Hello, World!

HTML/CSS

What is the web?

- Documents!
  - How do we create these documents?
  - What do they look like?

HTML

```
<html>
  <head>
    <title>Popular Websites: Google</title>
  </head>
  <body>
    <h1>About Google</h1>
    <p>Google is best known for its search engine, although
      Google now offers a number of other services.</p>
    <p>Google's mission is to organize the world's
      information and make it universally accessible and
      useful.</p>
    <p>Its founders Larry Page and Sergey Brin started
      Google at Stanford University.</p>
  </body>
</html>
```

HTML

- Documents contain certain pieces of information
  - Tags
    - Opening
    - Closing
  - Elements

- The documents for a tree
  - Parents
  - Children
  - Siblings

HTML – Document Structure

- Four important structural tags

```
<html>
  <head>
    <title>
    </title>
  </head>
  <body>
  </body>
</html>
```

HTML – Attributes

- Attributes describe something about a tag:

```
<a href="http://www.google.com/">Click here to visit Google's Web site.</a>
```

- Attributes have a name and a value
  - Always inside opening tag

Examining HTML

- Demo

Exercises

- Go to your favorite website and examine the HTML
  - Explain what you see

- Create a small webpage about yourself. It should include your name and a couple of sentences about you.

Attribute Groups

- Four attributes are special:
  - class
  - id
  - style
  - title

Text Formatting

- Headings (h1, h2, h3, h4, h5, h6)
- Paragraphs (<p>)
- Line breaks (
)

Block vs. Inline

- Block level elements appear as if there is a blank line before and after them
  - h1, h2, h3, h4, h5, h6, p, others

- Inline elements do not have these blank lines
  - <b>, <i>, <u>, etc.

<h1>Block-Level Elements</h1>
Block-level elements always start on a new line. The <code><h1></code> and <code> </code> elements will not sit on the same line, whereas the inline elements flow with the rest of the text.

Grouping

- There are several ways to group items
  -
  - <header>
  - <nav>
  - <article>
  - <hr>
  - <blockquote>
  - <footer>

Lists

- Three different types:
  - Ordered (
)
  - Unordered (
)
  - Definition (<dl><dt><dd>)

Exercises

- Edit your webpage to include a list of facts about yourself

- Create a list that includes the ingredients of your favorite recipe

Text Formatting

- You've already seen several text formatting tags
  - Like what?
  - A full list can be found here:

    http://www.w3schools.com/html/html_formatting.asp

- It is also useful to put <!-- comments --> in your code

Links

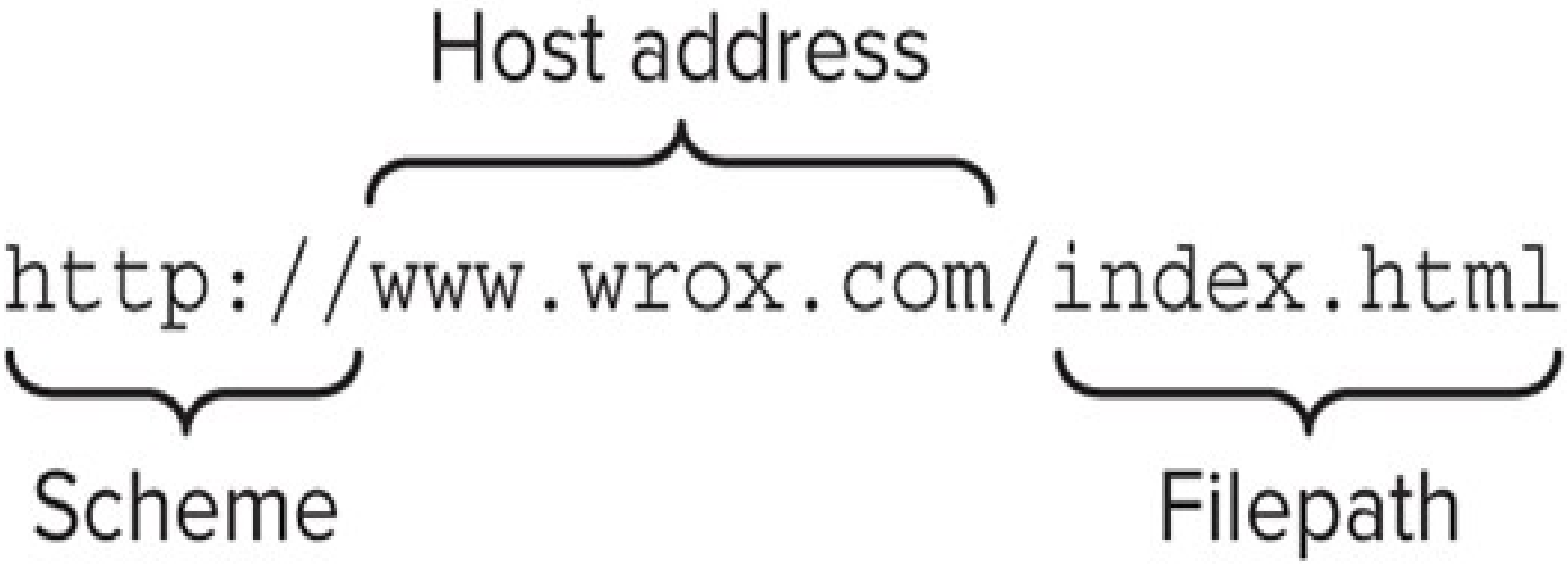
- Use the <a> tag
  - Must have href attribute
  - Can also include “title”

- Email addresses should start with “mailto:”

Directories

- Three flavors:
  - Root
  - Subdirectory
  - Parent Directory

URLs



URLs

- Absolute URLs

- Relative URLs
  - Same directory
  - Subdirectory
  - Parent directory

In-page Links

- In page links are called anchors
  - Have you seen these before?

- Anchors must have an id attribute
  - Link to this id with #

Exercises

- Create a second page with links to some of your favorite websites
  - Include a links between your two pages
  - Include an email address (it doesn't have to be yours!)

Images

- Images are added with <img>
  - Must include “src” attribute
  - Other attributes
    - alt
    - height
    - width

