

IS 242 Web Application Development 1

Lecture 2: Introduction to HTML5: PART (2)

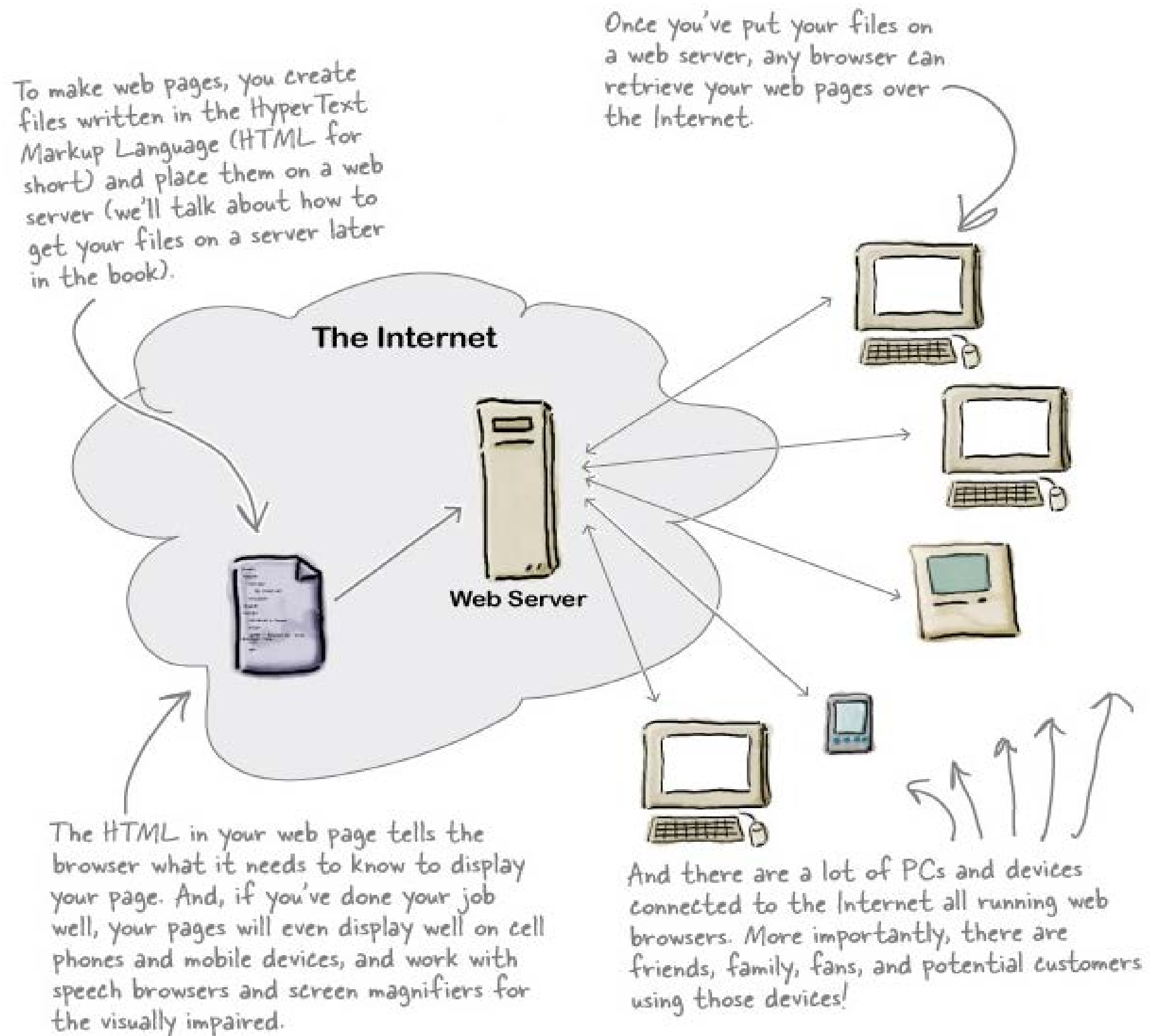
Outlines of today's lecture

- HTML attributes
- HTML Styling
- HTML Text Formatting Elements
- HTML Image Element
- HTML Figure Element
- HTML Hyperlink Element
- HTML Lists Elements
- HTML Tables Elements

