

Lecture Notes 5:

Layout using HTML/CSS

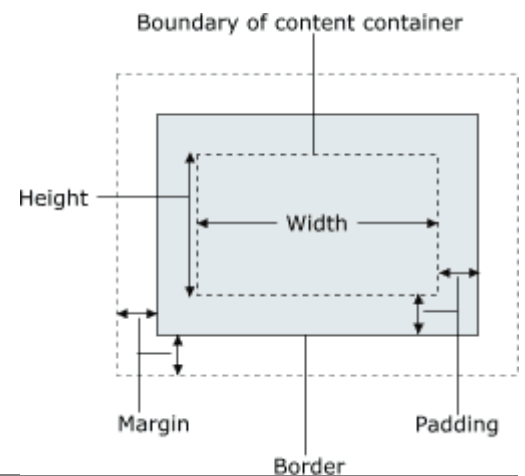
CSE 190 M (Web Programming), Spring 2007
University of Washington

Reading: Sebesta Ch. 3 section 3.10



CSS Box Model

- for layout purposes, every element is composed of:
 - the actual element's content
 - a border around the element
 - padding between the content and the border (*inside*)
 - a margin between the border and other content (*outside*)
- width = content width + L/R padding + L/R border + L/R margin
height = content height + T/B padding + T/B border + T/B margin
 - IE6 doesn't do this right, and sucks



CSS properties for borders

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

This is a heading.

- border: all properties of border on all 4 sides
- a border is specified as three items:
 - its thickness (specified in px, pt, em, %, or one of the following general widths: `thin`, `medium`, `thick`)
 - its style (one of none, hidden, `dotted`, `dashed`, `double`, `groove`, `inset`, `outset`, `ridge`, `solid`)
 - its color (specified as seen previously for text and background colors)

More border properties

- [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](#): specific properties of border on a particular side
- [Complete list of border properties](#)

Border example 2

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

■ This is a heading.

- each side's border properties can be set individually
- if you omit some properties, they receive default values (e.g. `border-bottom-width` above)

CSS properties for padding

- [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](#)

Padding example 1

```
p { padding: 20px; border: 3px solid black; }
h2 { padding: 0px; background-color: yellow; }
```

This is the first paragraph

This is the second paragraph

This is a heading

- notice that padding shares the background color of the element

Padding example 2

```
p { padding-left: 200px; padding-top: 30px;
  background-color: fuchsia; }
```

This is the first paragraph

This is the second paragraph

- each side's padding can be set individually

background image, background repeat

```
div.main {
  background-image: url("draft.jpg");
  background-repeat: repeat-x;
}
```

This is the first paragraph

This is the second paragraph...

It occupies 2 lines

- background-repeat can be repeat (default), repeat-x, repeat-y, or no-repeat
- background image/color fills the content area and the padding

CSS properties for margins

- 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

Margin example 1

```
p {  
  margin: 70px;  
  background-color: fuchsia;  
}
```

This is the first paragraph

This is the second paragraph

-
- notice that margins are always transparent
(they don't contain the element's background color, etc.)

Margin example 2

```
p {  
  margin-left: 200px;  
  background-color: fuchsia;  
}
```

