

EECS1012

Net-centric Introduction to Computing

Lecture 4: More CSS

Acknowledgements

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More CSS

HTML id attribute

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```
<p>Coding Horror! Coding Horror!</p>  
<p id="mission">Our mission is to combine programming and  
<q>human</q> factors with geekiness!</p>
```

HTML

- A unique ID for an element on a page
- In the above example, the ID is now associate with the 2nd paragraph
- **Each ID must be unique; can only be used once in the page**



CSS ID selectors

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```
#mission {  
  font-style: italic;  
  font-family: "Garamond", "Century Gothic", serif;  
}
```

CSS

Coding Horror! Coding Horror!

Our mission is to combine programming and “human” factors with geekiness!
output

- In this case, the CSS is using #mission to refer to the element with the id “mission” on the previous slide
- This CSS applies style only to the paragraph that has the ID of mission

ID selectors vs. anchors

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```
<p>Visit <a href=
"http://www.textpad.com/download/index.html#downloads">
textpad.com</a> to get the TextPad editor.</p>
<p><a href="#mission">View our Mission Statement</a></p>
```

HTML

Visit [textpad.com](http://www.textpad.com) to get the TextPad editor.

output

- ❑ **Don't confuse ID selectors with anchors**
- ❑ Link target can include an ID at the end, preceded by a #
- ❑ Browser will load that page and scroll to element with given ID
- ❑ ID's are not anchors!

HTML class attribute

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```
<p class="shout">Coding Horror! Coding Horror!</p>  
<p class="special">See our special deal on Droids!</p>  
  
<p class="special">Today only!</p>
```

HTML

Coding Horror! Coding Horror!

See our special deal on Droids!

Today only!

output

- A way to **group several elements** and give a style to only that group
- **Unlike an id**, a class can be reused as much as you like on the page

CSS class selectors

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```
.special { /* we denote class selector using a period */  
background-color: yellow;  
font-weight: bold;  
}  
p.shout { /* this means all paragraph elements with */  
color: red; /* class shout */  
font-family: sans-serif;  
}
```

CSS

Coding Horror! Coding Horror!

See our special deal on Droids!

Today only!

output

You can apply more than one style

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```
<p class="shout">Coding Horror! Coding Horror!</p>
<p class="special">See our special deal on Droids!</p>
<p class="special shout">Today only!</p>
```

HTML

This `<p>` element is associated with two class styles – special and shout (defined on previous slide). A space is used between the class names.

Coding Horror! Coding Horror!

See our special deal on Droids!

Today only!

output

Recap: selector notation

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```
#selectorA { /* apply style to an element with */  
... /* id="selectorA", there should be */  
} /* only ONE element in the HTML with this ID */  
  
.selectorB { /* apply style to all elements that have */  
... /* class="selectorB" */  
}  
  
selectorC.selectorD { /* apply style to all elements of */  
.. /* class="selectorD" that are */  
} /* of type selectorC */  
  
selectorA, selectorB, selectorC { /* you can apply a style to */  
... /* multiple selectors */  
} /* with a , between selectors*/
```

CSS

Quick example

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```
<h1 id="top" > This is the top h1. </h1>
<h1 class="bigRed" > This is class big red. </h1>
<h3 class="bigRed" > This is class big red. </h3>
<p class="bigRed" > This is class big red. </p>
<p class="larger" > This is class larger </p>
```

HTML

```
#top      { /* apply style to an element with */
...        /* with id=top, there is only 1 above */
}
.bigRed   { /* apply style to all elements of class */
...        /* .bigRed */
}          /* multiple elements use this class */

p.larger  { /* apply style to all elements of */
...        /* class "larger" only if it is an */
}          /* element paragraph */
```

CSS

CSS pseudo-class

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

CSS

Buy Early Buy Often!

output

- Pseudo-class is used to define a special state of an element
- Great example is for hyper links `<a>` elements that can have multiple states (e.g., before visiting the link, after visiting the link, when the mouse is hovering over the link).

