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CSSEDIT 2

Acknowledgement

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http://downloads.academy.telerik.com/svn/school-academy/Meeting-20-Web-Design-HTML5-CSS3/

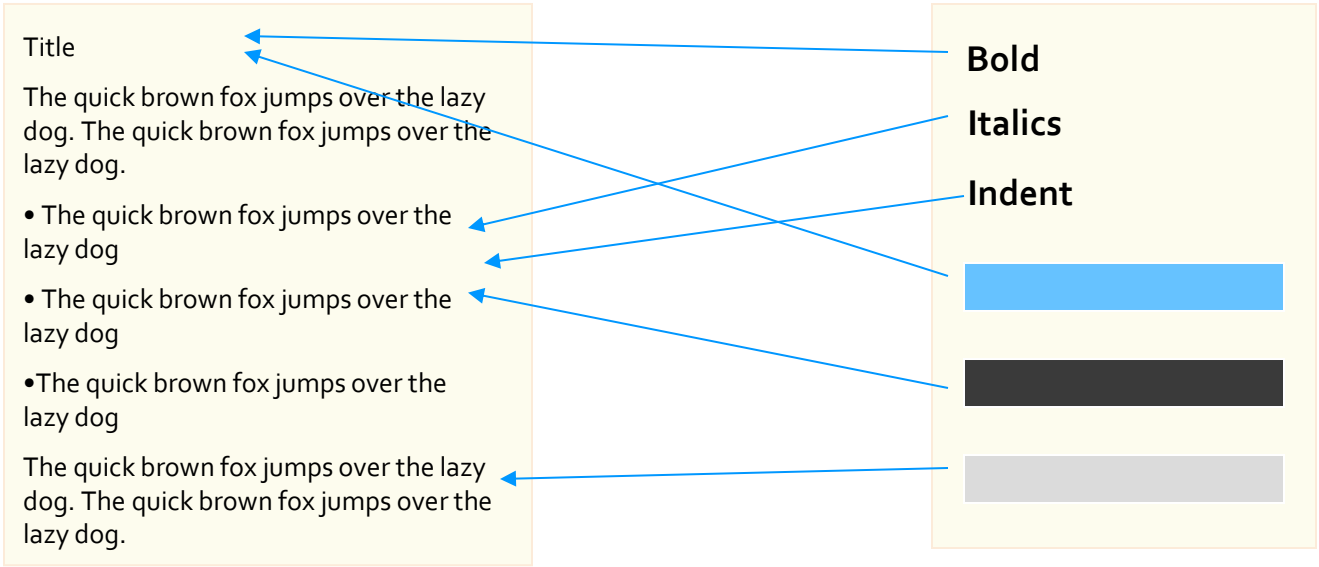
Table of Contents

Why CSS?

- Separate content from presentation!

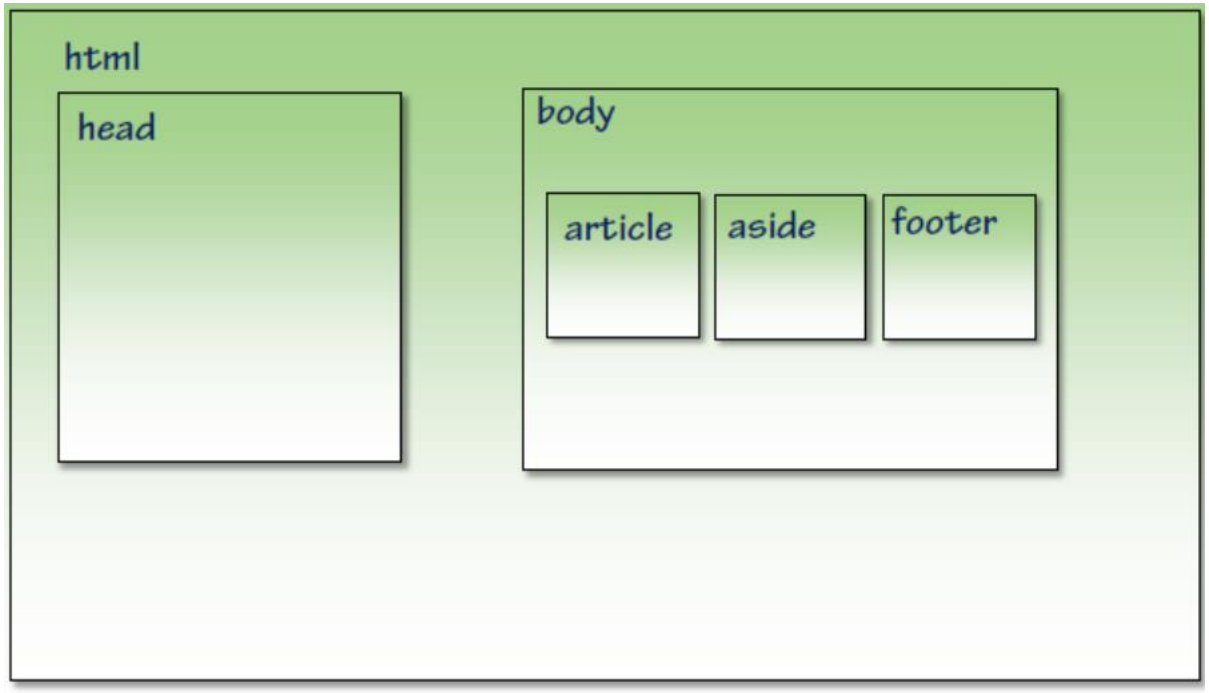
Content (HTML document)

Presentation (CSS Document)