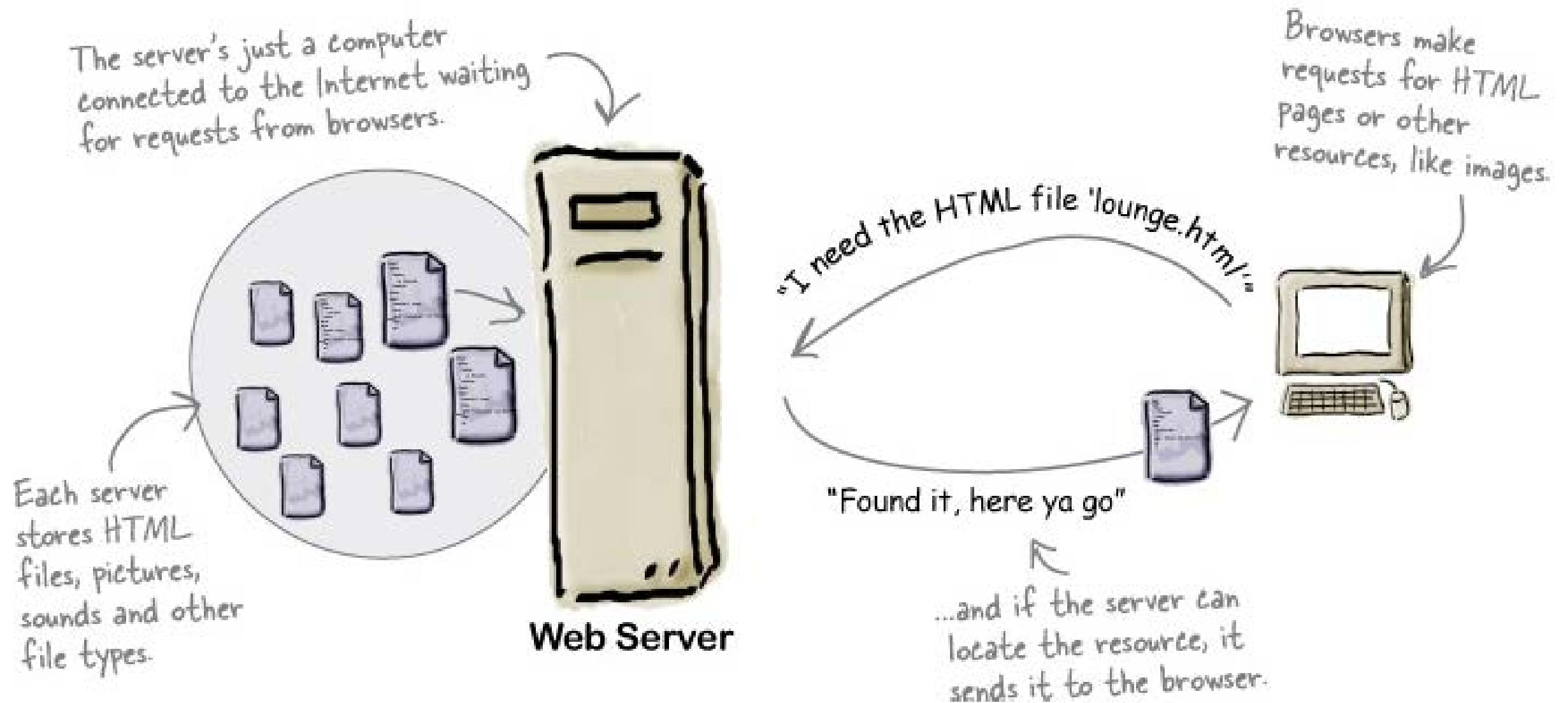
But first ... what we addressed last week

- What is HTML?
- Why do we use it?
- What is the general structure of HTML documents?
- What elements did we cover?
- How did the lab go?!

Let's look at the big picture again!