More CSS pseudo classes

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class	description
: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

Styling tables

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```
table { border: 2px solid black; caption-side: bottom; }  
tr { font-style: italic; }  
td { background-color: yellow; text-align: center; width: 30%;  
}
```

CSS

<i>Column 1</i>	<i>Column 2</i>
<i>1,1</i>	<i>1,2 okay</i>
<i>2,1 real wide</i>	<i>2,2</i>

My important data

output

- all standard CSS styles can be applied to a table, row, or cell
- table specific CSS properties:
border-collapse, border-spacing, caption-side, empty-cells, table-layout
- See: https://www.w3schools.com/css/css_table.asp

The rowspan and colspan attributes

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```
<table>
  <tr><th>Column 1</th><th>Column 2</th><th>Column 3</th></tr>
  <tr><td colspan="2">1,1-1,2</td>
    <td rowspan="3">1,3-3,3</td></tr>
  <tr><td>2,1</td><td>2,2</td></tr>
  <tr><td>3,1</td><td>3,2</td></tr>
</table>
```

HTML

Column 1	Column 2	Column 3
1,1-1,2		1,3-3,3
2,1	2,2	
3,1	3,2	

output

- ❑ colspan makes a cell occupy multiple columns; rowspan multiple rows
- ❑ This is not part of the CSS, but requires modifications to the HTML ..

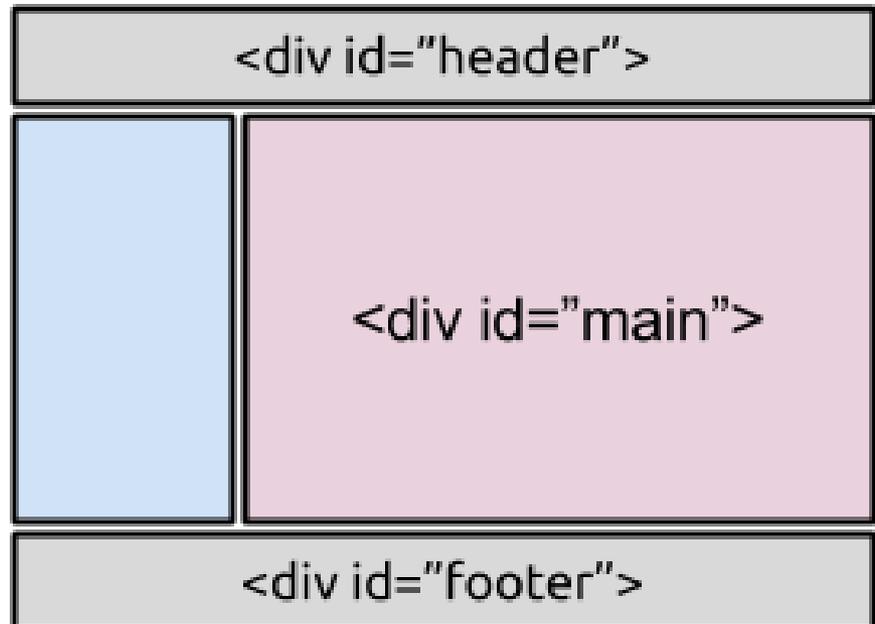
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Styling Page Sections

Why do we need page sections?

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- Style individual elements, groups of elements, sections of text or of the page
- Create complex page layouts



Sections of a page `<div>`

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```
<div class="shout">
<h2>Coding Horror! Coding Horror!</h2>
<p class="special">See our special deal on Droids!</p> <p>We'll
beat any advertised price!</p>
</div>
```

HTML

Coding Horror! Coding Horror!

See our special deal on Droids!

We'll beat any advertised price!

- Tag used to indicate a logical section or area of a page
- In this example, we have “wrapped” the elements in a div.
- We can then apply a style to the whole div. In the example above, Div gets style of class “shout”.

```
shout { color: red;
font-family: sans-serif; }
```

Inline sections ``

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```
<h2>Coding Horror! Coding Horror!</h2>
<p>See our <span class="special">spectacular</span> deal on
Droids!</p>
<p>We'll beat <span class="shout"> any advertised
price</span>!</p>
```

HTML

Coding Horror! Coding Horror!

