Summary

Basic HTML Tags

Tables

Styles - CSS (Cascading Style Sheets)

HTML basic tags 1

- <html> … </html>
  - Basic tag to identify portion of file that contains HTML
  - Text between the opening and closing tag is the content
- <head> … </head>
  - Placed at the top of document immediately after the <html> tag
  - Tags information about the document, e.g. author, style, etc. which is not displayed in the browser window
  - Contains the document <title>...</title> tag
- <br /> is a new line
- Text between <b><i> and </i></b> will be a bold italic font

```
<!doctype html>
<html>
<head>
<title>My first web page</title>
</head>
<body>
<p>This is my first web page.</p>
<br />
<b><i>This text is in
    bold italic!</i></b>
</body>
</html>
```

HTML basic tags 2

- <title> … </title>
  - Included as an element inside the <head>…</head> section
  - The content of this tag is the title displayed in title bar or tab of the browser
  - May also be used as title of page when page is bookmarked
  - Should be meaningful and uniquely identify the page
- <body> … </body>
  - Included as the second element inside the <html>…</html> tags
  - Follows the <head>…</head> portion of the document
  - Contains the information to be displayed in the browser window
  - Any attributes set on this tag will apply to the entire page

HTML basic tags 3

- <p> … </p>
  - Included as an element inside the <body>…</body> section
  - Surrounds a paragraph of text
- DOCTYPE
  - Must be the very first line of your file, before <html>
  - NOT an HTML tag; it is an instruction to your web browser
  - Tells the browser what version of HTML to expect
  - In this course we use only the HTML5 type: <!doctype html>
  - Your web URL:

    http://web.glendon.yorku.ca/~lastname

    and

    http://oldtown.glendon.yorku.ca/~lastname

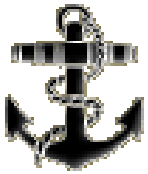
HTML basic tags 4

- <br>   (no closing tag needed but is nice)
  - Put a line break in the text (starts a new line)
- <h1> … </h1>   through   <h6> ... </h6>
  - Used to identify text as a Level 1 (major) to Level 6 (minor) heading

Comment Tag

- <!-- comments here -->
  - Notice that the comment is typed as an attribute inside the tag
  - Comments may be one or multiple lines long (HTML is free-form)
  - Text within this tag will not be displayed or processed by your browser
  - Comments do not nest! No comments inside comments!
  - The comment may not contain two (or more) adjacent dashes, e.g. --

The anchor tag



Hyper Linking - making the web a web

- **<a> … </a>**
  - One major attribute ()
    - href=”url_string” - specifyes the destination of the hyperlink
    - target="_blank" - specifyes where to open the link (new window/tab)
  - Element is clickable/selectable as a document hyperlink
  - Browser attempts to load the page specified by the href= attribute (HREF=Hypertext REFerence)
  - The href=”string” can be a **relative URL** on the same server, an **absolute URL** on any server or an **email address**
  - Without the leading ”http://hostname/...” it is in the same directory structure
    - <a href=“page2.html” target="_blank">Click here to continue</a>
    - <a href=“../another_dir/page3.html”>Click here</a>
    - <a href=”images/box.jpg”>See the box here!</a>
    - <a href=“http://www.gnu.org/philosophy/”>Free Software</a>
  - Try to open an email client with the mailto address in the To: field
    - <a href=”mailto:hjo@du.se”>Hans Jones email</a>

The image tag

- **<img>** (no closing tag needed)
- Used to display graphics (.jpeg, .png, .gif) in your web pages
- You must specify the URL for the image source, and an alt=”text”
- The basic attributes of <img> are:
  - src=”url_string” - the absolute or relative location of the image file
  - alt=”string” - Alternate Text for people who don't see images
  - height=”string” - image height, percent or absolute pixels (optional)
  - width=”string” - image width, percent or absolute pixels (optional)
  - title=”string” - mouse-over title of the image (optional)
  - Etc. ...
- Specifying height= and width= lets your browser reserve space in the document to load the image in the background and avoid redrawing the page after the image is fully loaded
- Example (align, border, hspace, longdesc, and vspace is not supported in HTML5 and deperecated in HTML4):
  - <img border="0" src="myimage.png" width="73" height="110" align="left">