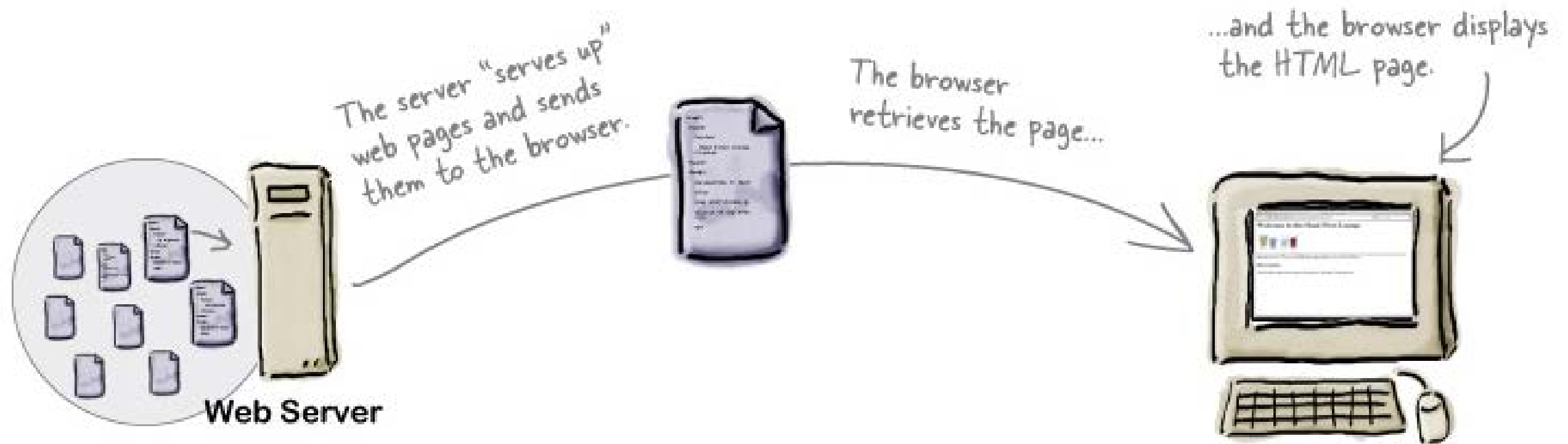


What does the web server do?



From *Head first HTML and CSS*, by Robson, E., & Freeman, E., 2012, O'Reilly Media, Inc

What does the browser do?



From *Head first HTML and CSS*, by Robson, E., & Freeman, E., 2012, O'Reilly Media, Inc

HTML Attributes

- HTML elements can have attributes
- Attributes provide **additional information** about an **element**
- Attributes are always specified in the **start tag**
- Attributes come in **name/value pairs** like:
name="value"
- Always use **lowercase** and **quote** your attribute values

Examples

- The lang Attribute

- The lang attribute specifies the language of the element's content
- **Syntax:** `<element lang="language_code">`
- [Language code reference](#)
- The document language can be declared in the `<html>` tag
- Example: `<html lang="en-US">`
- Declaring a language is important for **accessibility applications** (such as screen readers) and **search engines**—it helps search engines in filtering results based on the user's linguistic preferences.

- The title Attribute

- Specifies extra information about an element
- The information is most often shown as a tooltip text when the mouse moves over the element
- Example: `<p title="this is a paragraph title">`

What if?!

- Are quotations necessary in attribute values?
 - Omitting quotes might **produce errors!** So always use them.
- Single or double quotes?
 - It depends on the value of the attribute.

HTML Styling

- Use the **style** attribute for styling HTML elements
 - The HTML style attribute has the following *syntax*: `style="property:value"`. The *property* is a CSS property. The *value* is a CSS value.
- Use **background-color** for background color
 - Example: `<body style="background-color:lightgrey">`
- Use **color** for text colors
 - Example:
`<h1 style="color:blue">This is a heading</h1>`
`<p style="color:red">This is a paragraph.</p>`

HTML Styling

- Use `font-family` for text fonts
 - Example:
`<h1 style="font-family:verdana">This is a heading</h1>`
`<p style="font-family:courier">This is a paragraph.</p>`
- Use `font-size` for text sizes
 - Example:
`<h1 style="font-size:300%">This is a heading</h1>`
`<p style="font-size:160%">This is a paragraph.</p>`
- Use `text-align` for text alignment
 - Example:
`<h1 style="text-align:center">Centered Heading</h1>`

HTML Text Formatting Elements

- learned about HTML **styling**, using the HTML **style attribute**.
- HTML also defines special **elements**, for defining text with a special **meaning**.
- HTML uses elements like `` and `<i>` for formatting output, like **bold** or *italic* text.