This is the first paragraph

This is the second paragraph

-
- each side's margin can be set individually

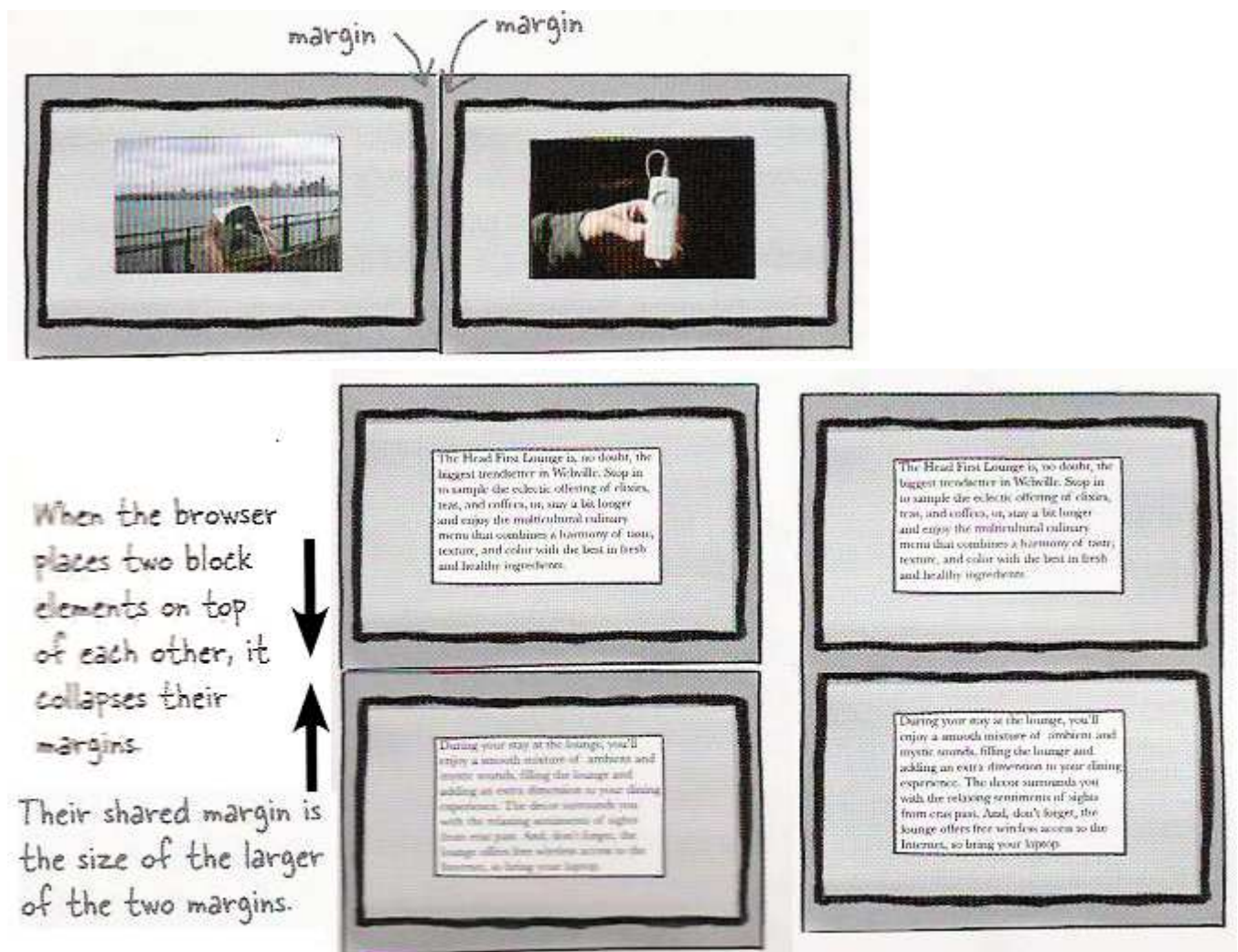
Centering an element with auto margins

```
p { width: 500px; margin-left: auto; margin-right: auto; }
```

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis ...

- what is the difference between this and `text-align: center;`?

