

[Lesson 6]

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[What we learnt last time?]

- CSS selectors
- CSS units of measurement
- Using Chrome Developer Tools

[Our targets for today]

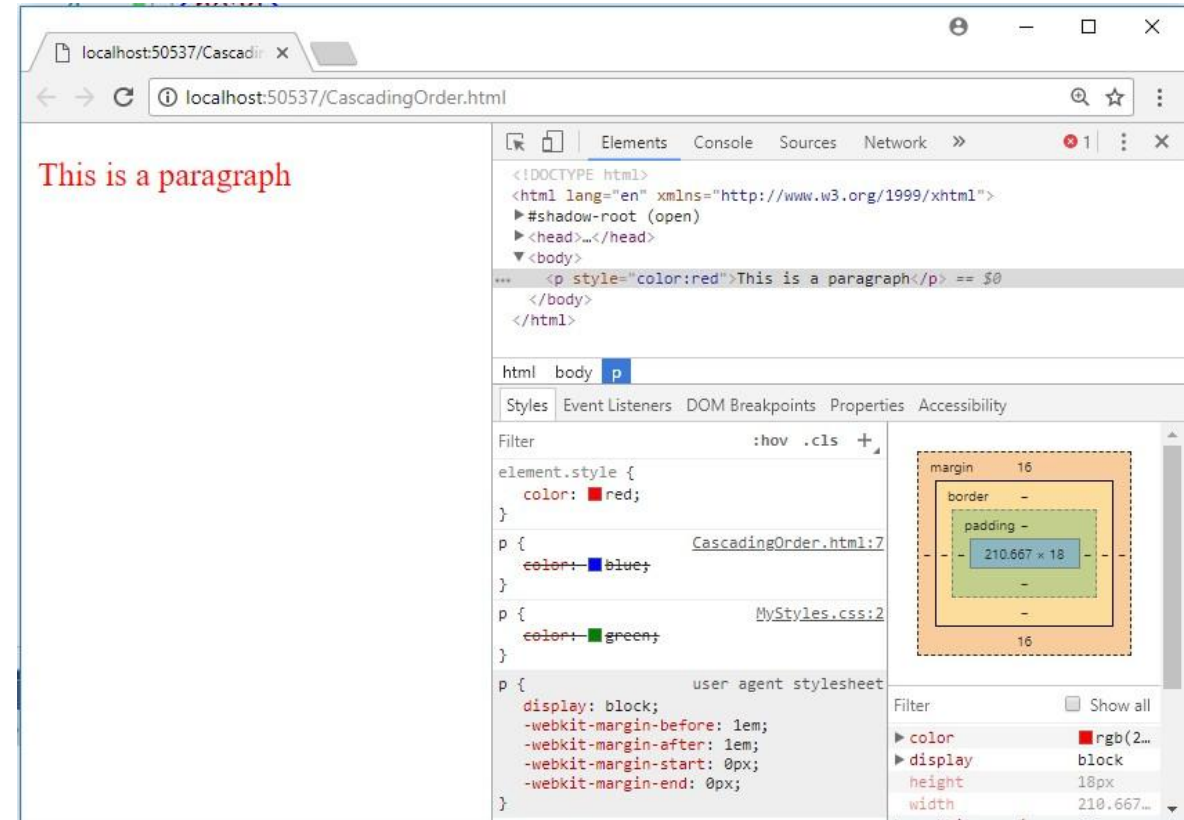
- Placing several block elements on top of one line using “float”
- How to make several columns using “float”
- Place adjacent content under floating elements using “clear: both”

[Cascading Order]

- What style will be used when there is more than one style specified for an HTML element?
- Inline style (inside a specific HTML element) has the highest priority
- Then external and internal style sheets (in the head section)
- And lastly the browser default
- You can examine which styles have been overridden by which rules using the browser developer tools

[Cascading Order]

```
<head>
  <link href="MyStyles.css" rel="stylesheet" />
  <style>
    p {
      color: blue;
    }
  </style>
</head>
<body>
  <p style="color:red">This is a paragraph</p>
</body>
```



[Specificity]

- If there are two or more conflicting CSS rules that point to the same element, the browser checks which one is most specific and therefore wins out
 - How to calculate specificity?
 - Start at 0
 - add 1000 for style attribute
 - add 100 for each ID
 - add 10 for each attribute, class or pseudo-class
 - add 1 for each element name or pseudo-element

[Specificity]

→ Consider these three code fragments:

```
A: h1  
B: #content h1  
C: <h1 style="color: red">Heading</h1>
```

→ The specificity of A is 1 (one element)