HTML Text Formatting Elements

Tag	Description
<u></u>	Defines bold text
<u></u>	Defines emphasized text
<u><i></u>	Defines italic text
<u><small></u>	Defines smaller text
<u></u>	Defines important text
<u><sub></u>	Defines subscripted text
<u><sup></u>	Defines superscripted text
<u><ins></u>	Defines inserted text
<u></u>	Defines deleted text
<u><mark></u>	Defines marked/highlighted text

HTML Text Formatting Elements

- Examples:
 - The HTML `` element defines **strong** text, with added semantic "strong" importance:
 - `<p>This text is strong.</p>`
 - The HTML `` element defines *emphasized* text, with added semantic importance:
 - `<p>This text is emphasized.</p>`
 - The HTML `<small>` element defines **small** text:
 - `<h2>HTML <small>Small</small> Formatting</h2>`

HTML Image Element

- We've shown how to mark up documents that contain only text, but web pages **may also contain images, animations, graphics, audios and even videos.**
- **img element** is used to include an image in the document.
- **HTML Images Syntax**
 - In HTML, images are defined with the `` tag.
 - The `` tag is **empty**, it contains **attributes only**, and **does not have a closing tag.**

Image Attributes

- The **src** attribute
 - Tells the browser where it can find the image file
 - It is good practice to **create a folder for all of the images** the site uses
- The **alt** attribute
 - Specifies an **alternate text for the image**, if it cannot be displayed
 - The value of the alt attribute should describe the image in words, hence it is **useful for accessibility applications**
- Image Size – **Width** and **Height**
 - You can use the attributes **width** and **height** to specify the size of an image
 - The values are specified in pixels
 - Images often take longer to load than the HTML code that makes up the rest of the page. It is, therefore, a good idea to specify the size of the image **so that the browser can render the rest of the text on the page while leaving the right amount of space for the image that is still loading**

HTML Image Element-Example

Example:

```

```

HTML FIGURE ELEMENT

- Images often come with captions. **HTML5** has introduced a new `<figure>` **element** to contain images and their caption `<figcaption>` so that the two are associated

- You can have **more than one** image inside the `<figure>` element as long as they all share the same caption

```
<!doctype html>
<html>
  <body>
    <figure>
      <img .... />
      <figcaption>
        figure caption goes here.
      </figcaption>
    </figure>
  </body>
</html>
```

HTML Hyperlink Element

- A hyperlink references or links to other resources, such as HTML documents, sections within documents, images...etc
- Can be a text, or an image that you can click on, and jump to another document
- Web browsers typically **underline text hyperlinks** and color them blue by default
- In HTML, links are defined with the `<a>` tag
- **Link Syntax:** `link text`
 - The **href** attribute specifies the destination of a link
 - The **link text** is the visible part and it does not have to be text. It can be an HTML image or any other HTML element
- Example: `This is a link`

HTML Hyperlink Element

- The target attribute specifies where to open the linked document
- To open the linked document in a new window or tab:
target="_blank"

Example:

```
<a href="http://www.w3schools.com/" target="_blank">Visit  
W3Schools!</a>
```

- To open the linked document in the full body of the window or tab:
target="_top"

Example:

```
<a href="http://www.w3schools.com/" target="_top" >Visit  
W3Schools!</a>
```

HTML Hyperlink Element

- The `id` attribute can be used to create bookmarks inside HTML documents.
- Bookmarks are not displayed in any special way. They are invisible to the reader.

- **Example**

Add an `id` attribute to any `<a>` element:

```
<a id="tips">Useful Tips Section</a>
```

Then create a link to the `<a>` element (Useful Tips Section):

```
<a href="#tips">Visit the Useful Tips Section</a>
```

Or, create a link to the `<a>` element (Useful Tips Section) from another page:

```
<a href="http://www.w3schools.com/html_links.htm#tips">Visit  
the Useful Tips Section</a>
```

HTML Lists Elements

- HTML offers three types of lists:

- Unordered lists

Unordered HTML List

- The first item
- The second item
- The third item
- The fourth item

- Ordered lists

Ordered HTML List

1. The first item
2. The second item
3. The third item
4. The fourth item

- Description lists

HTML Description List

The first item

Description of item

The second item

Description of item

Unordered Lists

- An unordered list starts with the `` tag
- Each list item starts with the `` tag
- The list items will be marked with bullets which are small black circles (default)
- Style attribute might be added to the `` tag to define how the list items will be marked