Pictures

- To put a picture on a Web page, here’s what you need to do
  - Obtain the picture as an image file (typically .JPG or .PNG) from your camera or any other suitable source
  - Copy the image file into your web folder along with the HTML files that make up your site
  - Add an <img> tag to the HTML page at the point where you want the picture to appear
- Provide an alternate text
  - This is the text visible when hovering over the image with the mouse
  - <img src="myimage.png" alt="This my picture">
- About the image size (if the picture is big)
  - Resize it BEFORE placing it on your web page, NEVER resize a picture by changing the width and height settings in the img tag
- Pictures as links with no border
  - <a href="http://web.glendon.yorku.ca/~gl/myimage.png"><img src="myimage.png" alt="This is a linked picture" border="0"></a>

HTML basic tags 5

- <hr> (no closing tag needed)
  - Hard/Horizontal Rule – draw a horizontal line
  - Rule appearance can be changed with styles
- <blockquote> … </blockquote>
  - Block quotation, indented – (HTML4/HTML5 differ)
- <q> … </q>
  - A short, in-line “quotation as part of running text”
- <pre> … </pre>
  - Preformatted text (e.g. computer code or output)
  - Fixed-width font (e.g. **`Courier fixed width`**)
  - Preserves spaces and line breaks

HTML basic tags 6

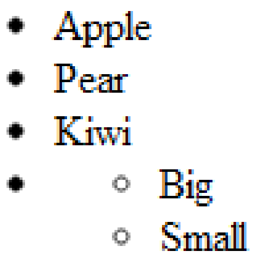
- Font-style tags – for more control, use CSS instead
  - <b> … </b> and <i> … </i>
    - Bold and italic text (in-line)
  - <tt> … </tt>
    - Teletype Text: fixed-width font (e.g. Courier)
  - <big> … </big> and <small> … </small>
    - Bigger and smaller text (in-line)
- Phrase tags – often better done using CSS
  - <em> … </em> and <strong> ... </strong>
    - Text to be emphasized and strongly emphasized
    - Browser decides how: usually italicized, made bold
- Less often used
  - <code>...</code>, <samp>...</samp>, <kbd>...</kbd>
    - Computer code, sample code, keyboard text
    - Usually rendered in courier fixed-width font

HTML – lists

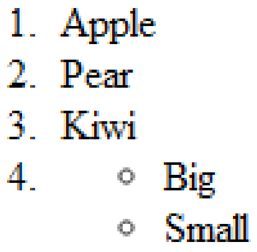
- <li>…</li>
  - List Item: surrounds each list item inside a list
  - Items are indented and bulleted
  - Used inside both <ul> and <ol> list types
- <ul>…</ul>
  - Surrounds an unordered list – no numbering
- <ol> … </ol>
  - Surrounds an ordered list
  - Items are indented and numbered (or alphabetized)
- Use styles (style= attribute) to change type of bullet or numbering
  - CSS – style=list-style-type: string
  - <ul> string can be: circle, disc, square
    - e.g. <ul style=”list-style-type: square”> ... </ul>
  - <ol> string can be decimal, lower-alpha, upper-roman
    - e.g. <ol style=”list-style-type: upper-latin”> ... </ol>

HTML – lists cont.

- Lists – <ul> unordered list and <ol> ordered list



```
•  Apple
•  Pear
•  Kiwi
•      ◦  Big
       ◦  Small
```



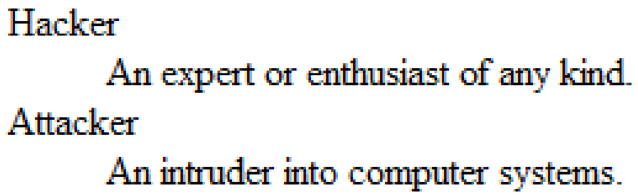
```
1.  Apple
2.  Pear
3.  Kiwi
4.      ◦  Big
        ◦  Small
```

```
<ul>
   <li>Apple</li>
   <li>Pear</li>
   <li>Kiwi</li>
   <li><ul>
      <li>Big</li>
      <li>Small</li>
       </ul>
   </li>
</ul>
```

```
<ol>
  <li>Apple</li>
  <li>Pear</li>
  <li>Kiwi</li>
  <li><ul>
      <li>Big</li>
      <li>Small</li>
      </ul>
  </li>
</ol>
```

HTML – definition lists

- <dl>…</dl>
  - definition list containing <dt> and <dd> items
  - <dt>...</dt> definition title
  - <dd>...</dd> definition description
- Example definition list containing two definitions



Hacker

An expert or enthusiast of any kind.

