The structure of an HTML page.
- Physical/logical character effects
- Managing document spacing.
- New Semantic elements in HTML5

Review Question

Question 1:Which of the following are newly added content tags in HTML5?
- Option1: article
- Option2: div
- Option3: section
- Option4: p

Question 2:HTML document is saved with an extension .xml.
- True/False

Question 3:A Var tag is used to display the_____in the web page.

Review Question: Match the Following

1. Code	a) Tag displays user-entered computer commands and arguments
2. Var	b) Tag is used for defining important text.
3. Kbd	c) Tag displays any code part on the web page.
4. Emphasis	d) Tag displays any variable on the web page.
5. Strong	e) This tag designed specifically for words and phrases that are defined in the text.
6. Definition	f) Tag for generic emphasis means this tag highlight specific areas of text.