1 **HTML5 and CSS3**
   IMAGES

2 **Images in HTML**
   - Since HTML is text, images are not inserted into the HTML document using the <img> tag
   - Different image types used on the Web:
     - .jpg or .jpeg (Joint Photographic Experts Group)—best used for photographs and scans; uses a type of compression that can display complex colors
     - .gif (Graphic Interchange Format)—mostly used for small illustrations and logos; supports only 256 colors and transparency on a single color; animated option
     - .png (Portable Network Graphics)—replacement for .gif with millions of colors and multiple color transparency; developed specifically for the Web

3 **Inline Images**
   - The <img> tag is a one-sided element that inserts a graphic image file into the document
   - Format:
     -
       - src—name and location of the graphic image file
       - alt—alternate text displayed if image is not available (called a broken image)
       - Also there are optional width and height attributes
   - Example:
     -

4 **Try It Out**
   - View the "camshots" logo images at the top of all pages
   - View "rainbow" image on home page
   - View "thirds" image on "tips" page

5 **Hyperlink on an Image**
   - An object such as an image may *replace* the content in a hyperlink so the user can click on the object
   - Format:
     <u>img src = "*path/filename /*"</u>
   - Example:

       - Renders as a clickable image

6 **Try It Out**
   - View "rainbow" hyperlink image on the home page

7 **The HTML5 figure Element—Page 1**
- The <figure> tag specifies self-contained graphical content
- Used both for documentation and to identify a specific image (and related elements) for CSS formatting

8 **The HTML5 figure Element—Page 2**
- Format:
  ```
  <figure>
      <img src="path/filename" ... />
  </figure>
  ```
  - ✘ There may be other tags/elements inside <figure>
- Example:
  ```
  <figure>
      <img src="rainbow.png" alt="Photo" />
  </figure>
  ```

9 **Sample CSS for a figure Element**
- Example:
  ```
  figure
  {
      display: block;
      width: 100%;
      margin-bottom: 10px;
  }
      figure img
  {
      display: block;
      margin: 0px auto;
  }
  ```

10 **The HTML5 figcaption Element—Page 1**
- The <figcaption> element defines a "caption" for a <figure> element
- Can be the first (displayed above image) or last (displayed below image) "child" within a <figure> element
- Used both for documentation and to identify a specific caption under an image (and within a figure element) for CSS formatting

11 **The HTML5 figcaption Element—Page 2**
- Format:
  ```
  <figure>
      <img src="path/filename" ... />
      <figcaption>caption_text</figcaption>
  ```

</figure>

✗ The <figcaption> element may be the first or last element inside the <figure>
block

12 ☐ **The HTML5 figcaption Element—Page 3**

- Example:
```
<figure>
    <img src="rainbow.png" alt="Photo" />
    <figcaption>Colorado Double Rainbow by Watts213</figcaption>
</figure>
```

13 ☐ **Sample CSS for a figcaption Element**

- Example:
```
figcaption
{
    display: block;
    width: 100%;
    margin: 10px auto 0px;
    line-height: 1em;
    text-align: center;
    font-style: italic;
    font-size: 0.7em;
}
```

14 ☐ **Try It Out**

- View the HTML and CSS code for "rainbow" image on the home page

15 ☐ **Image Rollover Using CSS—Page 1**

- A rollover effect occurs when a user moves ("hovers") the mouse over an object
- For an image this might be changing one image to another
- Could be accomplished by modifying background-image property value for the
  :hover selector of a block-level element such as a paragraph, e.g.
  Op:hover

16 ☐ **Image Rollover Using CSS—Page 2**

- Format:
```
element
{
    background-image:  url("path/filename")
}
element:hover
{
    background-image:  url("path/alternateFilename")
```

```
}
```
⚹ The *element* is the same one