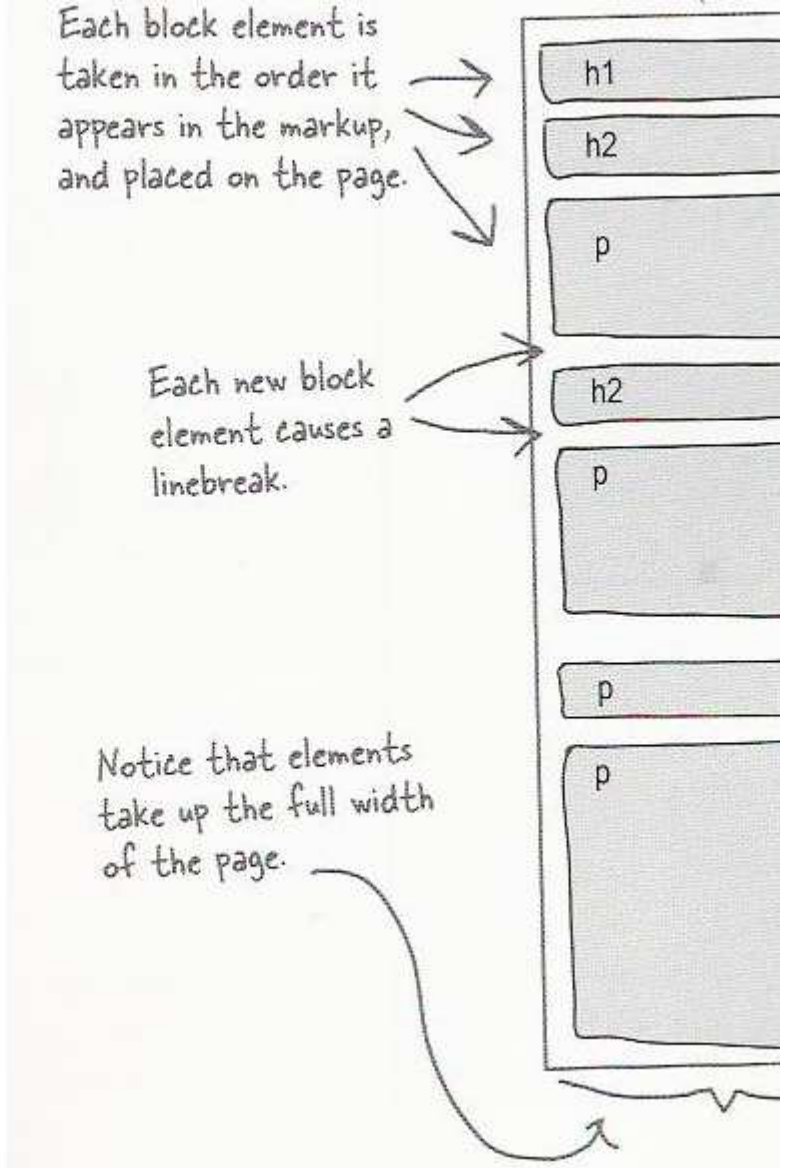
Top/bottom margin collapse



- when two block elements appear on top of each other, their margins are collapsed
- their shared margin is the larger of the two individual margins

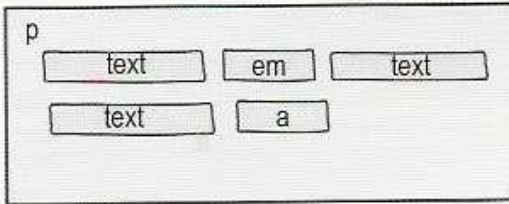
Document flow - block elements

```
<html>
  <head>...</head>
  <body>
    <h1>...</h1>
    <h2>...</h2>
    <p>...</p>
    <h2>...</h2>
    <p>...</p>
    <p>...</p>
    <p>...</p>
  </body>
</html>
```