CSS Introduction

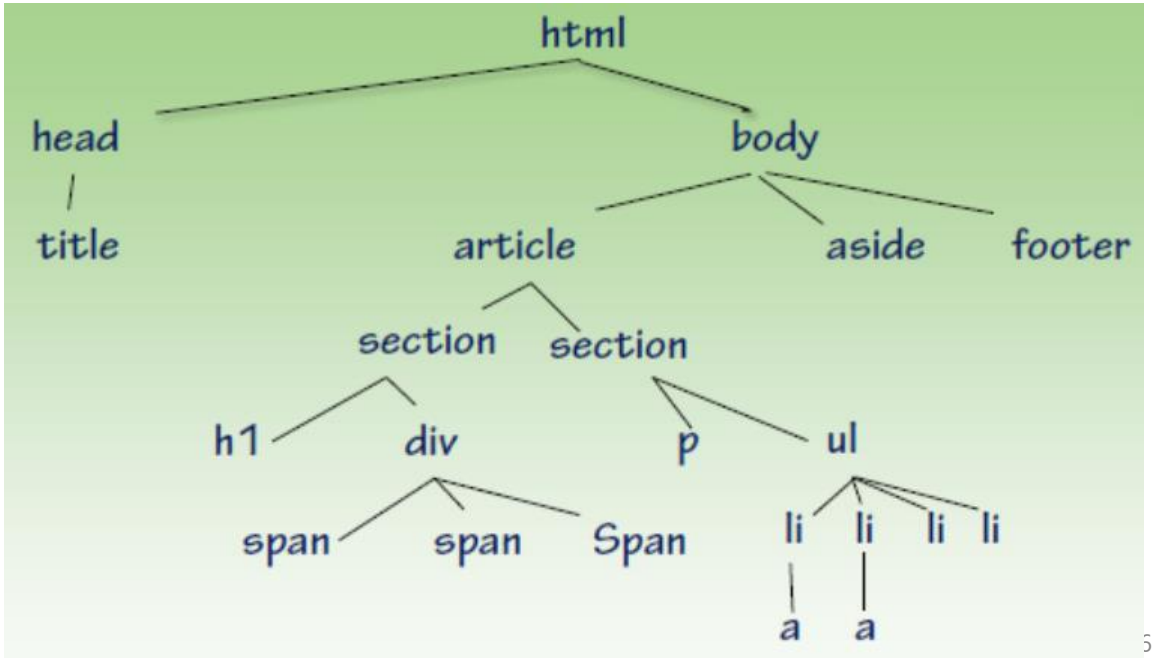
- Cascading Style Sheets (CSS)
  - Used to describe the presentation of documents
  - Define sizes, spacing, fonts, colors, layout, etc.
- Designed to separate presentation from content
  - Ensure consistent look and feel
  - Improve reusability and maintainability
- Due to CSS, all HTML presentation tags and attributes are deprecated, e.g. `font`, `center`, etc.



An HTML document in represented in the browser as a Document Object Model (DOM) Tree

Relationships between elements

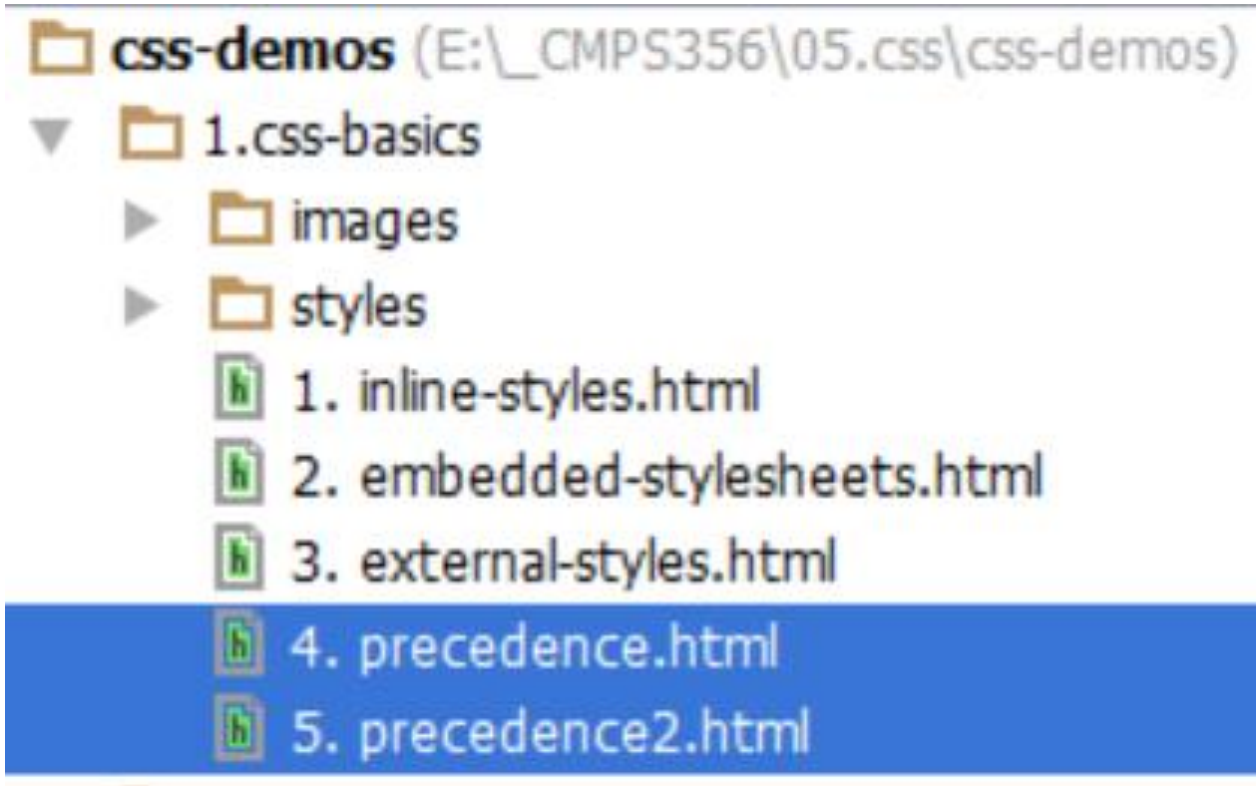
- Ancestor
- Descendent
- Parent
- Child
- Sibling



Why "Cascading"?