- Images can also be turned into links

Video

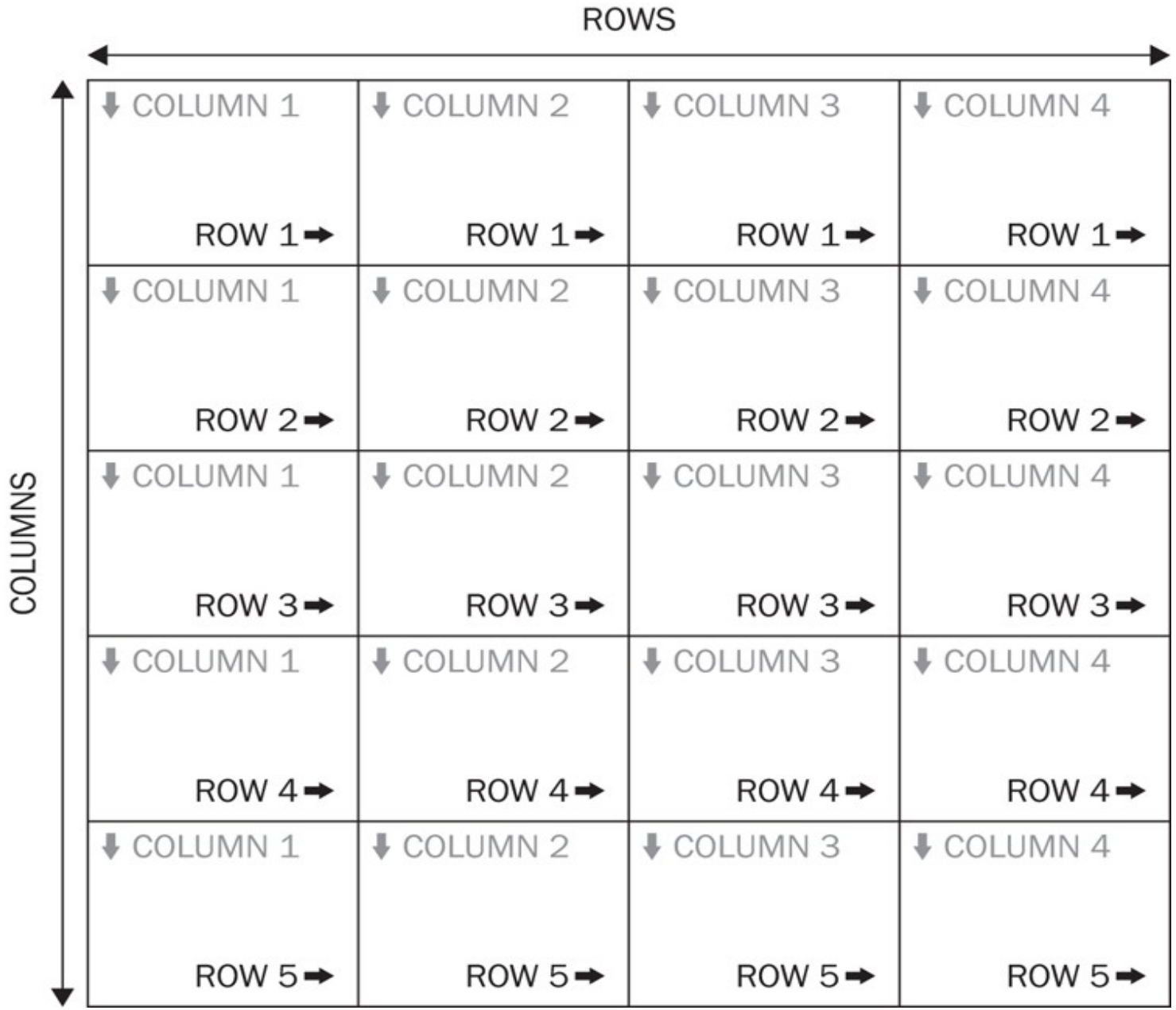
- Youtube provides all the code you need!
- You can also embed videos (like mp4) directly with <video>
- Audio (like mp3) can be embedded with <audio>

Exercises

- Add some images to your website. Make at least one of them a link.

- Put your favorite Youtube video on your website.

Tables


ROWS
COLUMNS
COLUMN 1
COLUMN 2
COLUMN 3
COLUMN 4
ROW 1
ROW 2
ROW 3
ROW 4
ROW 5

Tables

```
<table border="1">
  <tr>
    <td>Row 1, Column 1</td>
    <td>Row 1, Column 2</td>
  </tr>
  <tr>
    <td>Row 2, Column 1</td>
    <td>Row 2, Column 2</td>
  </tr>
</table>
```

Grouping Cells

```
<table>
<caption>Spanning columns using the colspan attribute</caption>
  <tr>
    <td class="one"> </td>
    <td class="two"> </td>
    <td class="three"> </td>
  </tr>
  <tr>
    <td class="one"> </td>
    <td colspan="2" class="two"> </td>
  </tr>
  <tr>
    <td colspan="3" class="one"> </td>
  </tr>
</table>
```

Grouping Cells

```
<table>
<caption>Spanning rows using the rowspan attribute</caption>
 <tr>
    <td class="one"> </td>
    <td class="two"> </td>
    <td rowspan="3" class="three"> </td>
    </tr>
 <tr>
    <td class="one"> </td>
    <td rowspan="2" class="two"> </td>
 </tr>
 <tr>
    <td class="one"> </td>
 </tr></table>
```

Exercises

- Add a table to your website that contains what you will eat for breakfast, lunch, and dinner next week.