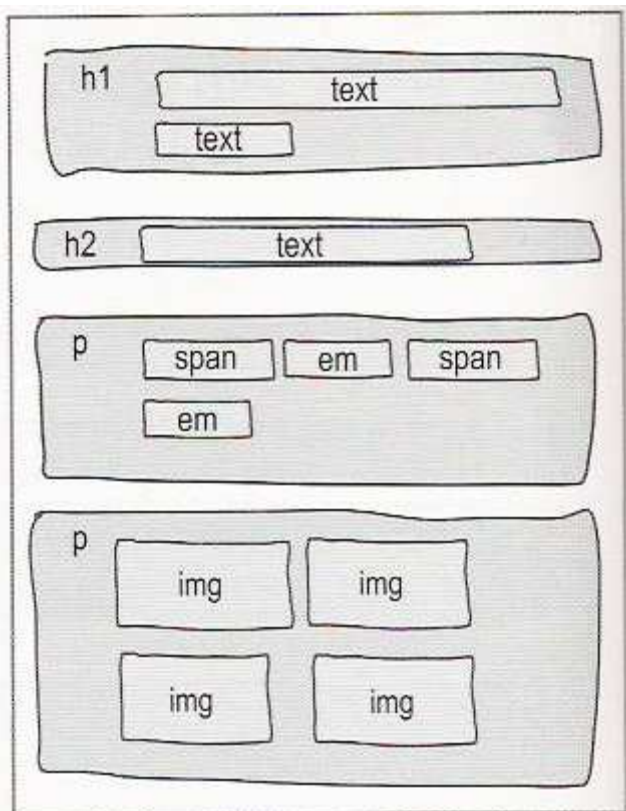


Document flow - inline elements

```
<p>  
Join us <em>any evening</em> for  
these and all our other wonderful <a  
href="beverages/elixir.html" title="Head  
First Lounge Elixirs">elixirs</a>.  
</p>
```



Document flow - a larger example



The CSS float property

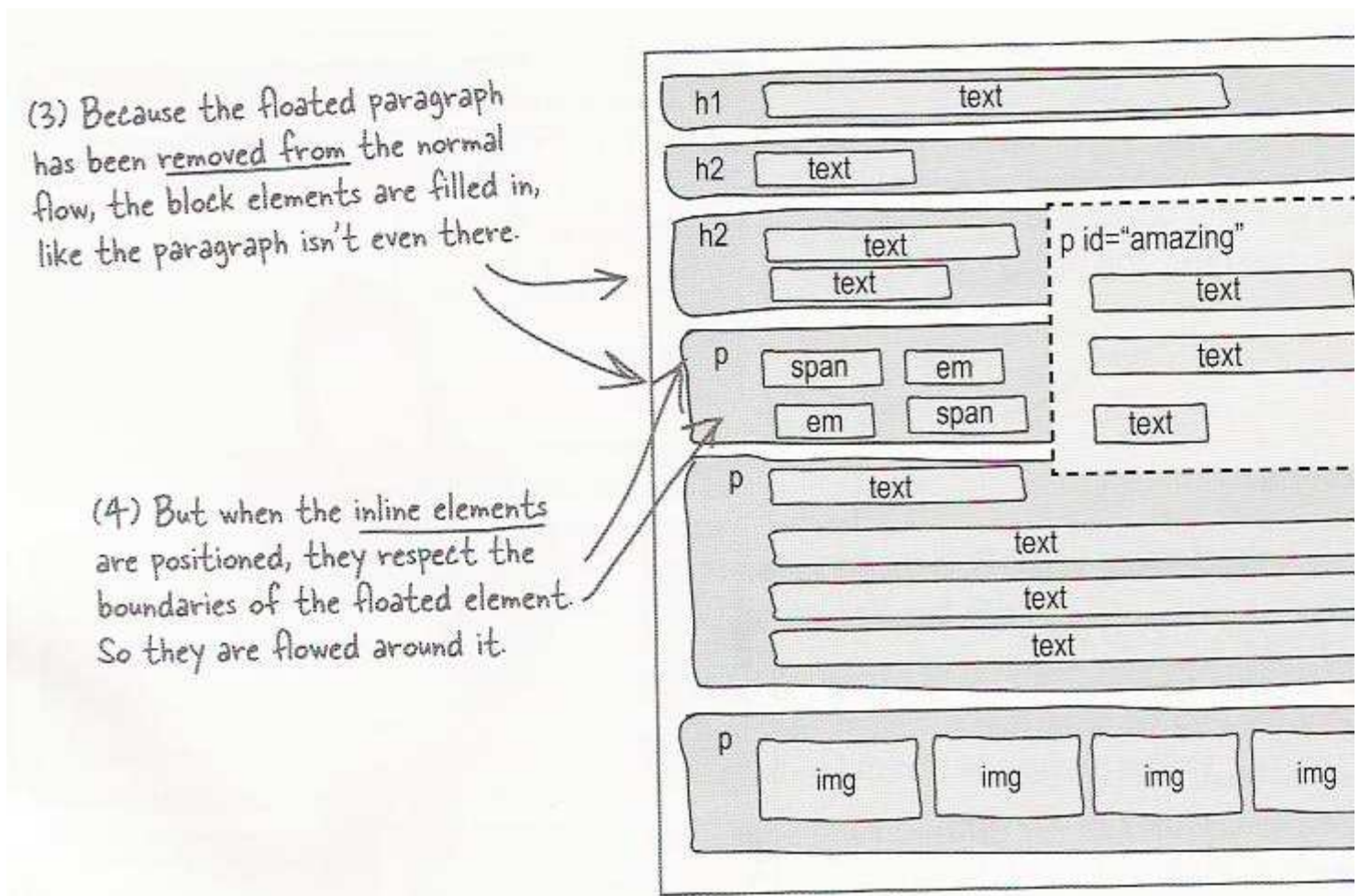
```
img.floatright { float: right; }
```