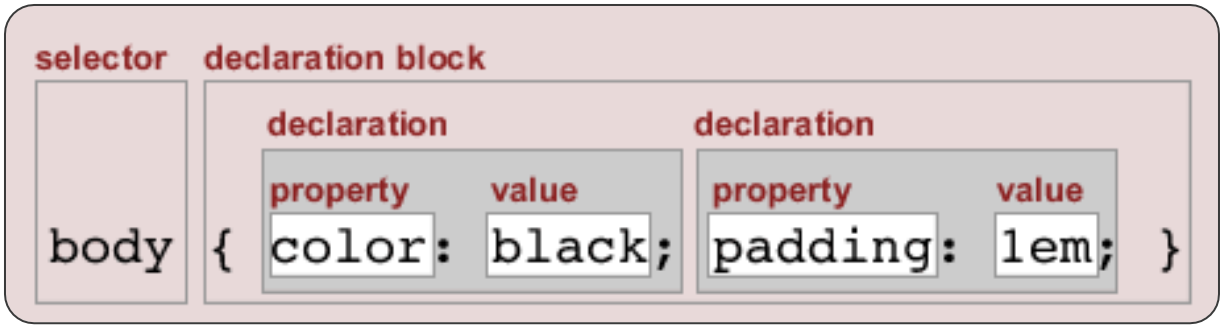
- Descendant elements in the HTML DOM tree **inherit** styles from their Ancestors
  - **Nearest ancestor wins**
  - Child can override the inherited style (More specific styles win over inherited styles)
- Cascading saves time and effort
- Text-related and list-related properties are inherited - `color`, `font-size`, `font-family`, `line-height`, `text-align`, `list-style`, etc.
- Some CSS styles are not inherited
  - Box-related and positioning styles are not inherited - `width`, `height`, `border`, `margin`, `padding`, `position`, `float`, background colors, etc.
  - `<a>` elements do not inherit color and text-decoration

CSS Rules Precedence - Examples



Style Sheets Syntax

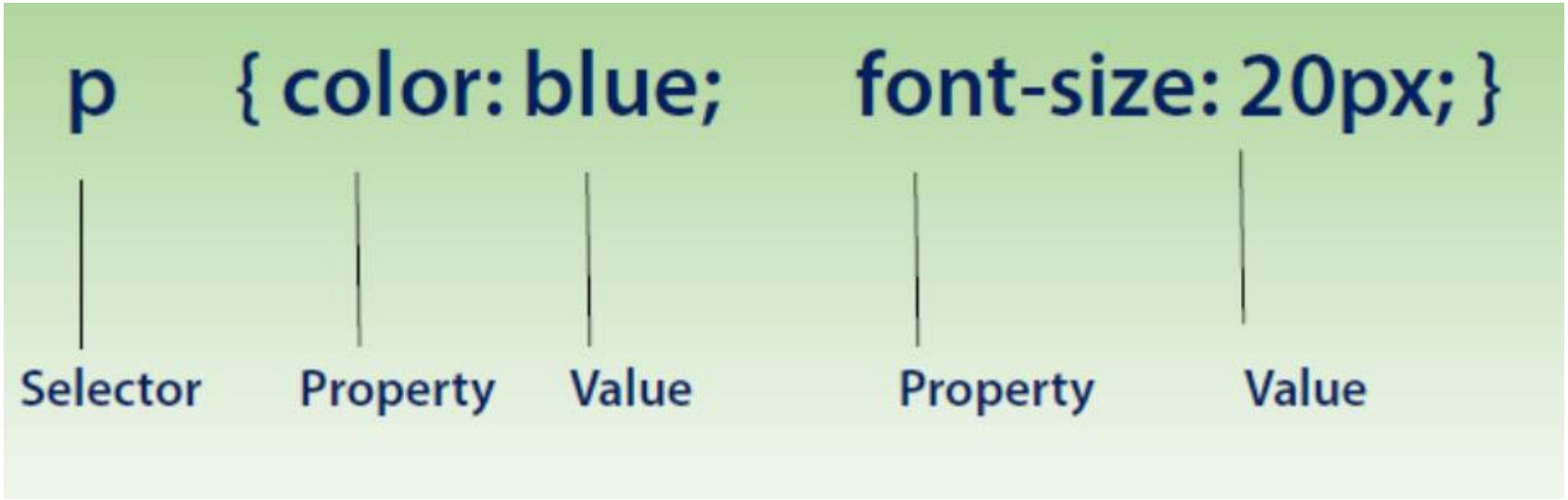
- Stylesheets consist of rules. Each rule has selectors and declarations. A declaration specify a property and its value.