See our **spectacular** deal on Droids!

We'll beat **any advertised price!**

output

- Span is like div, but intended for inline elements. In this case, we have placed a span about one word “spectacular”.

CSS context selectors

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```
selector1 selector2 {  
    properties  
}
```

CSS

- applies the given properties to selector2 **only if** it is inside a selector1 on the page

```
selector1 > selector2 {  
    properties  
}
```

CSS

- applies the given properties to selector2 only if it is *directly* inside a selector1 on the page (*that is selector2 is not defined within another tag after selector 1 – yes, it is confusing, see next slide for an example*)

Example *context selector* example

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```
<p>Eat at <strong>Greasy's Burger</strong>...</p>
<ul>
<li>The <strong>greasiest</strong> burgers in town!</li>
<li>Yummy and greasy at the same time!</li>
</ul>
```

HTML

```
li strong { text-decoration: underline; }
```

CSS

Eat at **Greasy's Burger...**

- The greasiest burgers in town!
- Yummy and greasy at the same time!

output

Another example

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```
<p> This is a <strong> test </strong> of the context selector. </p>  
<p> This is a <em> <strong> test </strong> </em> of the context  
selector. </p>
```

HTML

```
strong{  
    color: red;  
}  
p > strong { /* only immediate "child" of <p> */  
    color: blue;  
    background-color: yellow;  
}
```

CSS

This is a **test** of the context select.

This is another **test** of the context selector.

/ this second test is inside an so it
is not directly inside the <p> </p> tag, so the
context selector does not apply. */*

output

Another example

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```
<p> This is a <strong> test </strong> of the context selector. </p>  
<p> This is a <em> <strong> test </strong> </em> of the context  
selector. </p>
```

HTML

```
strong{  
    color: red;  
}  
p strong { /* only immediate "child" of <p> */  
    color: blue;  
    background-color: yellow;  
}
```

CSS

This is a **test** of the context select.

This is another **test** of the context selector.

```
/* This selector means apply the style rule to  
any <strong> element  
appearing within a <p> */
```

output

Yet another (more complex) example

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```
<div id="ad">
<p>Eat at <strong>Greasy's Burger</strong>...</p>
<ul>
<li class="important">The <strong>greasiest</strong>
burgers in town!</li>
<li>Yummy and <strong>greasy at the same time
</strong>!</li>
</ul>
</div>
```

HTML

```
#ad li.important strong { text-decoration: underline; }
```

CSS

Eat at **Greasy's Burger...**

- The **greasiest** burgers in town!
- Yummy and **greasy at the same time!**

output

More complex example (con't)

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```
#ad li.important strong { text-decoration: underline; }
```

CSS

This selector means (reading it backwards):