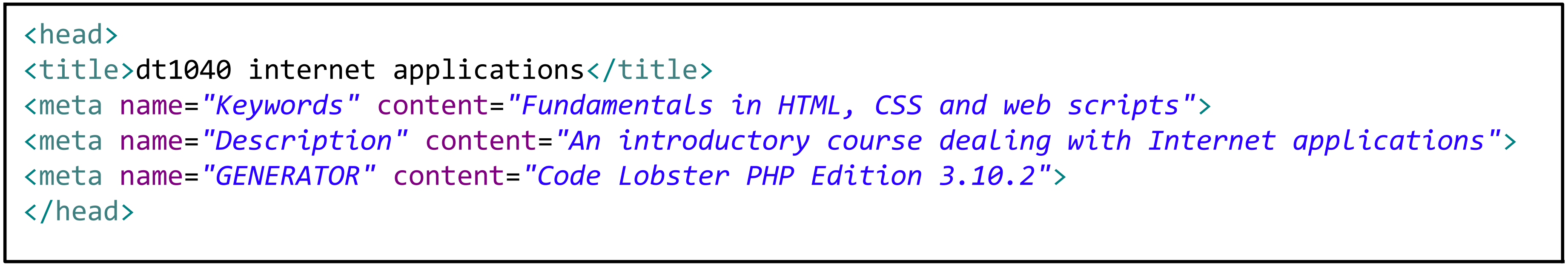
Attacker

An intruder into computer systems.

```
<dl>
   <dt>Hacker</dt>
   <dd>An expert or enthusiast of any kind.</dd>
   <dt>Attacker</dt>
   <dd>An intruder into computer systems.</dd>
</dl>
```

HTML - <meta> page attributes

- <meta> (no closing tag needed)
  - Used only inside <head> section of page
  - Gives details about page, e.g. author, keywords
  - Search engines may ignore keywords, since many pages use fake keywords to boost search results
  - SEO – Search Engine Optimization
- Elements of <meta> include:
  - name=string identifies what type of meta content will follow
  - content=string details relating to the name



```
<head>
<title>dt1040 internet applications</title>
<meta name="Keywords" content="Fundamentals in HTML, CSS and web scripts">
<meta name="Description" content="An introductory course dealing with Internet applications">
<meta name="GENERATOR" content="Code Lobster PHP Edition 3.10.2">
</head>
```

HTML - <meta> page attributes

- <meta> can also be used to have your page automatically load another web page after a short delay:

```
<meta http-equiv="refresh" content="10; url=index.html">
```

  - Note the attribute name: http-equiv=”refresh”
  - The content= string begins with number of seconds before next page is loaded, followed by a semicolon, then url= giving the URL of the next page to be loaded
- Use <meta> to set the character set for the HTML page
  - Needed to pass W3C validation without warnings

```
<meta http-equiv=”Content-Type” content=”text/html; charset=”UTF-8”>
```

  - For HTML5 it is enough with: `<meta charset=”UTF-8”>`
- Also frequently used: charset=iso-8859-1
  - iso-8859-1 is “Latin-1” and includes French, Swedish å, ä, ö etc.
  - Latin-1 is common in North America, Western Europe
  - But UTF-8 includes all languages (preferred)