- Selectors are separated by commas.
- Declarations are separated by semicolons
- Properties and values are separated by colons

```
h1,h2,h3 { color: green; font-weight: bold; }
```

Example



Selectors are used to select elements on an HTML page so that they can be styled

Basic Selectors

- **Tag Selectors**
  - Apply page-wide

  e.g., `p { font-family: verdana; }` applies the style to all <p> tags

- **Class Selectors**
  - Defines a **named** style (prefix the name with dot (.))
  - Can apply to any page element using the class attribute

  e.g., `.redBorder {border: 1px solid red}` defines a style named redBorder

  ```
  <p class='redBorder'>Using the class attribute to apply the redBoder style to this paragrpah</p>
  ```

- **ID Selectors**
  - Apply to one specific tag
  - Use hash (#) followed by the tag id to select the element to be styled
  - Good for linking to specific part of a page

  e.g., `#errorMsg { color: red; }` apply the style to the element with id **errorMsg**

Selector Examples

- Three primary kinds of selectors:
  - Tag selectors(aka Type selectors):

```
h1 { font-family: verdana,sans-serif; }
```

  - Class Selectors:

```
.redBorder {border: 1px solid red}
```

  - ID Selectors:

```
#errorMsg { color: red; }
```

- Selectors can be combined with commas:

```
h1, .link, #topLink {font-weight: bold}
```

  This will match `<h1>` tags, elements with class `link`, and the element with id `topLink`

- Comment in CSS `/* comment */`

Linking HTML and CSS

- HTML (content) and CSS (presentation) can be linked in three ways:
  - Inline: the CSS rules in the `style` attribute
    - No selectors are needed
  - Embedded: in the `<head>` in a `<style>` tag
  - External: CSS rules in separate file (best)
    - A file with `.css` extension
    - Linked via Link tag

```
<link rel="stylesheet" href="…">
```

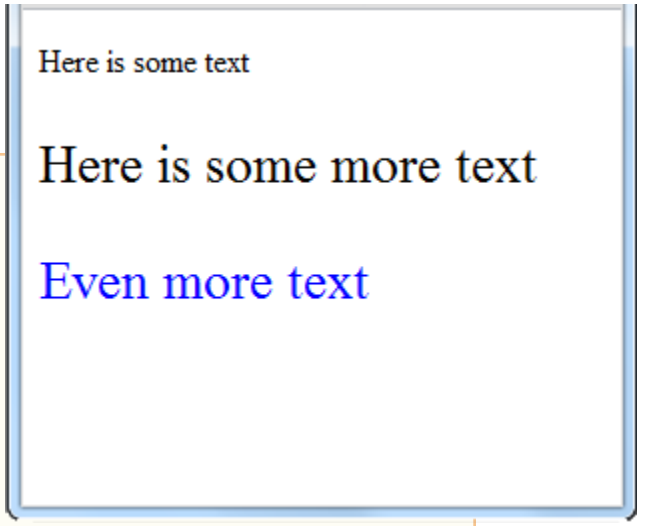
Inline Styles

- CSS rules in the element's `style` attribute
- No need for selectors
  - Acts on the element on which it is set
- Not recommended
  - It mixes content with presentation
  - The CSS idea is to avoid that mixing

Example - Inline Styles

Example: inline-styles.html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Inline Styles</title>
</head>
<body>
  <p>Here is some text</p>
  <!--Separate multiple styles with a semicolon-->
  <p style="font-size: 20pt">Here is some
    more text
  </p>
  <p style="font-size: 20pt;color:#0000FF">
      Even more text
   </p>
</body>
</html>
```



Example - Embedded Styles

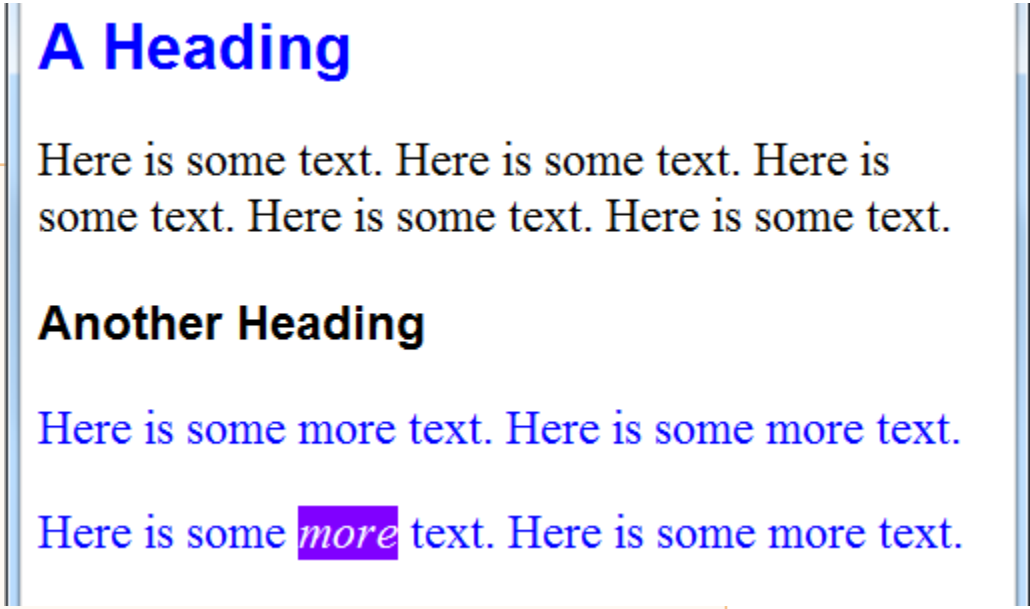
- Used for document-specific styles

Example: embedded-stylesheets.html

```
<!DOCTYPE html>
<html>
<head>
  <title>Style Sheets</title>
  <style type="text/css">
    em {background-color:#8000FF; color:white}
    h1 {font-family:Arial, sans-serif}
    p  {font-size:18pt}
    .blue {color:blue}
  </style>
<head>
```

Example
Embedded Styles (cont.)