Borat Sagdiyev (born July 30, 1972) is a fictional Kazakhstani journalist played by British-Jewish comedian Sacha Baron Cohen. He is the main character portrayed in the controversial and successful film *Borat: Cultural Learnings of America for Make Benefit Glorious Nation of Kazakhstan*. Borat appears in Cohen's other film, *Ali G Indahouse*. Borat evolved from previous characters that Sacha Baron Cohen had developed: ...



- float can be left, right, or none (default)
- floating elements are removed from normal document flow
- underlying text wraps around floating element as necessary


Floating elements diagram



Practice Problem

It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair, we had everything before us, we had nothing before us, we were all going direct to heaven, we were all going direct the other way - in short, the period was so far like the present period, that some of its noisiest authorities insisted on its being received, for good or for evil, in the superlative degree of comparison only.

Result: Interaction Pane:



Show Answer

Evaluate

The clear property

```
p { background-color: fuchsia; }  
h2 { clear: right; background-color: yellow; }
```

Homestar Runner is a Flash animated Internet cartoon. It mixes surreal humour with references to 1980s and 1990s pop culture, notably video games, classic television and popular music.

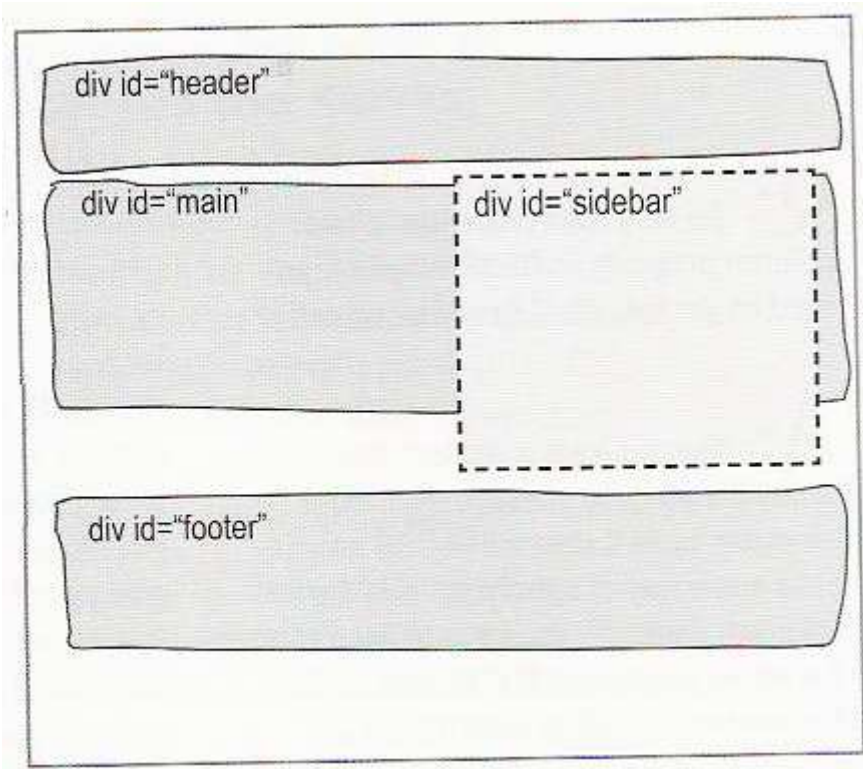
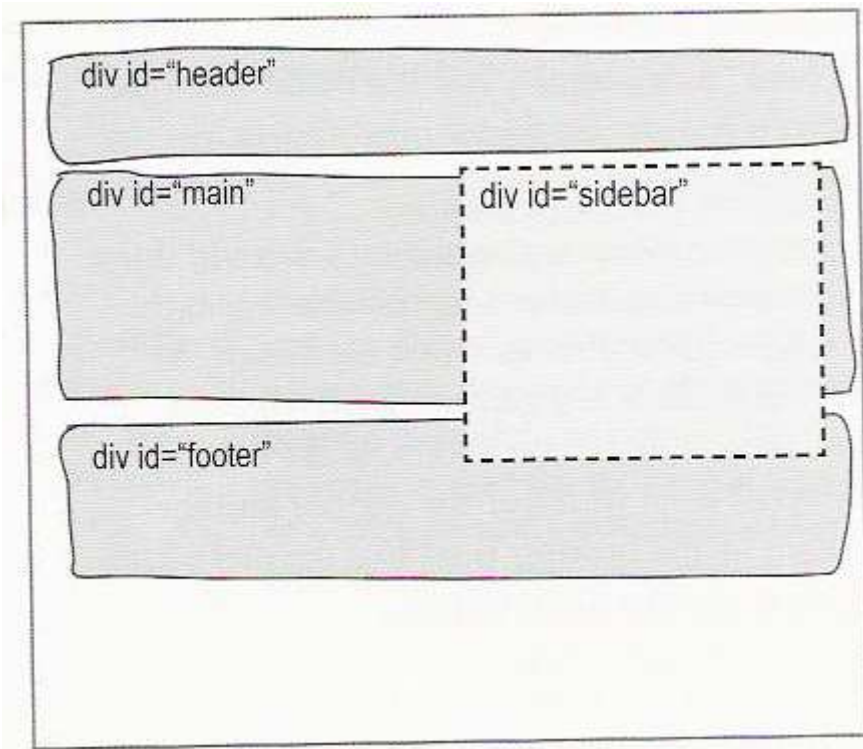


My Homestar Runner Fan Site

- disallows any floating elements from overlapping this element
- clear can be left, right, both, or none (default)

Clear diagram

```
div#sidebar { float: right; }  
div#footer { clear: right; }
```



Practice problem (HTML) (CSS)

W3Schools.com

"Never increase, beyond what is necessary, the number of entities required to explain anything." William of Ockham (1285-1349)

Free Web Building Tutorials

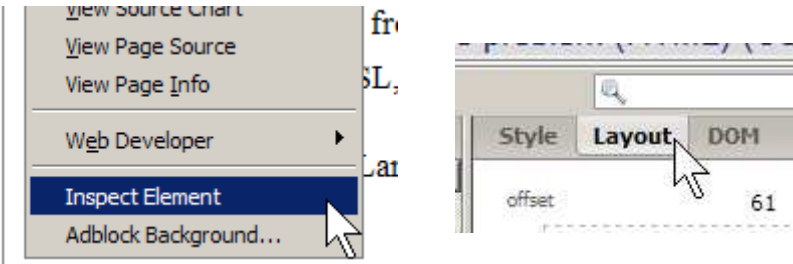
At W3Schools you will find all the Web-building tutorials you need, from basic HTML and XHTML to advanced XML, XSL, Multimedia and WAP.

W3Schools - The Largest Web Developers Site On The Net!

Copyright 1999-2005 by Refsnes Data.