HTML – identify/group tags

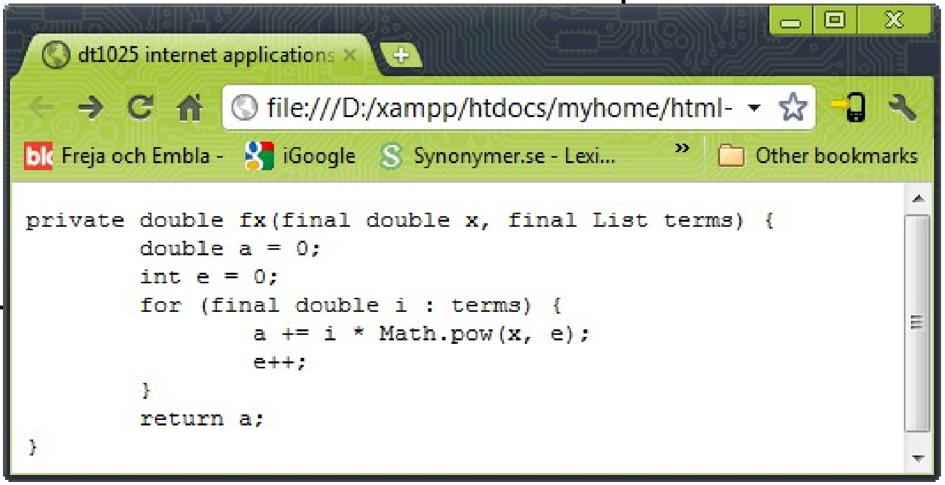
- <div> and <span> are very common used tags in HTML!
- Identifying and Grouping elements (e.g. for CSS)
- <div>...</div>
  - Defines as division or section
  - Groups and identifies one or more block-elements
  - Usually causes a line break before and after
- <span>...</span>
  - Groups and identifies in-line elements (e.g. words)
  - No visual change by itself (no line break)
  - Used to apply styles to parts of a text line, e.g.

```
This <span style=”color: red”>red</span> apple.
```

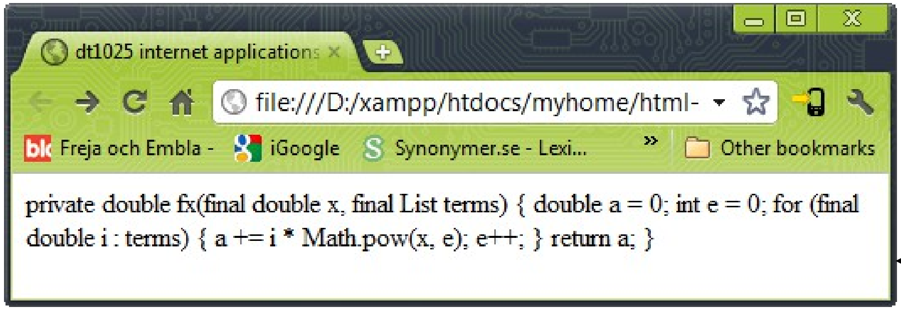
HTML – pre tag

- Pre formatted text, dont change the layout (preserve)
- <pre>...</pre>
  - Essential in some cases since HTML does not care about line breaks, empty lines etc.

```
<pre>
private double fx(final double x, final List<Double> terms) {
     double a = 0;
     int e = 0;
     for (final double i : terms) {
          a += i * Math.pow(x, e);
          e++;
     }
     return a;
}
</pre>
```


dt1025 internet applications
file:///D:/xampp/htdocs/myhome/html-
Freja och Embla -
iGoogle
Synonymer.se - Lexi...
Other bookmarks

```
private double fx(final double x, final List terms) {
        double a = 0;
        int e = 0;
        for (final double i : terms) {
                a += i * Math.pow(x, e);
                e++;
        }
        return a;
}
```


dt1025 internet applications
file:///D:/xampp/htdocs/myhome/html-
Freja och Embla -
iGoogle
Synonymer.se - Lexi...
Other bookmarks

private double fx(final double x, final List terms) { double a = 0; int e = 0; for (final double i : terms) { a += i * Math.pow(x, e); e++; } return a; }

No pre tag

HTML – entities (special characters)

- HTML Entities – for special characters, accents, foreign
  - Starts with ampersand and ends with semicolon
- &nbsp;   non-breaking-space – acts like a letter
  - Words connected with &nbsp; will not separate across a line break; they stay together as one word
  - Mr.&nbsp;Hans&nbsp;Edy&nbsp;Mårtensson
- &lt; (less than) = <   &gt; (greater than) = >
- &quot; (double quote) = "   &apos; (apostrophe) = '
- &amp; (ampersand) = &
  - many, many others!
  - http://www.w3schools.com/html/html_entities.asp
  - http://www.w3schools.com/tags/ref_entities.asp