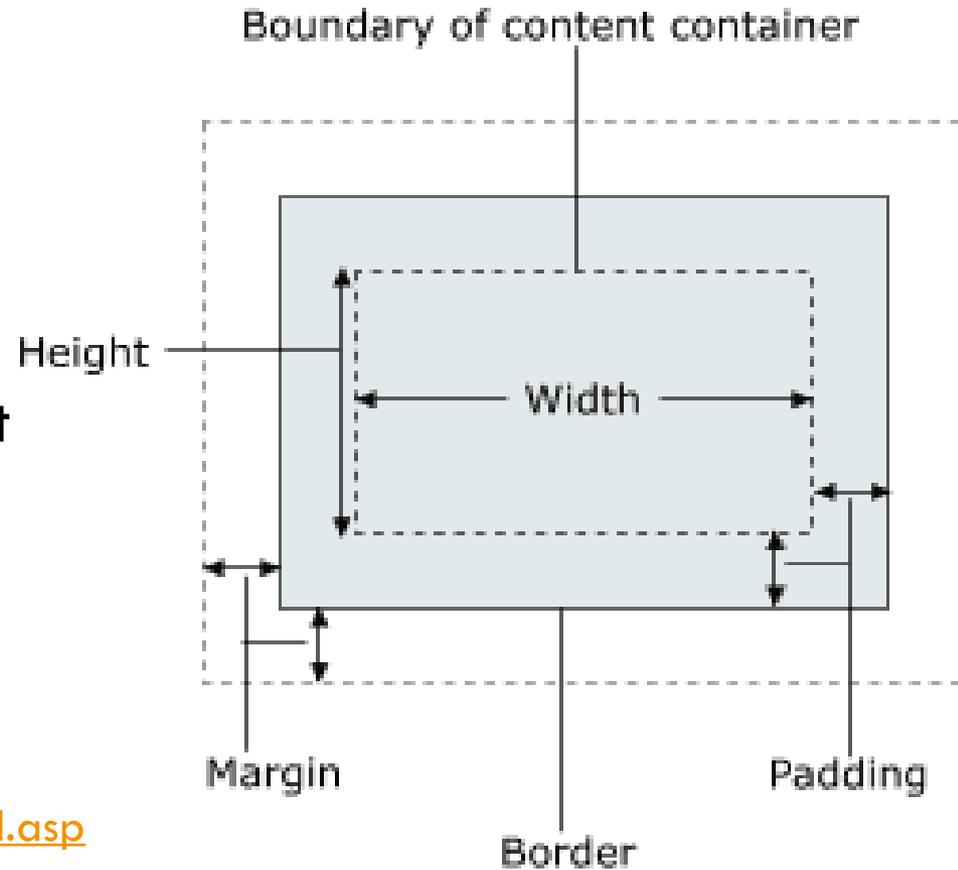
Apply to an element of type `strong`,
that is inside a `` element that is class “important”,
that is inside an element that has `id=“ad”`.

- Yes, this is crazy – **but**, this example shows you just how specific the CSS can be about presentation style of an HTML page.

The CSS Box Model

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- Every element is composed of:
 - ▣ content
 - ▣ a **border** around the element
 - ▣ **padding** between the content and the border
 - ▣ a **margin** between the border and other content



https://www.w3schools.com/css/css_boxmodel.asp

The CSS Box model (cont.)

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- **width** = content width + L/R padding + L/R border + L/R margin
- **height** = content height + T/B padding + T/B border + T/B margin
- And of course, IE6 doesn't do this right



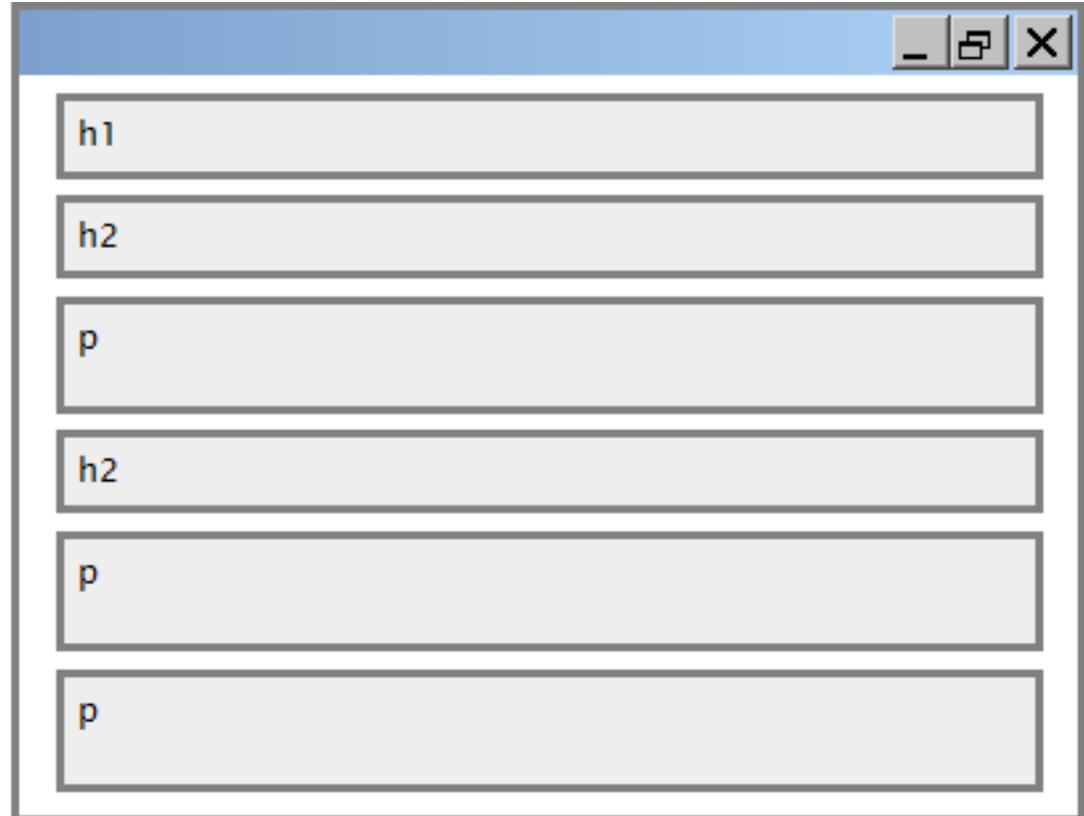
*L/R means left and right padding
(not divide L by R)