Forms

- Forms allow you to get input from the user
  - Text boxes
  - Combo boxes
  - Radio buttons
  - Push buttons
  - Check boxes

- Forms are created with the <form> tag

Forms

- Forms require two primary attributes:
  - Action
  - Method
    - get
    - post

Text Input

- Two types:
  - <input>
  - <textarea>

```
<form action="http://www.example.org/search.aspx"
method="get" name="frmSearch">
    <p>Search:<br>
      <input type="text" name="txtSearch" value="Search
        for" size="20” maxlength="64"></p>
    <p><input type="submit" value="Submit"></p>
  </form>
```

Text Input

```
<form action="http://www.example.org/feedback.asp"
method="post">
    <p>Please tell us what you think of the site and then
click submit:</p>
    <textarea name="txtFeedback" rows="20" cols="50">
    Enter your feedback here.
    </textarea>
    <p><input type="submit" value="Submit"></p>
  </form>
```

Buttons

```
<form action="http://www.example.org/feedback.aspx"
method="post">
  <p>
    <input type="submit" name="btnVoteRed" value="Vote for reds">
  </p>
  <p>
    <input type="submit" name="btnVoteBlue" value="Vote for
blues">
  </p>
  <p>
    <input type="reset" value="Clear form">
  </p>
  <p>
    <input type="button" value="Calculate" onclick="calculate()">
  </p></form>
```

Buttons

```
<form action="http://www.example.org/feedback.aspx" method="post">
  <p>
  <button type="submit">Submit</button>
  </p>
  <p>
    <button type="reset"><b>Clear this form</b> I want to start
again</button>
  </p>
  <p>
  <button type="button"><img src="submit.gif" alt="submit"></button>
  </p></form>
```

Checkboxes

```
<form action="http://www.example.com/cv.aspx"
method="get" name="frmCV">
Which of the following skills do you possess? Select all that
apply.<br>
   <input type="checkbox" name="chkSkills"
value="html">HTML <br>
   <input type="checkbox" name="chkSkills"
value="CSS">CSS<br>
   <input type="checkbox" name="chkSkills"
value="JavaScript">JavaScript<br>
   <input type="checkbox" name="chkSkills"
value="aspnet">ASP.Net<br>
   <input type="checkbox" name="chkSkills"
value="php">PHP
</form>
```

Radio Buttons

```
<form action="http://www.example.com/flights.aspx"
name="frmFlightBooking"
      method="get">
   Please select which class of travel you wish to fly: <br>
  <input type="radio" name="radClass"
value="First">First class <br>
  <input type="radio" name="radClass"
value="Business">Business class <br>
  <input type="radio" name="radClass"
value="Economy">Economy class <br>
</form>
```

Combo boxes

```
<select name="selColor">
  <option selected="selected" value="">Select
color</option>
  <option value="red">Red</option>
  <option value="green">Green</option>
  <option value="blue">Blue</option>
</select>
```

Labels

```
<form action="http://www.example.org/login.aspx"
method="post" name="frmLogin">
  <table>
    <tr>
      <td><label for="Uname">User name</label></td>
      <td><input type="text" id="Uname"
name="txtUserName"></td>
    </tr>
    <tr>
      <td><label for="Pwd">Password</label></td>
      <td><input type="password" id="Pwd"
name="pwdPassword"></td>
    </tr>
  </table>
</form>
```