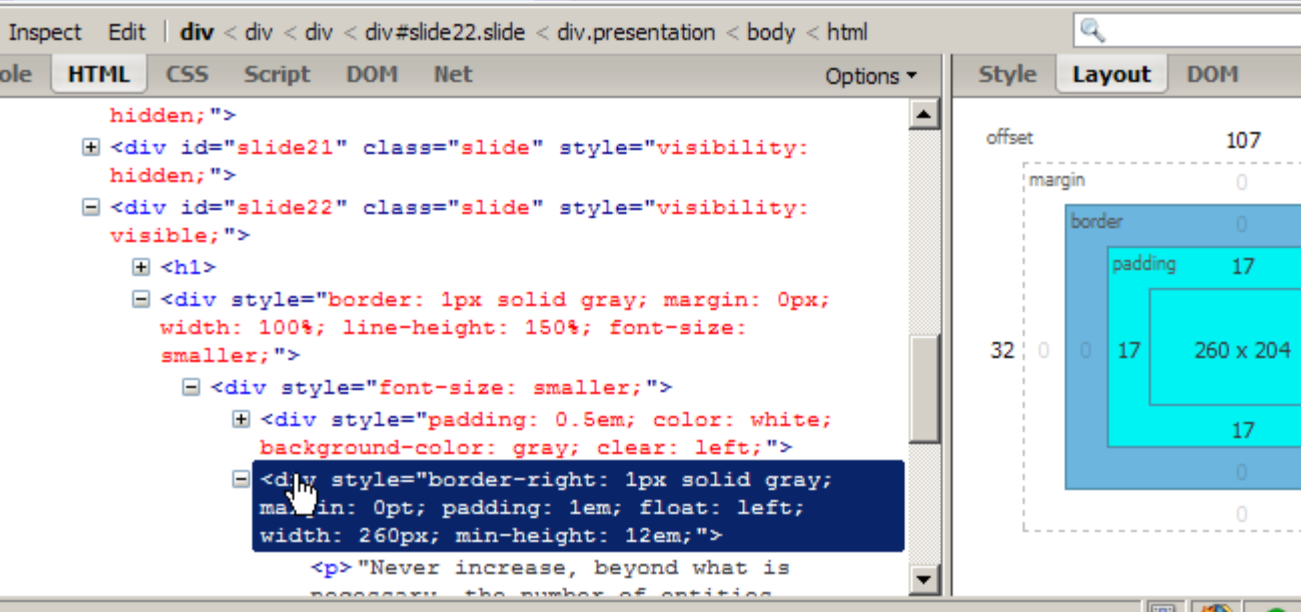
- which `div` elements should `float`, and how?
- how would we add a second column on the left?

Firefox Firebug extension



The top part of the image shows the Firefox browser interface. A context menu is open over a page element, with 'Inspect Element' highlighted. The Firebug extension is visible below the browser window, with the 'Layout' tab selected. The 'Layout' tab shows a box model diagram with 'offset' set to 61.

The middle part of the image shows a slide from W3Schools.com. The slide title is 'Free Web Building Tutorials'. The text on the slide reads: 'At W3Schools you will find all the Web-building tutorials you need, from basic HTML and XHTML to advanced XML, XSL, Multimedia and WAP.' A quote from William of Ockham (1285-1349) is also visible: 'Never increase, beyond what is necessary, the number of entities required to explain anything.'



The bottom part of the image shows the Firebug 'Inspect' tool. The 'HTML' tab is selected, showing the following code structure:

```


<div id="slide21" class="slide" style="visibility: hidden;">
  <div id="slide22" class="slide" style="visibility: visible;">
    <h1>
    <div style="border: 1px solid gray; margin: 0px; width: 100%; line-height: 150%; font-size: smaller;">
      <div style="font-size: smaller;">
        <div style="padding: 0.5em; color: white; background-color: gray; clear: left;">
          <div style="border-right: 1px solid gray; margin: 0px; padding: 1em; float: left; width: 260px; min-height: 12em;">
            <p> "Never increase, beyond what is necessary, the number of entities


```

The 'Layout' tab is also visible, showing a box model diagram with the following values:

- offset: 107
- margin: 0
- border: 0
- padding: 17
- width: 260 x 204
- height: 17