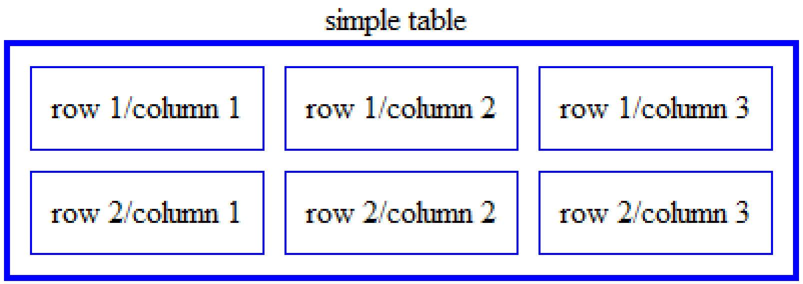
HTML – tables 1

- The table tag consists of the <table>...</table> tags
  - <caption> </caption> is used to create the title of a table
  - <tr> </tr> is used to create a table row
  - <td> </td> is used to create a table cell
  - <th> </th> is used to create a table header (column desc.)
- Attributes
  - border= specify the border size
  - bordercolor= specify the colour of the border
  - align= specify the alignment of the whole table
  - cellspacing= specify the amount of empty space between the outer edges of each table cell
  - cellpadding= specify the amount of empty space between the border of the table cell and the content of the cell

HTML – tables 2

- A table example
- Width, height, border, spacing and padding etc. are in pixels or in percentage if the document view

```
<table border="3" bordercolor="blue" cellspacing="10"
    cellpadding="10" align="center">
    <caption>simple table</caption>
    <tr>
        <td>row 1/column 1</td>
        <td>row 1/column 2</td>
        <td>row 1/column 3</td>
    </tr>
    <tr>
        <td>row 2/column 1</td>
        <td>row 2/column 2</td>
        <td>row 2/column 3</td>
    </tr>
</table>
```



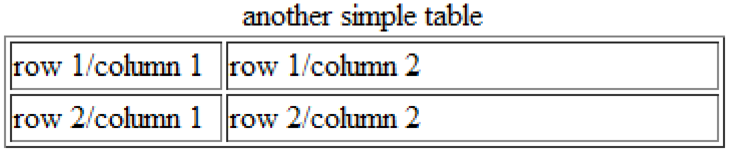
simple table

row 1/column 1	row 1/column 2	row 1/column 3
row 2/column 1	row 2/column 2	row 2/column 3

HTML – tables 3

- Tables can be useful for organising the layout of your webpage
- For example placing text and image in different cells

```
<table width="60%" border="1">
    <caption>another simple table</caption>
    <tr>
        <td width="30%">row 1/column 1</td>
        <td width="70%">row 1/column 2</td>
    </tr>
    <tr>
        <td>row 2/column 1</td>
        <td>row 2/column 2</td>
    </tr>
</table>
```