Tabbing

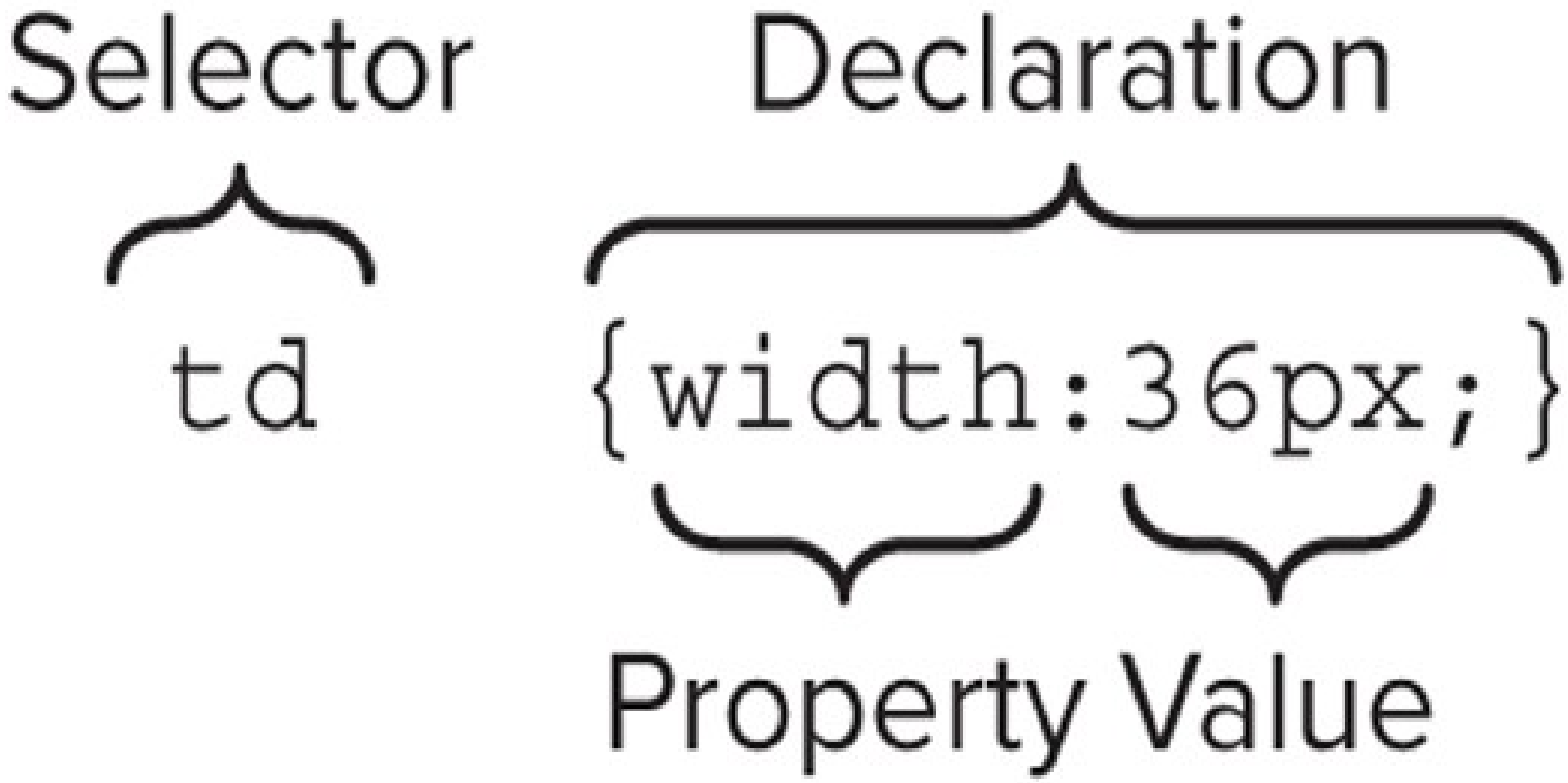
```
<form action="http://www.example.com/tabbing.aspx" method="get"
 name="frmTabExample">
 <input type="checkbox" name="chkNumber" value="1" tabindex="3"> One<br>
 <input type="checkbox" name="chkNumber" value="2" tabindex="7"> Two<br>
 <input type="checkbox" name="chkNumber" value="3" tabindex="4"> Three<br>
 <input type="checkbox" name="chkNumber" value="4" tabindex="1"> Four<br>
 <input type="checkbox" name="chkNumber" value="5" tabindex="9"> Five<br>
 <input type="checkbox" name="chkNumber" value="6" tabindex="6"> Six<br>
 <input type="checkbox" name="chkNumber" value="7" tabindex="10"> Seven<br>
 <input type="checkbox" name="chkNumber" value="8" tabindex="2"> Eight<br>
 <input type="checkbox" name="chkNumber" value="9" tabindex="8"> Nine<br>
 <input type="checkbox" name="chkNumber" value="10" tabindex="5"> Ten<br>
 <input type="submit" value="Submit">
</form>
```

Exercises

- Create a new page that contains a quiz for your users to take. Your quiz should contain:
  - A text box
  - A button
  - Some check boxes
  - Some radio buttons
  - A combo box

- Include a link to your quiz on your other pages.