```
…
<body>
  <header>
      <h1 class="blue">
         A Heading
      </h1>
  </header>
  <article>
      <p>Here is some text. Here is some text.
      Here is some text. Here is some text. Here
      is some text.</p>
     <h1>Another Heading</h1>
     <p class="blue">Here is some more text.
     Here is some more text.</p>
     <p class="blue">Here is some <em>more</em>
     text. Here is some more text.</p>
  </article>
</body>
</html>
```

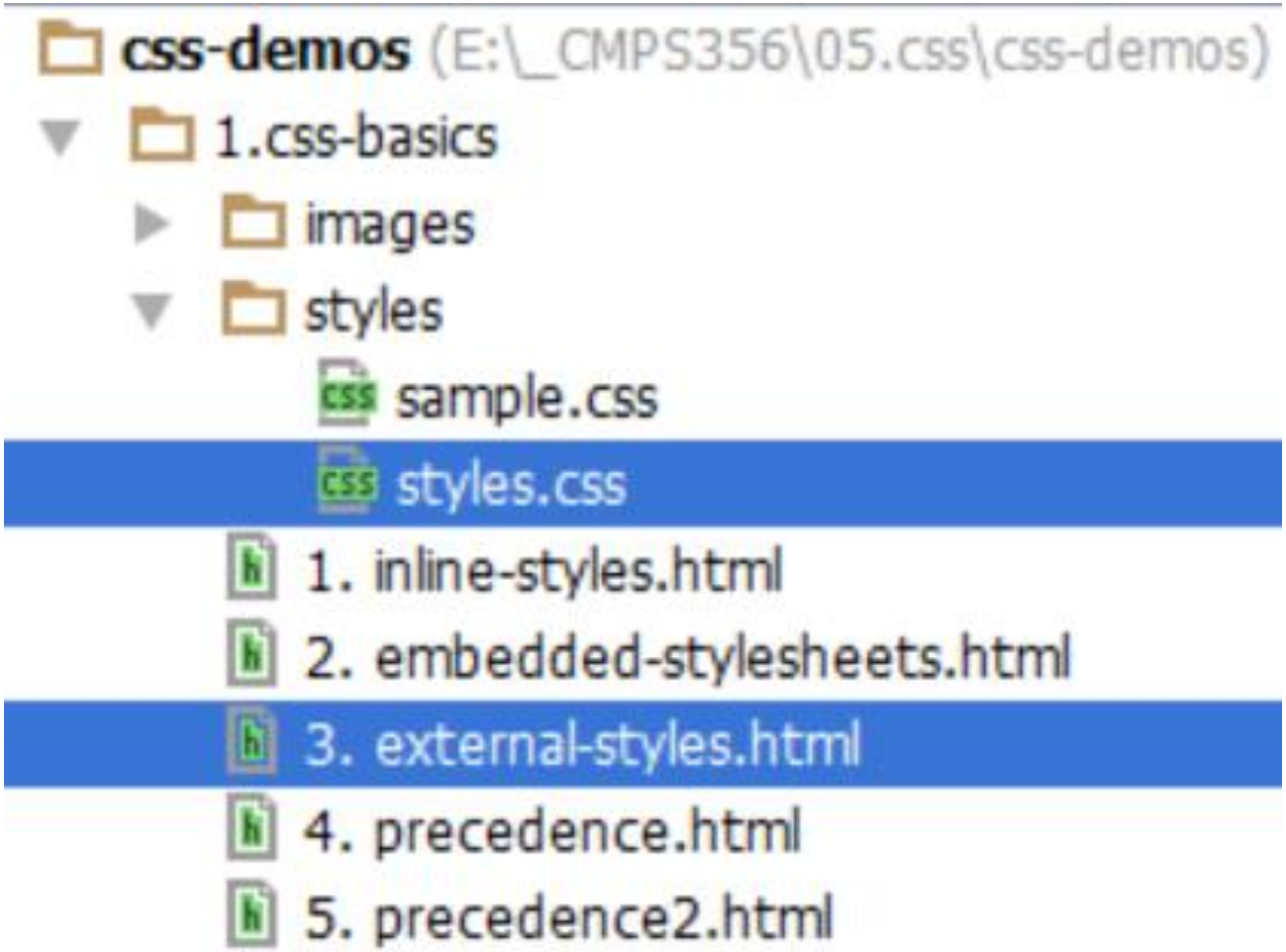


External CSS Styles

- Using external files is highly recommended
  - **Separation of concerns**: separates content from presentation
    - Simplifies the HTML document
    - Increases reusability
    - Eases maintainability
  - Insures consistent look and feel across the entire website
    - Only modify a single file to change the styles across the entire Web site
  - Faster page loading as the CSS file is cached
- `<link>` tag in the document `<head>` to link html document with ccs document

```
<link rel="stylesheet" href="styles.css">
```

Example - External Styles



Selectors

Combined Selectors

- Match relative to element placement:

```
p a {text-decoration: underline}
```

This will match all <a> tags that are inside of <p>

Attribute Selectors

- `E[foo^="bar"]`
  - An `E` element whose "foo" attribute value begins with the string "bar"
  - Example: `a[src^="https://"]`
- `E[foo$="bar"]`
  - An `E` element whose "foo" attribute value ends with the string "bar"
- `E[foo*="bar"]`
  - An `E` element whose "foo" attribute value contains the substring "bar"

Pseudo-classes

- Pseudo-classes define state
  - `:hover`, `:visited`, `:active`
- Pseudo-elements define element "parts" or are used to generate content
  - `:first-line` , `:before`, `:after`