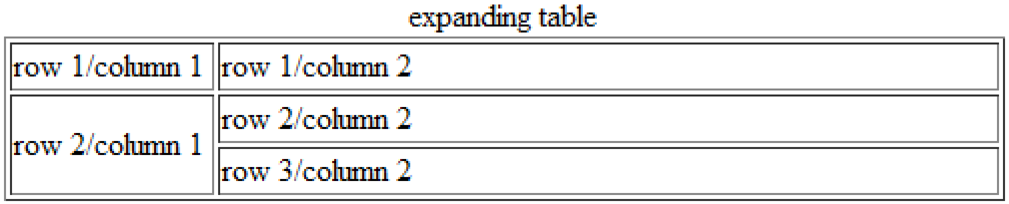


another simple table

row 1/column 1	row 1/column 2
row 2/column 1	row 2/column 2

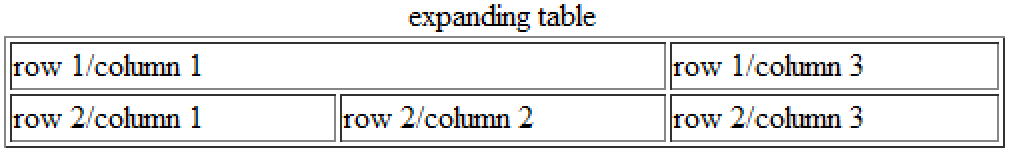
HTML – tables 4

- Rows and columns can be expanded



expanding table

row 1/column 1	row 1/column 2
row 2/column 1	row 2/column 2
	row 3/column 2



expanding table

row 1/column 1		row 1/column 3
row 2/column 1	row 2/column 2	row 2/column 3

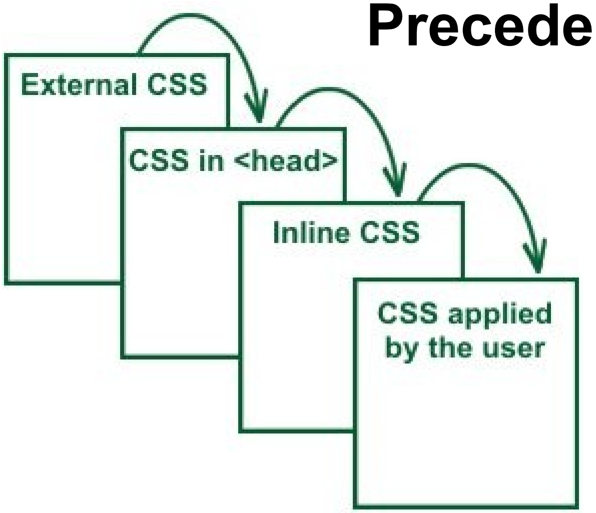
```
<table width="500" border="1">
     <caption>expanding table</caption>
     <tr>
          <td width="100">row 1/column 1</td>
          <td width="400">row 1/column 2</td>
     </tr>
     <tr>
          <td rowspan="2">row 2/column 1</td>
          <td>row 2/column 2</td>
     </tr>
     <tr>
          <td>row 3/column 2</td>
     </tr>
</table>
```

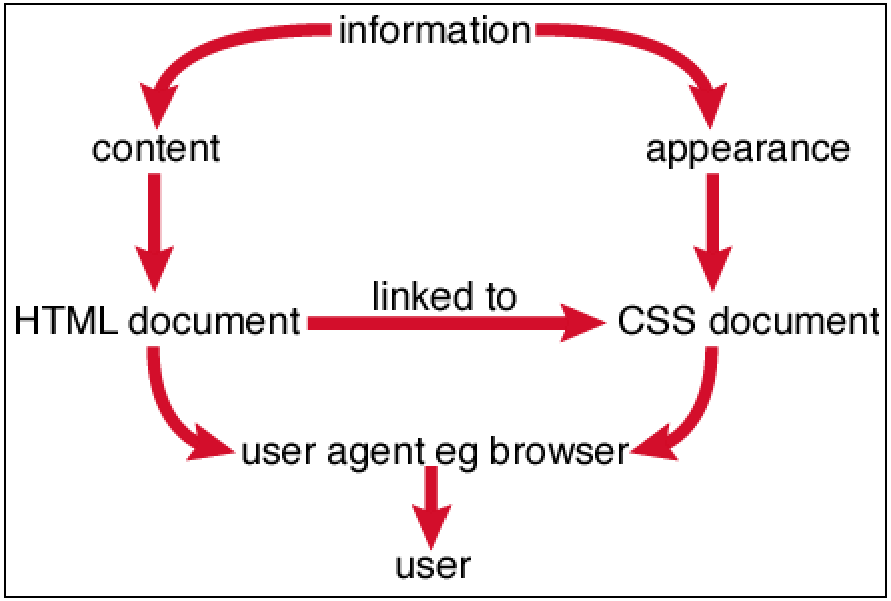
```
<table width="500" border="1">
     <caption>expanding table</caption>
     <tr>
          <td colspan="2">row 1/column 1</td>
          <td>row 1/column 3</td>
     </tr>
     <tr>
          <td>row 2/column 1</td>
          <td>row 2/column 2</td>
          <td>row 2/column 3</td>
     </tr>
</table>
```

CSS – cascading style sheets

- CSS is an extension to basic HTML that allows you to style your web pages apperance
  - Style separates content from apperance of your page
  - CSS can be used to specify fonts, colors, image background, the looks of your links and many other attributes
- CSS can be embedded into your webpage (head or inline) or stored in an external text file that you can then link to your web page