Style	Description
<code>list-style-type:disc</code>	The list items will be marked with bullets (default)
<code>list-style-type:circle</code>	The list items will be marked with circles
<code>list-style-type:square</code>	The list items will be marked with squares
<code>list-style-type:none</code>	The list items will not be marked

Examples–Different Styles of Unordered List

```
1  <html>
2    <body>
3      <h4>Disc bullets list:</h4>
4      <ul style="list-style-type:disc">
5        <li>Apples</li>
6        <li>Bananas</li>
7        <li>Lemons</li>
8        <li>Oranges</li>
9      </ul>
10     <h4>Circle bullets list:</h4>
11     <ul style="list-style-type:circle">
12       <li>Apples</li>
13       <li>Bananas</li>
14       <li>Lemons</li>
15       <li>Oranges</li>
16     </ul>
17     <h4>Square bullets list:</h4>
18     <ul style="list-style-type:square">
19       <li>Apples</li>
20       <li>Bananas</li>
21       <li>Lemons</li>
22       <li>Oranges</li>
23     </ul>
24   </body>
25 </html>
```

Disc bullets list:

- Apples
- Bananas
- Lemons
- Oranges

Circle bullets list:

- Apples
- Bananas
- Lemons
- Oranges

Square bullets list:

- Apples
- Bananas
- Lemons
- Oranges

Ordered Lists

- An ordered list starts with the `` tag
- Each list item starts with the `` tag
- The list items will be marked with numbers (default)
- A **type** attribute can be added to an **ordered list**, to define the type of the marker

Examples— Different Styles of Ordered List

```
1 <html>
2 <body>
3 <h4>Numbered list:</h4>
4 <ol>
5   <li>Apples</li>
6   <li>Bananas</li>
7   <li>Lemons</li>
8   <li>Oranges</li>
9 </ol>
10 <h4>Letters list:</h4>
11 <ol type="A">
12   <li>Apples</li>
13   <li>Bananas</li>
14   <li>Lemons</li>
15   <li>Oranges</li>
16 </ol>
17 <h4>Lowercase letters list:</h4>
18 <ol type="a">
19   <li>Apples</li>
20   <li>Bananas</li>
21   <li>Lemons</li>
22   <li>Oranges</li>
23 </ol>
24 <h4>Roman numbers list:</h4>
25 <ol type="I">
26   <li>Apples</li>
27   <li>Bananas</li>
28   <li>Lemons</li>
29   <li>Oranges</li>
30 </ol>
31 <h4>Lowercase Roman numbers list:</h4>
32 <ol type="i">
33   <li>Apples</li>
34   <li>Bananas</li>
35   <li>Lemons</li>
36   <li>Oranges</li>
37 </ol>
38
39 </body>
40 </html>
```

Numbered list:

1. Apples
2. Bananas
3. Lemons
4. Oranges

Letters list:

- A. Apples
- B. Bananas
- C. Lemons
- D. Oranges

Lowercase letters list:

- a. Apples
- b. Bananas
- c. Lemons
- d. Oranges

Roman numbers list:

- I. Apples
- II. Bananas
- III. Lemons
- IV. Oranges

Lowercase Roman numbers list:

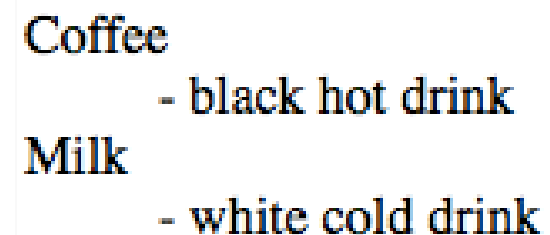
- i. Apples
- ii. Bananas
- iii. Lemons
- iv. Oranges

Description/Definition Lists

- A description/definition list, is a list of terms, with a description of each term
- The **<dl>** tag defines a description list
- The **<dt>** tag defines the definition term, and the **<dd>** tag defines the data (description)

- **Example:**

```
1  <dl>
2      <dt>Coffee</dt>
3      <dd>- black hot drink</dd>
4      <dt>Milk</dt>
5      <dd>- white cold drink</dd>
6  </dl>
```



Coffee
- black hot drink
Milk
- white cold drink

Tip: Inside a list item you can put text, line breaks, images, links, other lists, etc.