17 ☐ **Image Rollover Using CSS—Page 3**

- Example:
  ```
  #thirds  p
  {
      background-image: url("thirds.jpg");
      width: 505px;
      height: 355px;
  }
  #thirds  p:hover
  {
      background-image: url("thirdsFlipped.jpg");
  }
  ```

18 ☐ **Try It Out**

- Add a rollover to the tips page
  O Change <img> to <p></p> within <figure id="thirds">

19 ☐ **Thumbnails—Page 1**

- A thumbnail is small image representation of a larger image usually intended to make it easier and faster to look at or manage a group of larger images
- The user clicks on the thumbnail image and the larger image then is retrieved and displayed

20 ☐ **Thumbnails—Page 2**

- Format:
  ```
  <a  href = " path/filename ">
      <img  src = "path/filename /">
  </a>
  ```
  ⚹ The *path/filename* for <a href...> is the larger image
  ⚹ The *path/filename* for <img> is the thumbnail
- Example:
  ```
  <a  href="rainbow_lg.png">
      <img  src="rainbow.png  alt="Photo" />
  </a>
  ```

21 ☐ **Try It Out**

- View the "rainbow" thumbnail on the home page

22 ☐ **Image Maps**

- Sometime a user may be able to click on different regions (called hotspots) within the same image

- Clicking on these different areas lets the user link to different web resources
- The developer begins by defining the locations on the image
- This might require using a graphics software program to "map out" the different regions

23 ☐ The Map Block

- The map block defines the structure of areas on an image, each of which, when clicked, can link to a different web resource
- Format:
  - ○ <map name = "*mapName*">
      the individual areas are defined here
    </map>
- Example:
  - ○ <map name = "navigation">

      ...
    </map>

24 ☐ The Area "Hotspots"—Page 1

- Within the map block individual area tags specify the separate regions on the image and each of the web resources to which they link
- Format:
  - ○ <area shape="*shape*" coords="*coordinates*" href="*reference*" alt="*text*" />
    - ✘ The *shape* may be:
      - ○ rect—a rectangle with the x, y coordinates of the upper-left and lower-right corners
      - ○ circle—with center x and y coordinates, and the radius
      - ○ poly—a multi-sided polygon with the number of x, y corner coordinates as determined by the designer

25 ☐ The Area "Hotspots"—Page 2

- Example:
  <map name="navigation">
    <area href="home.htm" shape="rect" coords="5, 5, 20, 25">
    <area href="interests.htm" shape="rect coords="35, 5, 50, 25">
    <area href="search.htm" shape="circle" coords="65, 80, 25">
  </map>
    - ✘ First two examples are rectangles with coordinates:
      1. Upper-left x = 5 and y = 5, and lower-right x = 20 and y = 25
      2. Upper-left x = 35 and y = 5, and lower-right x = 50 and y = 25
    - ✘ Last example is a circle with the center as x = 65 and y = 80 with a radius of 25

26 ☐ Applying an Image Map

- The image tag must contain a reference to the map name

- The value assigned to the usemap attribute is the designer assigned name that matches the name attribute value in the map tag
- The format is:
  ○ <img src="*filename*" usemap="#*mapName*" alt="text">
    ✖ The hash (#) symbol precedes the mapName
- Example:
  ○ <img src="navigation.gif" usemap="#navigation" alt="Navigation">

27 ☐ **Try It Out**
- View the image map applied to the "camshots" logo images at the top of all three pages

28 ☐ **Favicon Images**
- A favicon (meaning "favorite icon") is a small "icon" image file displayed next to the page's title on browser tab
  ○ Icon images should be 16 × 16 pixels in size
- Created by using a <link> tag in the <head> section
- Format:
  ○ <link rel="shortcut icon" href="*path/filename*" />
    ✖ rel—assigned value "shortcut icon" means a *favicon*
    ✖ href—name and location of the graphic icon file
- Example:
  ○ <link rel="shortcut icon" href="jpsfavicon.ico" />

29 ☐ **Try It Out**
- Insert the "camshotsIcon" favicon in the <head> section of all three pages