Precedence

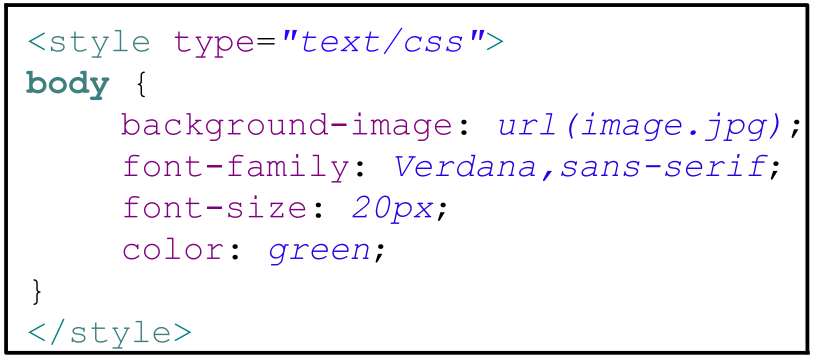




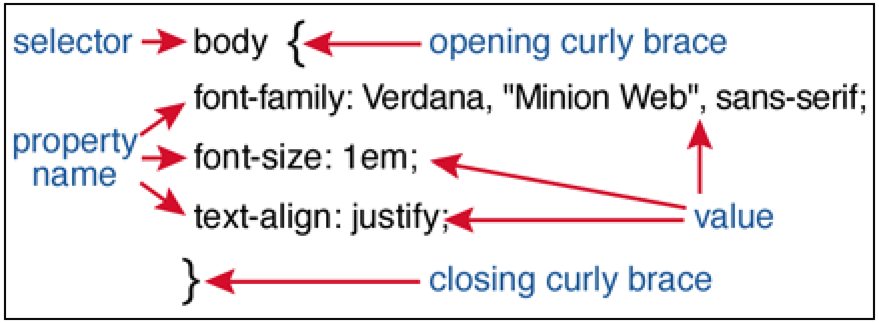
The style element/attribute

- The style= attribute can be used on most tags but is not recommended to use
  - Defines features for a single HTML element, e.g.

  <p style=”text-align: center”>Center me.</p>
- The <style> element: <style type=”text/css”> ... </style>
  - The <style> tag always goes in the <head> section
  - Defines style information for the whole HTML page
  - Requires the type=”text/css” attribute if using XHTML or HTML < HTML5
- Example style for the selected element: body