```
a:hover { color: red; }
p:first-line { text-transform: uppercase; }
.title:before { content: "»"; }
.title:after { content: "«"; }
```

Structural Pseudo-classes

- `E:nth-child(n)`
  - An `E` element, the n-th child of its parent
- `E:nth-last-child(n)`
  - An `E` element, the n-th child of its parent, counting from the last on
- `E:nth-of-type(n)`
  - An `E` element, the n-th sibling of its type

Structural Pseudo-classes (3)

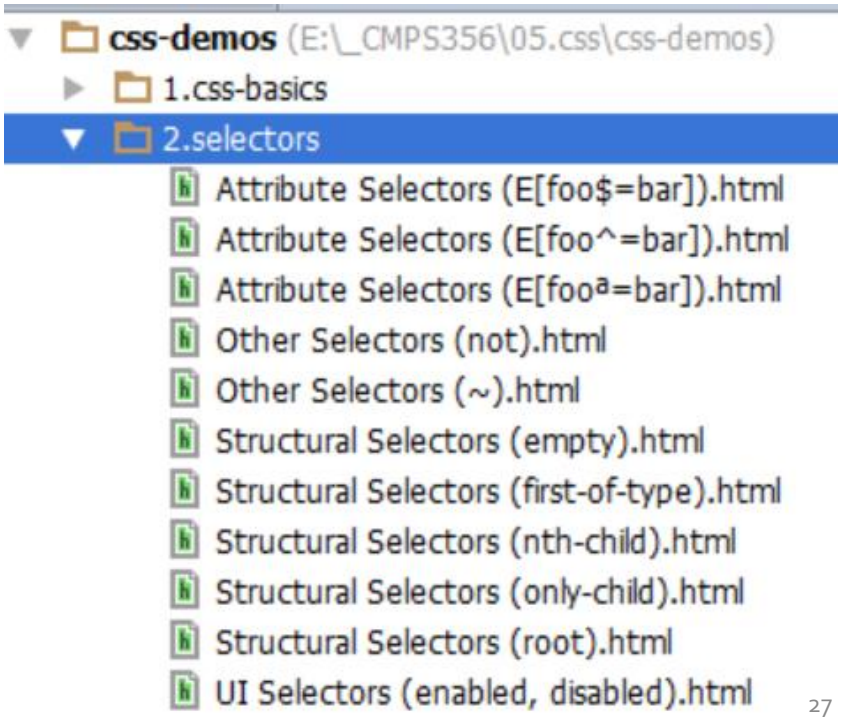
- `E:only-child`
  - An `E` element, only child of its parent
- `E:only-of-type`
  - An `E` element, only sibling of its type
- `E:empty`
  - An `E` element that has no children (including text nodes)
- More detailed descriptions:

http://www.w3.org/TR/css3-selectors/#structural-pseudos

Summary

- A style consists of a selector, followed by property/value pairs
- Selectors:
  - Tag Selectors
  - Class Selectors
  - ID Selectors
  - Combined Selectors
  - Attribute selectors
  - Pseudo-elements
  - Structural pseudo-classes
  - UI state pseudo-classes

Examples



Text Styles

Text-related CSS Properties

- `color` – specifies the color of the text
- `font-size` – size of font: `xx-small`, `x-small`, `small`, `medium`, `large`, `x-large`, `xx-large`, `smaller`, `larger` or numeric value
- `font-family` – comma separated font names
  - Example: `verdana`, `sans-serif`, etc.
  - The browser loads the first one that is available
  - There should always be at least one generic font
- `font-weight` can be `normal`, `bold`, `bolder`, `lighter` or a number in range [`100` … `900`]

CSS Rules for Fonts (2)

- `font-style` – styles the font
  - Values: `normal`, `italic`, `oblique`
- `text-decoration` – decorates the text
  - Values: `none`, `underline`, `line-trough`, `overline`, `blink`
- `text-align` – defines the alignment of text or other content
  - Values: `left`, `right`, `center`, `justify`

Shorthand Font Property

- `font`
  - Shorthand rule for setting multiple font properties at the same time

```
font:italic normal bold 12px/16px verdana
```

is equal to writing this:

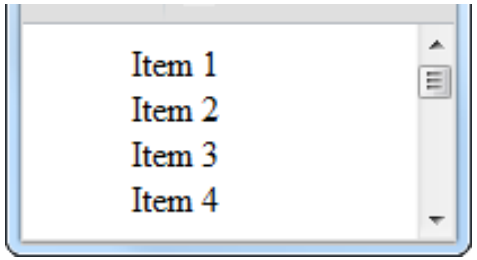
```
font-style: italic;
font-variant: normal;
font-weight: bold;
font-size: 12px;
line-height: 16px;
font-family: verdana;
```

List Styles

Styles for Lists

- List properties are used to define the look and feel of the list items
  - Mainly to change the list item marker
- Normal styles:
  - `List-style-type`
    - Values for <ol>: `circle`, `square`,...
    - Values for <ul>: `upper-roman`, `lower-alpha`
    - Values for both: `none`