Example–Nested List

```
1  <html>
2    <body>
3      <h4>A nested List:</h4>
4      <ul>
5        <li>Coffee</li>
6        <li>Tea
7          <ul>
8            <li>Black tea</li>
9            <li>Green tea</li>
10         </ul>
11       </li>
12       <li>Milk</li>
13     </ul>
14   </body>
15 </html>
```

A nested List:

- Coffee
- Tea
 - Black tea
 - Green tea
- Milk

HTML Tables Elements

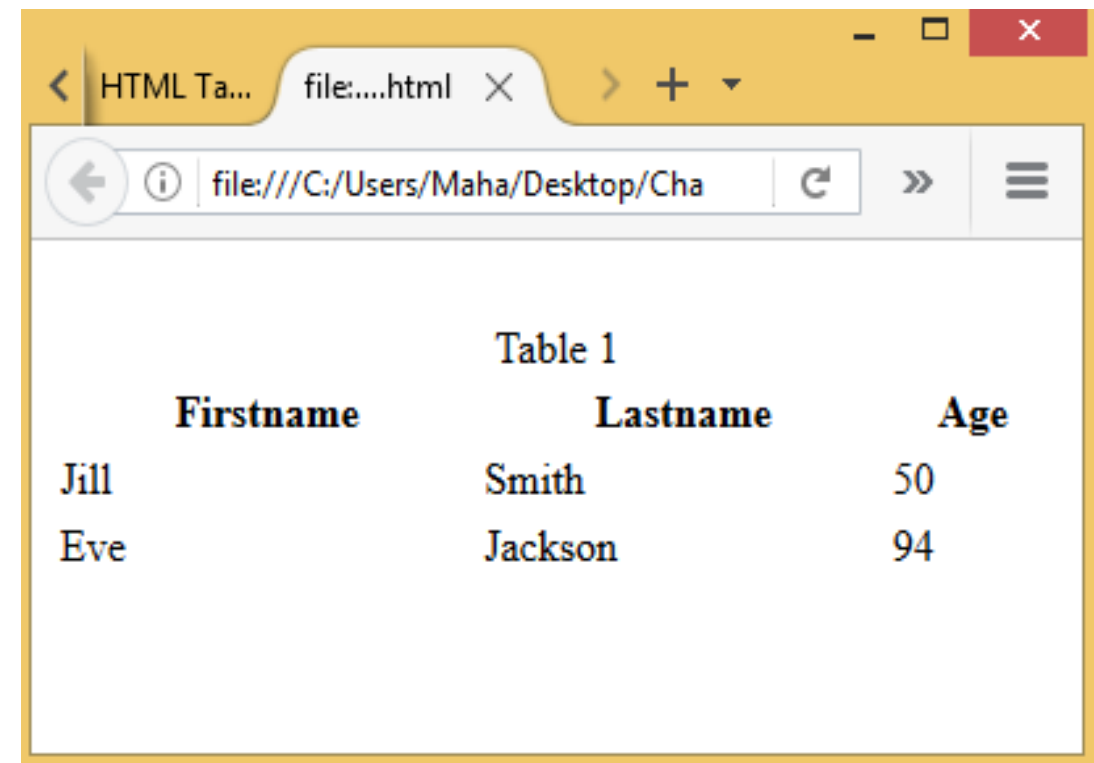
- Tables are defined with the `<table>` tag
- A table is divided into rows (with the `<tr>` tag), and each row is divided into data cells (with the `<td>` tag). `td` stands for "table data," and holds the content of a data cell. A `<td>` tag can contain text, links, images, lists, forms, other tables, etc
- If you do not specify a **border** attribute, the table will be displayed without borders

Table Tags

Tag	Description
<code><table></code>	Defines a table
<code><th></code>	Defines a table header
<code><tr></code>	Defines a table row
<code><td></code>	Defines a table cell
<code><caption></code>	Define a table caption

HTML Tables Elements: Example1

```
<table style="width:100%">
  <caption>Table 1 </caption>
  <tr>
    <th>Firstname</th>
    <th>Lastname</th>
    <th>Age</th>
  </tr>
  <tr>
    <td>Jill</td>
    <td>Smith</td>
    <td>50</td>
  </tr>
  <tr>
    <td>Eve</td>
    <td>Jackson</td>
    <td>94</td>
  </tr>
</table>
```