Document Flow – block elements

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We can think of each element as a “block” that flows on the page.

The default behavior is for blocks is not to overlap.

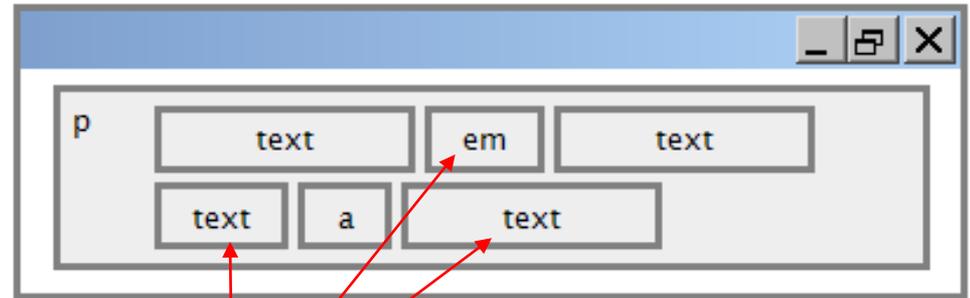


Document flow - inline elements

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We can think of inline elements as being contained within a block element. They flow as if they are inline text.

The default is that inline elements will not overlap within the block they are contained in.

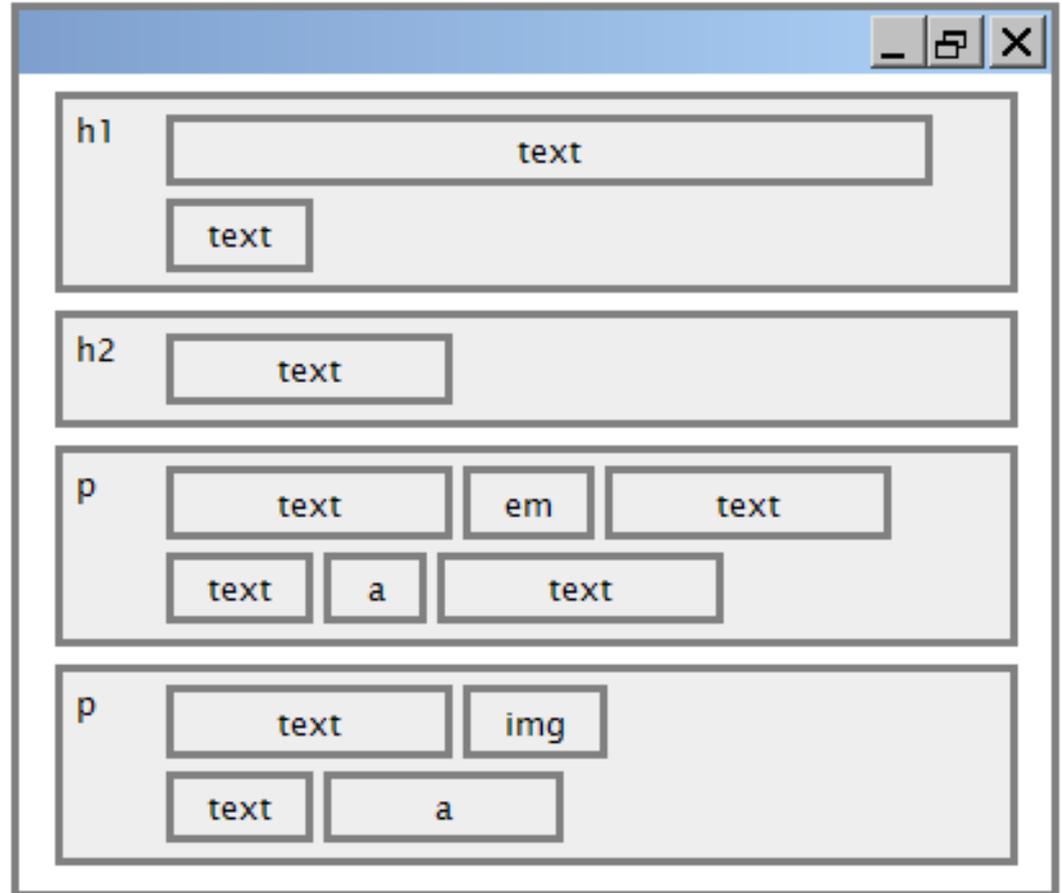


Inline elements within a `<p>` block element.

Document flow - a larger example

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A more accurate view is to visualize our page as blocks containing inline elements.



CSS properties for borders

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```
h2 { border: 5px solid red; }
```

CSS

This is a heading.

output

property	description
border	thickness/style/size of border on all 4 sides

- **Thickness:** px, pt, em, or thin, medium, thick
- **Style:** none, hidden, dotted, dashed, double, groove, inset, outset, ridge, solid
- **color** (specific the same as other elements)

Border styles examples