```
ul
{
    list-style-type:none;
}
```



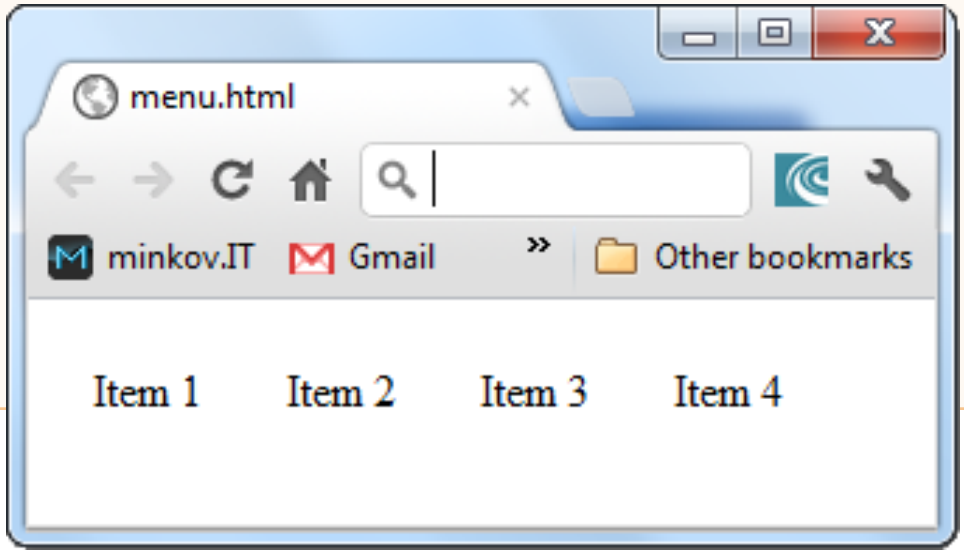
Create Navigation Bar

- A Navigation bar is a set of links
  - A list of the different areas on your site
- Place the link in Unordered List
- Remove the bullets (list-style-type: none;)
- Eliminate padding and margins
- Set the display to inline-block to eliminate new lines
- Style the links
  - Remove the underline
  - Set the color
  - Surround with a border

Creating a Menu-like List

```
ul.menu
{
    list-style-type: none;
    padding: 0px;
    margin: 0px;
}

li.menu-item
{
    float: left;
    margin: 10px;
}
```



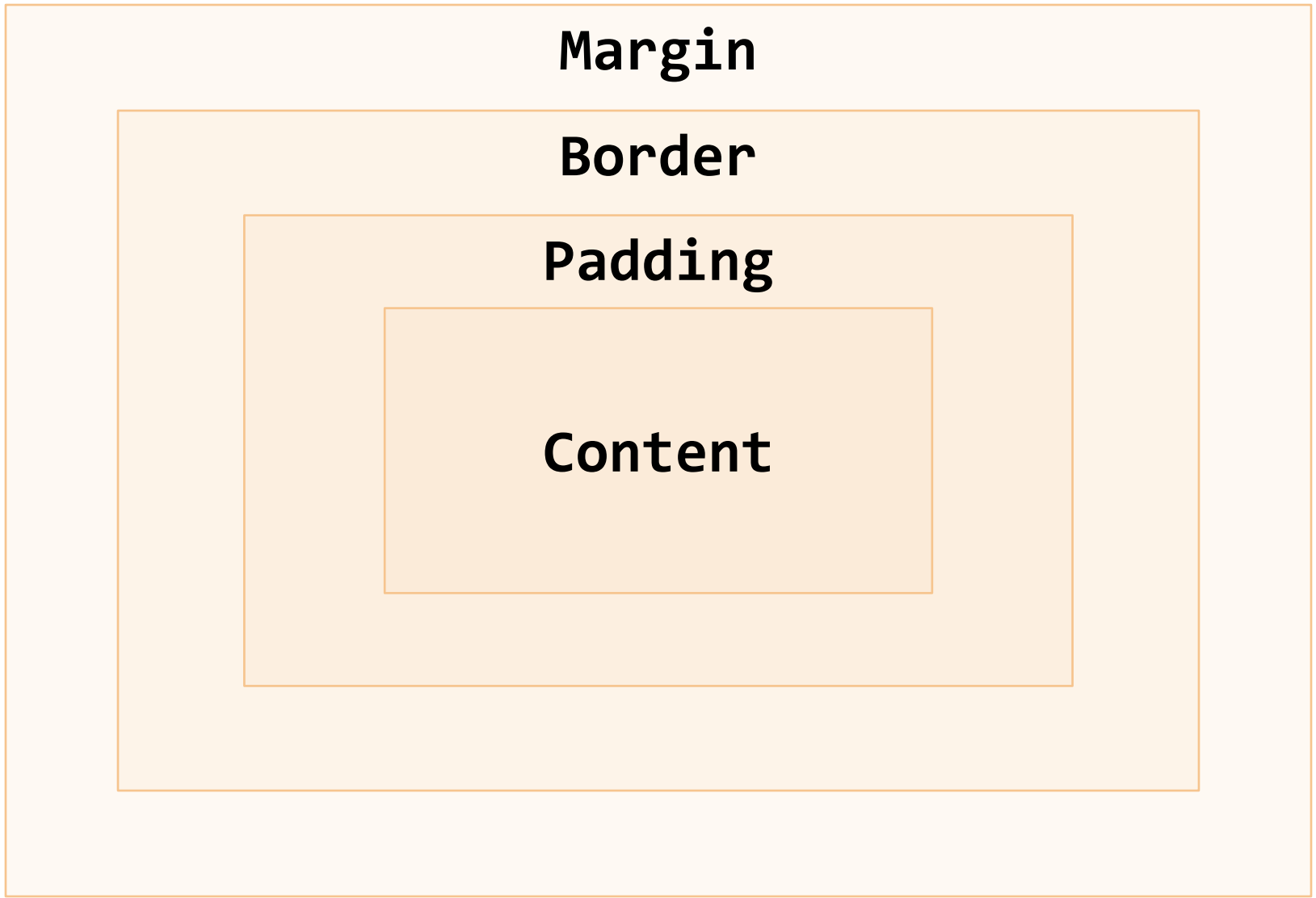
Margins, Borders and Padding

Example: margins-paddings-rules.html

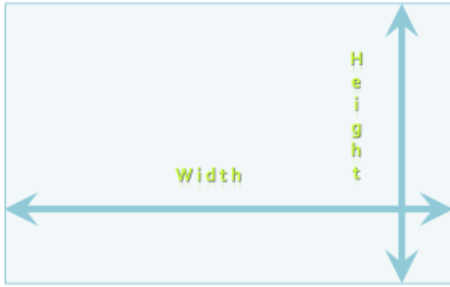
Margins, Borders and Padding

- Understanding the box model
  - A paragraph is a box
  - An image is a box
  - Each tag is a box
  - Boxes within boxes
- **Margin** –the space that separates the boxes
- **Padding** –the space between the border and the contents
- **Border** –the line around each edge of the box

The Box Model



Width and Height



- `width` – defines numerical value for the width of element, e.g. `200px`
- `height` – defines numerical value for the height of element, e.g. `100px`
  - By default the height of an element is defined by its content
  - Inline elements do not apply height, unless you change their `display` style

Margin and Padding

- `margin` and `padding` define the spacing around the element
  - Numerical value, e.g. `10px` or `-5px`
  - Can be defined for each of the four sides separately - `margin-top`, `padding-left`, ...
  - `margin` is the spacing outside of the border
  - `padding` is the spacing between the border and the content