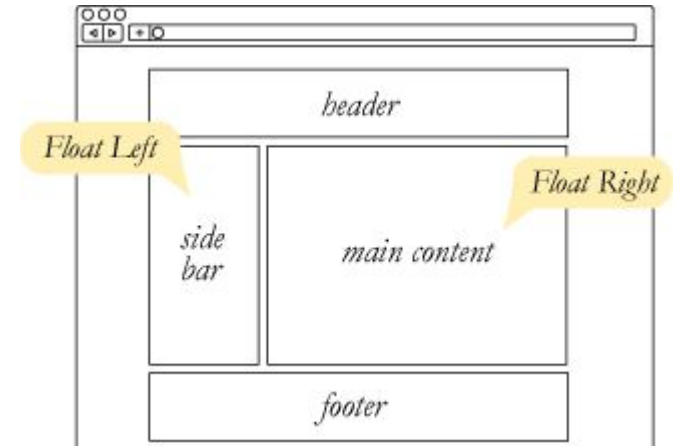
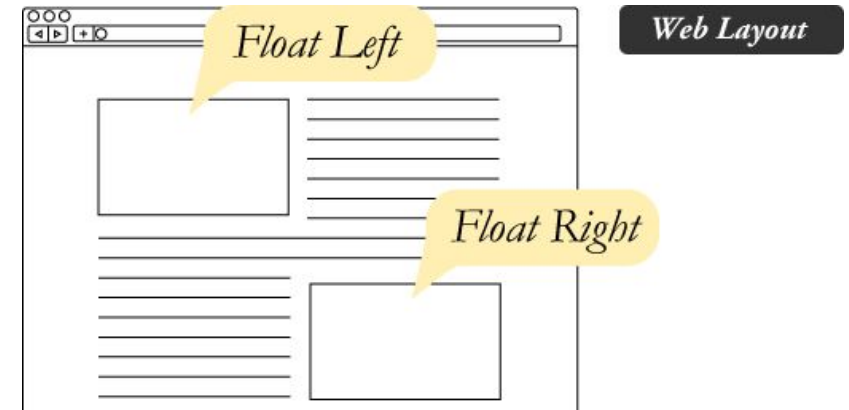
The specificity of B is 101 (one ID reference and one element)

The specificity of C is 1000 (inline styling)

→ Since $1 < 101 < 1000$, the third rule (C) has a greater level of specificity, and therefore will be applied

[Float]

- With CSS float, an element can be pushed to the left or right, allowing other elements to wrap around it
- The elements **after** the floating element will flow around it
 - The **clear** property turns off the floating
- The elements before the floating element will not be affected
- Aside from the simple example of wrapping text around images, floats can be used to create **entire web layouts**



[Float]

- The following example specifies that an image should float to the **left** in a text:

```
img {  
    float: left;  
}
```

In this example, the image will float to the left in the paragraph, and the text in the paragraph will wrap around the image.



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- The following example specifies that an image should float to the **right** in a text:

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

In this example, the image will float to the right in the paragraph, and the text in the paragraph will wrap around the image.

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[The clear Property]

- The **clear** property specifies whether an element can be next to floating elements that precede it or must be moved down (cleared) below them
- The clear property can have one of the following values:
 - none - the element is *not* moved down to clear past floating elements (default)
 - left - the element is moved down to clear past *left* floats
 - right- the element is moved down to clear past *right* floats
 - both - the element is moved down to clear past *both* left and right floats

[The clear Property]

```
.div1 {  
  float: left; width: 100px; height: 50px;  
  margin: 10px;  
  border: 3px solid #73AD21;  
}  
.div2 {  
  border: 1px solid red;  
}  
.div3 {  
  float: left; width: 100px; height: 50px;  
  margin: 10px;  
  border: 3px solid #73AD21;  
}  
.div4 {  
  border: 1px solid red; clear: left;  
}
```

Without clear



div1

div2 - Notice that div2 is after div1 in the HTML code. However, since div1 floats to the left, the text in div2 flows around div1.

With clear



div3

div4 - Here, clear: left; moves div4 down below the floating div3. The value "left" clears elements floated to the left. You can also clear "right" and "both".

[Images Side By Side]

→ With the float property, it is easy to float images side by side:

```
.img-container { float: left; width: 33.33%; padding: 5px; box-sizing: border-box; }  
  
img { width: 100%; }
```

Images Side by Side



```
<div class="img-container">  
    
</div>
```

[Exercise (3)]

- Use CSS to create an image gallery with 4 pictures
- Add a description text below each image
- When the user hovers over an image, its borders will change color to black
- Clicking on an image will open a new page displaying the image in its full size



Fjords



A forest



Northern lights



Mountains

[Overflow]

- The **overflow** property controls what happens to content that is too big to fit into a specified area
- It has the following values:
 - visible - Default. The overflow is not clipped. It renders outside the element's box
 - hidden - The overflow is clipped, and the rest of the content will be invisible
 - scroll - The overflow is clipped, but a scrollbar is added to see the rest of the content
 - auto - If overflow is clipped, a scrollbar should be added to see the rest of the content
- The overflow property only works for block elements with a specified height

```
div {  
  width: 250px; height: 50px;  
  background-color: #eee; overflow:  
  auto;  
}
```

You can use the overflow property when you want to have better control of the layout. The overflow property

[Exercise (4)]

→ You are given a list of hyperlinks:

```
<ul>
  <li><a href="#home" class="active">Home</a></li>
  <li><a href="#news">News</a></li>
  <li><a href="#contact">Contact</a></li>
  <li><a href="#about">About</a></li>
</ul>
```

