Additional XHTML
Tags for adding metadata and icons to a page

Web page metadata: <meta>

information about your page (for a browser, search engine, etc.)

```
<meta name="description" content="Authors' web site for Building Java Programs." />
<meta name="keywords" content="java, textbook" />
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />
```

- placed in the head of your XHTML page
- meta tags often have both the name and content attributes
  - some meta tags use the http-equiv attribute instead of name

meta element to aid browser / web server

```
<meta http-equiv="Content-Type"
  content="type of document (character encoding)"
 />
<meta http-equiv="refresh"
  content="how often to refresh the page (seconds)"
 />
```

- using the Content-Type gets rid of the W3C "tentatively valid" warning
  `<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />`
- the meta refresh tag can also redirect from one page to another:
  `<meta http-equiv="refresh" content="5;url=http://www.bjp.com" />`
  - why would we want to do this? (example)
**meta element to describe the page**

```
<head>
<meta name="author" content="web page's author" />
<meta name="revised" content="web page version and/or last modification date" />
<meta name="generator" content="# the software used to create the page" />
</head>
```

- many WYSIWYG HTML editors (FrontPage, PageMaker, etc.) place their names in the `meta generator` tag (why?)

**meta element to aid search engines**

```
<head>
<meta name="description" content="how you want search engines to display your page" />
<meta name="keywords" content="words to associate with your page (comma-separated)" />
</head>
```

- these are suggestions to search engines about how to index your page
- the search engine may choose to ignore them (why?)

**Internet media ("MIME") types**

*classifications of data that travel over the internet*

- sometimes when including resources in a page (style sheet, icon, multimedia object), we specify their type of data

<table>
<thead>
<tr>
<th>MIME type</th>
<th>file extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>text/html</td>
<td>.html</td>
</tr>
<tr>
<td>text/plain</td>
<td>.txt</td>
</tr>
<tr>
<td>image/gif</td>
<td>.gif</td>
</tr>
<tr>
<td>image/jpeg</td>
<td>.jpg</td>
</tr>
<tr>
<td>video/quicktime</td>
<td>.mov</td>
</tr>
<tr>
<td>application/octet-stream</td>
<td>.exe</td>
</tr>
</tbody>
</table>

- Lists of MIME types: by type, by extension
Additional CSS

CSS Pseudo-classes

```css
a:link { color: #FF0000; } /* unvisited link */
a:visited { color: #00FF00; } /* visited link */
a:hover { color: #FF00FF; } /* mouse over link */
a:active { color: #0000FF; } /* selected link */
```

- :active: an activated or selected element
- :focus: an element that has the keyboard focus
- :hover: an element that has the mouse over it
- :link: a link that has not been visited
- :visited: a link that has already been visited
- :first-letter: the first letter of text inside an element
- :first-line: the first line of text inside an element
- :first-child: an element that is the first one to appear inside another

Pseudo-class example

```css
a:link { color: red; }
a:visited { color: green; }
a:hover { color: purple; background-color: yellow; }
a:active { color: blue; }
```

```html
<a href="http://www.google.com">Goooooogle</a>
```

Goooooogle

- How would we make unvisited links blue, only they are in a paragraph inside of the div with id `header` or id `footer`?

- answer:

  ```css
div#header p a:link, div#footer p a:link {
    color: blue;
  }
  ```