```
width: 300px;
border: 1px solid black;
padding: 5px;
```

Margin and Padding: Short Rules

- `margin: 5px`;
  - Sets all four sides to have margin of 5 px;
- `margin: 10px 20px;`
  - top and bottom to `10px`, left and right to `20px`;
- `margin: 5px 3px 8px;`
  - top 5px, left/right 3px, bottom 8px
- `margin: 1px 3px 5px 7px;`
  - top, right, bottom, left (clockwise from top)
- Same for `padding`

Borders

- `border-width`: `thin`, `medium`, `thick` or numerical value (e.g. `10px`)
- `border-color`: color alias or RGB value
- `border-style`: `none`, `hidden`, `dotted`, `dashed`, `solid`, `double`, `groove`, `ridge`, `inset`, `outset`
- Each property can be defined separately for left, top, bottom and right
  - `border-top-style`, `border-left-color`, …

Border Shorthand Property

- `border`: shorthand rule for setting border properties at once:

```
border: 1px solid red
```

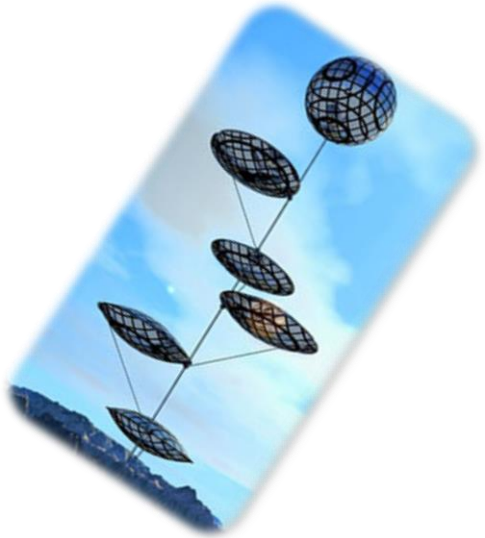
  is equal to writing:

```
border-width:1px;
border-color:red;
border-style:solid;
```

- Specify different borders for the sides via shorthand rules: `border-top`, `border-left`, `border-right`, `border-bottom`

Positioning Elements

float-rules.html



Overflow

- `overflow`: defines the behavior of element when content needs more space than you have specified by the size properties or for other reasons. Values:
  - `visible` (default) – content spills out of the element
  - `auto` - show scrollbars if needed
  - `scroll` – always show scrollbars
  - `hidden` – any content that cannot fit is clipped

See example: overflow-rule.html

Float

- `float`: the element "floats" to one side
  - `left`: places the element on the left and following content on the right
  - `right`: places the element on the right and following content on the left
  - floated elements should come before the content that will wrap around them

Clear

- `clear`
  - Sets the sides of the element where other floating elements are NOT allowed
  - Used to "drop" elements below floated ones
  - Possible values: `left`, `right`, `both`
- Clearing floats

```
:after { content: ""; display: block; clear: both; height: 0; }
```

Visibility

- `visibility`
  - Determines whether the element is visible
  - `hidden`: element is not rendered, but still occupies place on the page
  - `visible`: element is rendered normally

Display

- `display`: controls the display of the element and the way it is rendered and if breaks should be placed before and after the element
  - `inline`: no breaks are placed before and after (`<span>` is an inline element)
  - `block`: breaks are placed before AND after the element (`<div>` is a block element)
  - `none`: element is hidden and it does NOT occupy any place on the page (differs from `visibility: hidden`!)

References

- CSS Tutorials

http://www.w3schools.com/css/

- CSS developer guide

https://developer.mozilla.org/en-US/docs/Web/Guide/CSS

- Selectors

- http://code.tutsplus.com/tutorials/the-30-css-selectors-you-must-memorize--net-16048
- http://www.quirksmode.org/css/selectors/