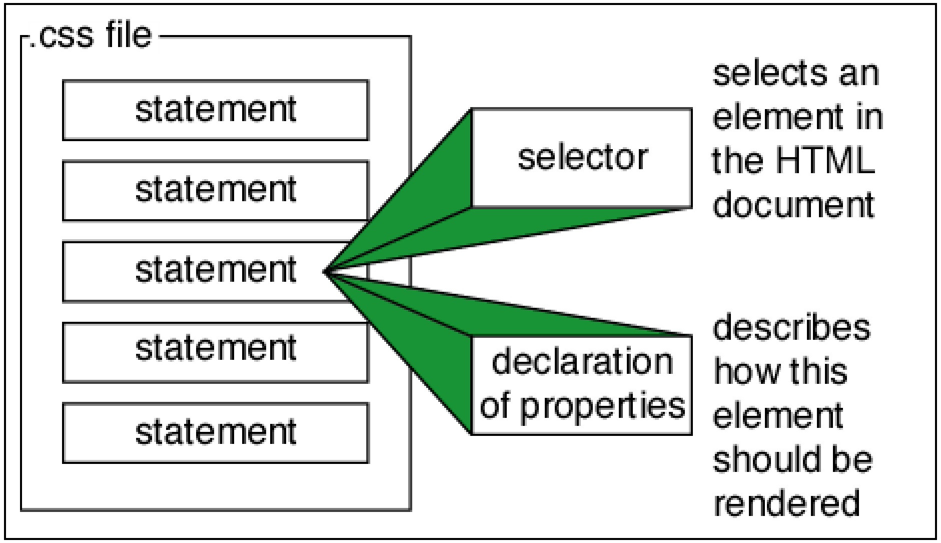


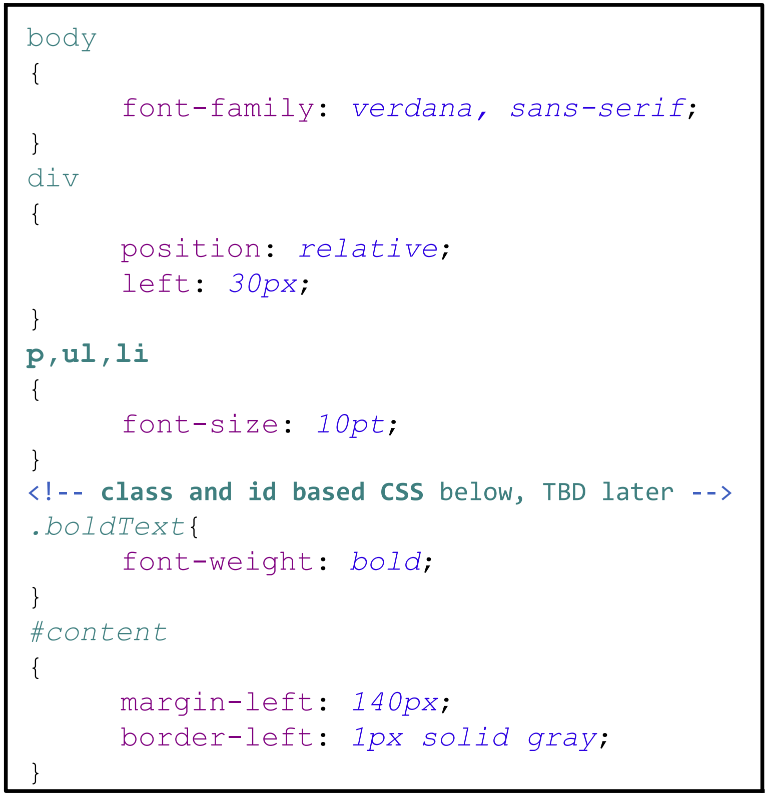
```
<style type="text/css">
body {
     background-image: url(image.jpg);
     font-family: Verdana,sans-serif;
     font-size: 20px;
     color: green;
}
</style>
```



CSS and the link tag

- To link to a external separate CSS style sheet, use the link tag instead
  - <link rel=”stylesheet” type=”text/css” href=”string”>
  - rel= relation between the page and the destination resource
  - Requires the type=”text/css” attribute if using XHTML or HTML < HTML5
  - More about CSS later!


.css file
statement
statement
statement
statement
statement
selector
selects an element in the HTML document
declaration of properties
describes how this element should be rendered



```
body
{
        font-family: verdana, sans-serif;
}
div
{
        position: relative;
        left: 30px;
}
p,ul,li
{
        font-size: 10pt;
}
<!-- class and id based CSS below, TBD later -->
.boldText{
        font-weight: bold;
}
#content
{
        margin-left: 140px;
        border-left: 1px solid gray;
}
```

Customize your <a> tags

- You can for example customise the way your links appears on the web page

```
a:link {
    text-decoration: underline overline;
    color: red;
}

a:active {
    text-decoration: none;
    color: yellow;
}

a:visited {
    text-decoration: overline;
}

a:hover {
    text-decoration: none;
    background: green;
    color: red;
}
```

A link becomes active when you click on it

HTML5 template

- This is a template (which you should understand most of now) that you can use as basis for your web pages in the course
- It will enable HTML5 on all browsers from IE 6 and up
  - Not the browsers which have disabled javascript!
  - Validate against: http://validator.w3.org

```
<!doctype html>
<html lang="fr">
<head>
<meta charset="utf-8">
<title>dt1040 internet applications</title>
<meta name="description" content="examen final">
<meta name="author" content="York university">
<link rel="stylesheet" href="css/styles.css?v=1.0">
<!--[if lt IE 9]>
    <script src="http://html5shiv.googlecode.com/svn/trunk/html5.js">
    </script>
<![endif]-->
</head>
<body> <!-- put the js import at end to make page load faster -->
    <script src="js/scripts.js"></script>
</body>
</html>
```