HTML

Based mostly on
www.w3schools.com
What is HTML?

- The standard markup language for creating Web pages
- HTML stands for Hyper Text Markup Language
- HTML describes the structure of Web pages using markup
- HTML elements are the building blocks of HTML pages
- Your browser knows how to interpret and display HTML
- HTML is not WYSIWYG (what-you-see-is-what-you-get)
  - Almost like a programming language
HTML elements

• HTML elements are represented by tags
• HTML tags label pieces of content such as "heading", "paragraph", "table", and so on
• Browsers do not display the HTML tags, but use them to render the content of the page
• Tags come in pairs
  – Every element consists of a start tag and an end tag
  – Example: `<html>some html statements</html>`
  – Everything in between the start tag and end tag is an element controlled by that tag
HTML structure

- The root tag is `<html>`
  - Every HTML document is entirely contained in an `<html>` tag
- Two elements inside `<html>`: `<head>` and `<body>`
- The `<head>` element is a container for metadata
  - Always comes before `<body>`
  - Metadata is data about the HTML document (usually not displayed)
  - Two most common tags you can use in `<head>` are `<title>` and `<style>`
  - The `<title>` element contains the title of your webpage
  - The `<style>` element controls things like font type, font size, etc.
- The `<body>` element is the body of the your document
  - Contains the actual information that is displayed by your browser
HTML body

• Body has no specific structure
  – Elements are displayed in the order in which you write them
• Most common elements are:
  1. Headings
     – Six levels of importance, <h1> (most important) to <h6>
  2. Paragraphs
     – Contained in a <p> tag
  3. HTML links
     – Contained in an <a> tag (Ex: <a href="www.link.com">Some link</a>)
  4. HTML images
     – Defined with <img> tag
  5. New lines
     – Use the <br> tag (no need for a closing tag)
• HTML example:
  https://www.w3schools.com/html/tryit.asp?filename=tryhtml_intro
HTML elements

• Can have nested elements
• Tags are not case-sensitive
  – Good style to be consistent!
• Don’t forget to close tags!
  – Sometimes document will render correctly even if you forget
HTML attributes

• All HTML elements can have attributes
  – Attributes provide additional information about an element
  – Attributes are always specified in the start tag
  – Attributes usually come in name/value pairs like: name="value"

• Already saw the href attribute in links
  – Example: <a href="https://www.w3schools.com">This is a link</a>

• The src attribute used similarly in images
  – Example: <img src="img_girl.jpg">
  – Can also specify image width, height, etc.
  – HTML example:
    https://www.w3schools.com/html/tryit.asp?filename=tryhtml_attributes_img

• The style attribute specifies color, font, size, etc.
  – Usually used with a <p> tag but can appear in other places too
  – HTML example:
    https://www.w3schools.com/html/tryit.asp?filename=tryhtml_attributes_style
HTML display

• You cannot be sure how HTML will be displayed
  – Not WYSIWYG
  – Will also vary across browsers, versions, etc.
  – You should try to verify your output file in 2 browsers

• HTML does not recognize indentation, newline characters or any of the nice formatting stuff that Python has
  – Only thing it recognizes are tags
  – HTML example:
Formatting elements

- You can format your text in many ways:
  1. `<b>` - Bold text
  2. `<strong>` - Important text
  3. `<i>` - Italic text
  4. `<em>` - Emphasized text
  5. `<mark>` - Marked text
  6. `<small>` - Small text
  7. `<del>` - Deleted text
  8. `<ins>` - Inserted text
  9. `<sub>` - Subscript text
  10. `<sup>` - Superscript text
Block-level elements

• A block-level element always starts on a new line and takes up the full width available

• So far seen `<h1>`-`<h6>` and `<p>`

• Another important block-level element is `<div>`
  – Often used as a container for other HTML elements
  – It has no required attributes, but both style and class are common

• HTML example:
  https://www.w3schools.com/html/tryit.asp?filename=tryhtml_div_capitals

• Distinguish from inline elements
  – Examples: links (`<a>`), images (`<img>`)
Want to know more?

• You probably should: HTML is becoming incredibly powerful
  – HTML5 can embed videos, other programming languages, etc.
  – Browsers are know essentially operating systems in their own right

• A very good place to learn more is www.w3schools.com
  – Mostly just an intro but very accessible and easy to play with