A screenshot of a web browser window showing the rendered HTML table. The browser's address bar displays the file path: file:///C:/Users/Maha/Desktop/Cha. The table is titled "Table 1" and has three columns: "Firstname", "Lastname", and "Age". The data rows are as follows:

Firstname	Lastname	Age
Jill	Smith	50
Eve	Jackson	94

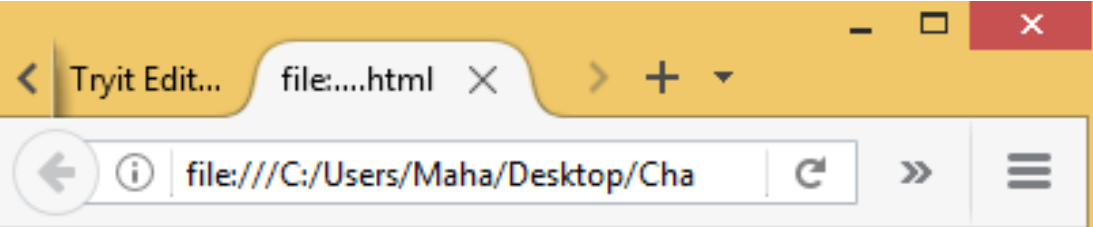
HTML Tables Elements: Example 2 & 3

- HTML Table – Adding a border: a border is set using the CSS **border** property. This will be declared into the **style element** that is in the **head** of the document:

```
table, th, td {  
    border: 1px solid black;  
}
```

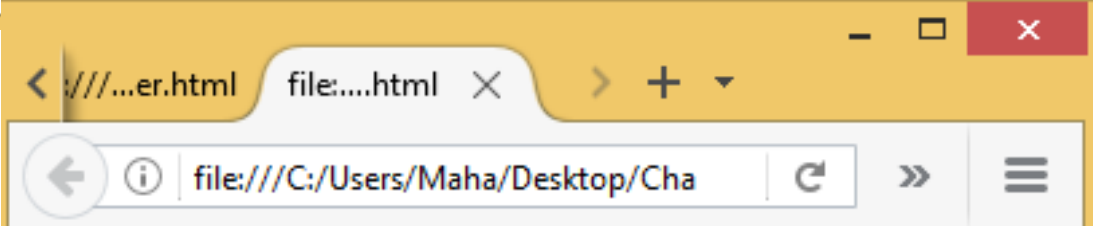
- If you want the borders to collapse into one border, add the CSS **border-collapse** property:

```
table, th, td {  
    border: 1px solid black;  
    border-collapse: collapse;  
}
```



The screenshot shows a web browser window with a single tab titled 'Tryit Edit...' and a file path 'file:....html'. The address bar shows 'file:///C:/Users/Maha/Desktop/Cha'. The browser displays a table titled 'Table 1' with three columns: 'Firstname', 'Lastname', and 'Age'. The table has two data rows: 'Jill' with 'Smith' and age '50', and 'Eve' with 'Jackson' and age '94'. Each cell in the table is outlined with a solid black border.

Firstname	Lastname	Age
Jill	Smith	50
Eve	Jackson	94



The screenshot shows a web browser window with a single tab titled '...er.html' and a file path 'file:....html'. The address bar shows 'file:///C:/Users/Maha/Desktop/Cha'. The browser displays a table titled 'Table 1' with three columns: 'Firstname', 'Lastname', and 'Age'. The table has two data rows: 'Jill' with 'Smith' and age '50', and 'Eve' with 'Jackson' and age '94'. The borders of the table and its cells are collapsed into a single border.

Firstname	Lastname	Age
Jill	Smith	50
Eve	Jackson	94

References

- www.w3schools.com
- Robson, E. , & Freeman, E. (2012). *Head first HTML and CSS*. O'Reilly Media, Inc.
- Duckett, J. (2011). *HTML and CSS: Design and Build Websites*. John Wiley & Sons.
- Deitel & Deitel (2011). *Internet and World Wide Web How to Program, 5th Edition*, Harvey & Paul Deitel & Associates.