CSS



CSS

```
<body>
<h1>Basic CSS Font Properties</h1>
<p>The following table shows you the basic CSS font properties that allow
you to change the appearance of text in your documents.</p>
<table>
  <tr>
    <th>Property</th>
    <th>Purpose</th>
  </tr>
  <tr>
    <td class="code">font-family</td>
    <td>Specifies the font used.</td>
  </tr>
  <tr>
    <td class="code">font-size</td>
    <td>Specifies the size of the font used.</td>
  </tr>
  <tr>
    <td class="code">font-style</td>
    <td>Specifies whether the font should be normal, italic or oblique.</td>
  </tr>
  <tr>
    <td class="code">font-weight</td>
    <td>Specifies whether the font should be normal, bold, bolder, or lighter</td>
  </tr>
</table>

</body>
</html>
```

CSS

```
/* Style sheet */

body {
  color:#000000;
  background-color : #ffffff;
  font-family : arial, verdana, sans-serif;
}

h1 {
  font-size : 18px;
}
p {
  font-size : 12px;
}
```

CSS

```
table {
  background-color : #efefef;
  border-style : solid;
  border-width : 1px;
  border-color : #999999;
}

th {
  background-color : #cccccc;
  font-weight : bold;
  padding : 5px;
}
```

CSS

```
td {
  padding : 5px;
}

td.code {
  font-family : courier, courier-new, serif;
  font-weight : bold;
}
```