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A dotted border.

A dashed border.

A solid border.

A double border.

A groove border. The effect depends on the border-color value.

A ridge border. The effect depends on the border-color value.

An inset border. The effect depends on the border-color value.

An outset border. The effect depends on the border-color value.

No border.

A hidden border.

A mixed border.

More border properties

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property	description
border-color, border-width, border-style	specific properties of border on all 4 sides
border-bottom, border-left, border-right, border-top	all properties of border on a particular side
border-bottom-color, border-bottom-style, border-bottom-width, border-left-color, border-left-style, border-left-width, border-right-color, border-right-style, border-right-width, border-top-color, border-top-style, border-top-width	properties of border on a particular side

Complete list of border properties

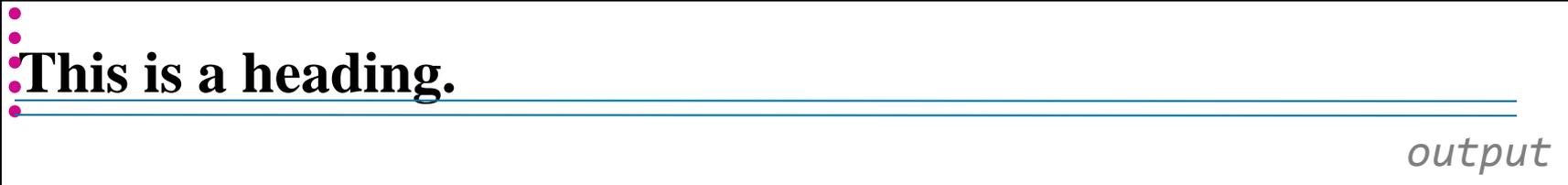
https://www.w3schools.com/css/css_border.asp

Another border example

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```
h2 {  
  border-left: thick dotted #CC0088;  
  border-bottom-color: rgb(0, 128, 128);  
  border-bottom-style: double;  
}
```