CSS

```
<link rel="stylesheet"  href="../CSS/interface.css">
```

http://www.w3.org/style/css/

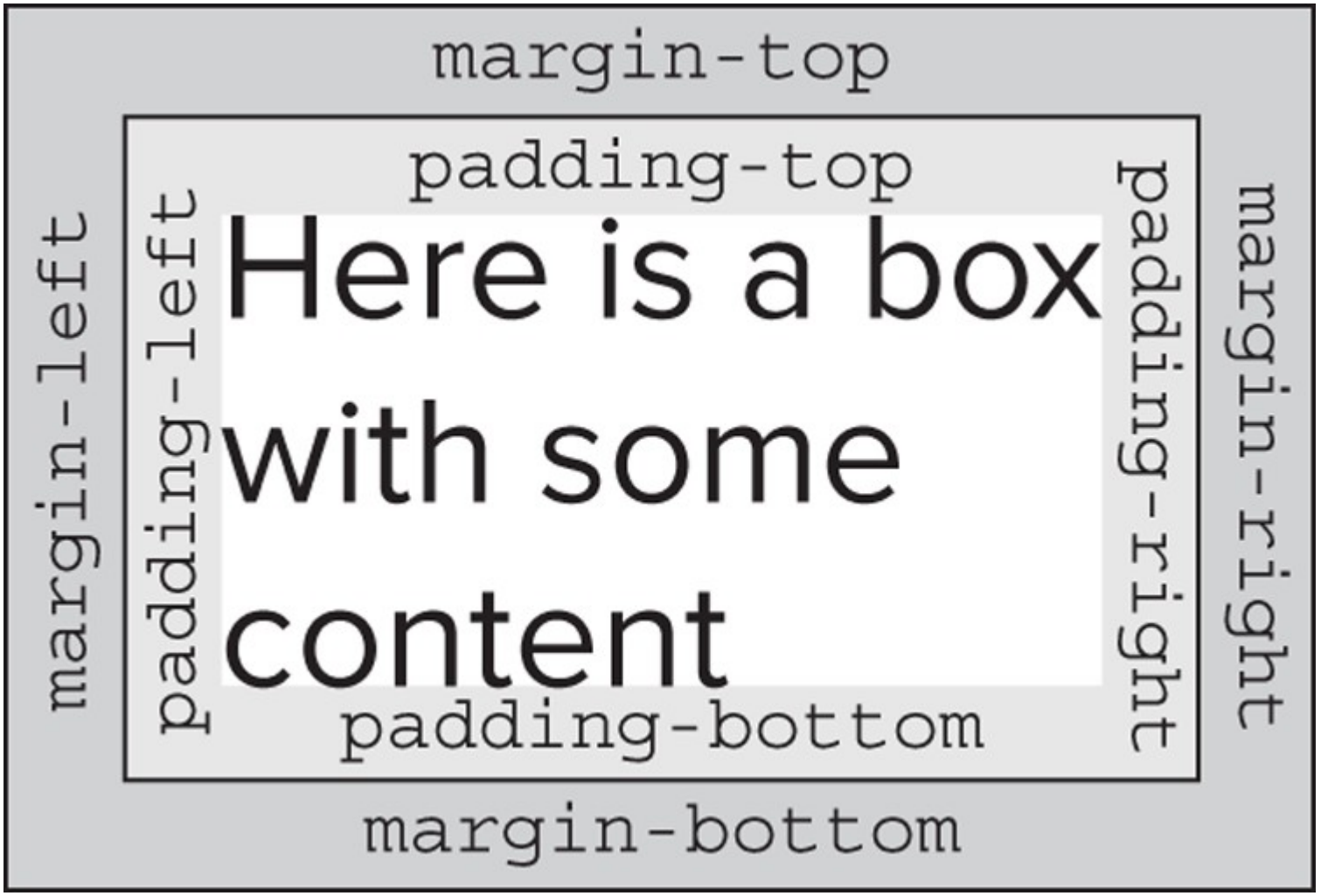
CSS Selectors

- Which elements are affected?
  - Universal (*)
  - Type (h1, h2, h3, etc.)
  - Class .
  - Id (#)
  - Child (>)
  - Descendant (table b)
  - Adjacent sibling (+)
  - General sibling (~)

CSS Lengths

- Relative
  - px
  - em
  - Ex
- Absolute
  - pt
  - in
  - cm
  - mm
- Percentages

Box Model


margin-top
padding-top
Here is a box
with some
content
margin-left
padding-left
padding-right
margin-right
padding-bottom
margin-bottom

Box Model

```
<h1>Thinking Inside the Box</h1>
<p class="description">When you are styling a web page with CSS you must start to think in terms of <b>boxes</b>.</p>
<p>Each element is treated as if it generates a new box. Each box can have new rules associated with it.</p>
  <p>As you can see from the diagram above, each box has a <b>border</b>.
Between the content and the border you can have <b>padding</b>, and outside of the border you can have a <b>margin</b> to separate this box from any neighboring boxes.</p>
```

Box Model

```
body, h1, p, img, b {
  border-style : solid;
  border-width : 2px;
  border-color : #000000;
  padding:2px;
}

h1, b {
  background-color : #cccccc;
}
```

CSS Links

- Links have several properties:
  - Color
  - Background-color
  - Text-decoration

- There are also a few “pseudo” classes:
  - Visited
  - Hover
  - active

CSS Backgrounds

Property	Purpose
`background-color`	Specifies a background color.
`background-image`	Specifies an image to use as the background.
`background-repeat`	Indicates whether the background image should be repeated.
`background-attachment`	Indicates a background image should be fixed in one position on the page, and whether it should stay in that position when the user scrolls down the page.
`background-position`	Indicates where an image should be positioned.
`background`	A shorthand form that enables you to specify all of these properties.

Exercises

- Using the CSS reference website, create CSS for your webpage. Be creative!
  - Be sure to mess around with text formatting, colors, box padding, box margins, box borders, layouts, and your form!

http://www.w3.org/style/css/