CSS



- each side's border properties can be set individually
- if you omit some properties, they receive the default

CSS properties for padding

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property	description
padding	padding on all 4 sides
padding-bottom	padding on bottom side only
padding-left	padding on left side only
padding-right	padding on right side only
padding-top	padding on top side only
Complete list of padding properties https://www.w3schools.com/css/css_padding.asp	

Padding example 1

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```
<!DOCTYPE html>
<html>
<head>
<style>
    p { padding: 20px; border: 3px solid black; }
    h2 { padding: 0px; background-color: yellow; }
</style>
</head>
<body>

<h2> Test header style </h2>
<p> Test paragraph style </p>

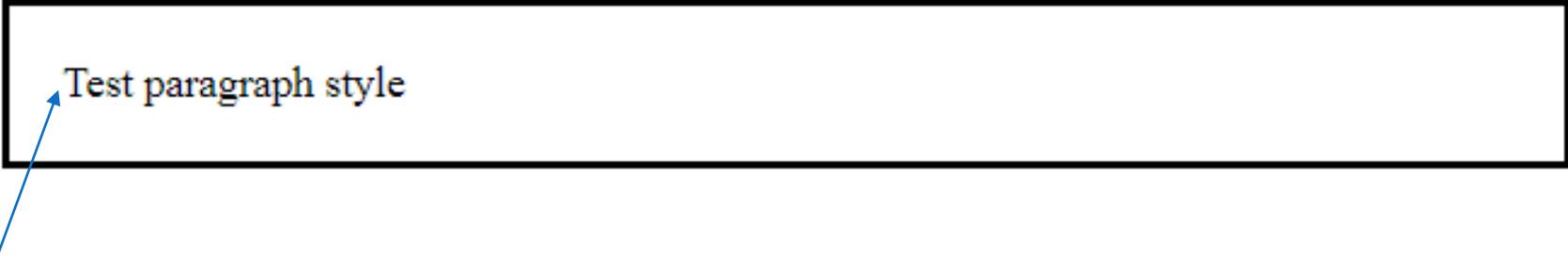
</body>
</html>
```

Padding example 1 output

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Test header style

Test paragraph style



Content has a 20px padding.

The content above has no padding (or padding of 0px).

CSS properties for margins

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property	description
margin	margin on all 4 sides
margin-bottom	margin on bottom side only
margin-left	margin on left side only
margin-right	margin on right side only
margin-top	margin on top side only

[Complete list of margin properties](https://www.w3schools.com/cssref/pr_margin.asp)

https://www.w3schools.com/cssref/pr_margin.asp

Margin example 1

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```
p {  
    margin: 50px;  
    background-color: fuchsia;  
}
```

CSS

This is a first paragraph

This is a second paragraph

output

- notice that margins are always transparent (they don't contain the elements background properties).

Margin example 2

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```
p {  
margin-left: 8em;  
background-color: fuchsia;  
}
```

CSS

This is a first paragraph

This is a second paragraph

output

- each side's margin can be set individually
- above only the left margin has been set (to 8x the current font size)

CSS properties for dimensions

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```
p { width: 350px; background-color: yellow; }  
h2 { width: 50%; background-color: aqua; }
```

CSS

This paragraph uses the first style above

An h2 heading

output

property	description
width, height	how wide or tall to make this element (block elements only)
max-width, max-height, min-width, min-height	max/min size of this element in given dimension

Centering a block element: auto margins

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```
p {  
margin: auto;  
width: 300px;  
}
```

CSS

This is a first paragraph

output

- This `<p>` element is size 300px and margins are auto. This gives equal margins on both side. Note that the text content is not centered.
- to center inline elements within a block element, use `text-align: center;`

Recap:

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- You now know enough about CSS to create nice webpages and understand the complexity of the “context selector”.
- This will be useful if you download a complex CSS and try to modify it (or . . . create your own)
- You also know the CSS box model regarding padding, margin, border, and content.