→ Use float to create the following horizontal menu:



→ Try not to specify the width of each (hint: use the overflow property)

[Website Layout]

→ A website is often divided into headers, menus, content and a footer:



[Header]

- A header is usually located at the top of the website (or right below a top navigation menu). It often contains a logo or the website name:

```
header {  
  background-color: #f1f1f1; padding:  
  20px;  
  text-align: center;  
}
```

```
<header>  
  <h1>Header</h1>  
</header>
```

Header

[Navigation Bar]

- A navigation bar contains a list of links to help visitors navigating through your website:

```
nav {  
    overflow: hidden; background-color: #333;  
}  
  
nav a {  
    float: left; display: block; color:  
    #f2f2f2; text-align: center; padding:  
    15px;  
    text-decoration: none;  
}  
  
nav a:hover {  
    background-color: #ddd; color:  
    black;  
}
```

```
<nav>  
    <a href="#">Link</a>  
    <a href="#">Link</a>  
    <a href="#">Link</a>  
</nav>
```



[Content]

- The layout in this section, often depends on the target users
- The most common layout is one (or combining them) of the following:
 - **1-column** (often used for mobile browsers)
 - **2-column** (often used for tablets and laptops)
 - **3-column layout** (only used for desktops)

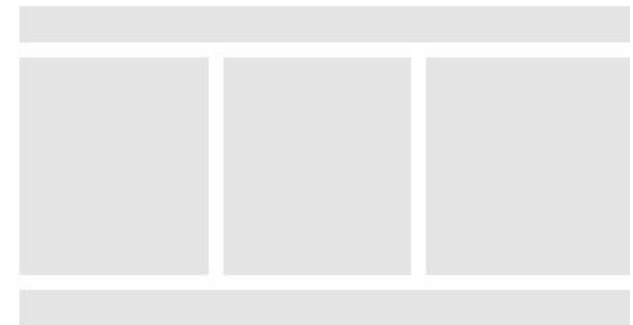
1-column:



2-column:



3-column:

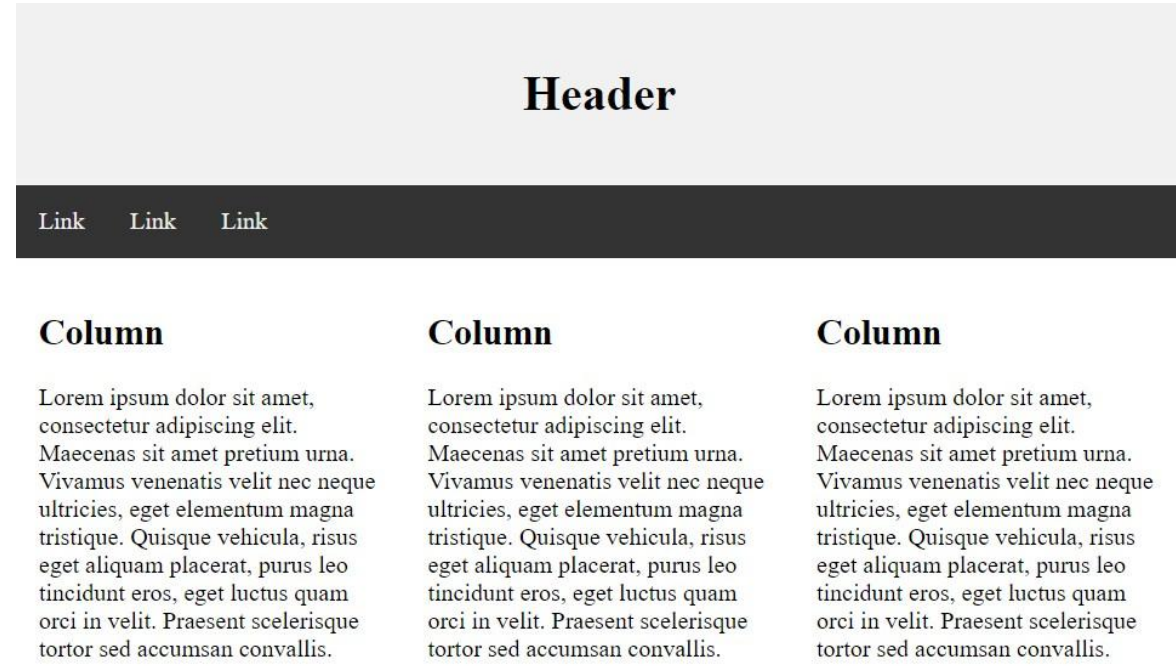


[Content]

→ For example, we will create a 3-column layout:

```
.column {  
  float: left; width: 33.33%; padding: 15px;  
}
```

```
<main>  
  <div class="column">  
    <h2>Column</h2>  
    <p>Lorem ipsum...</p>  
  </div>  
  <div class="column">  
    <h2>Column</h2>  
    <p>Lorem ipsum...</p>  
  </div>  
  <div class="column">  
    <h2>Column</h2>  
    <p>Lorem ipsum...</p>  
  </div>  
</main>
```



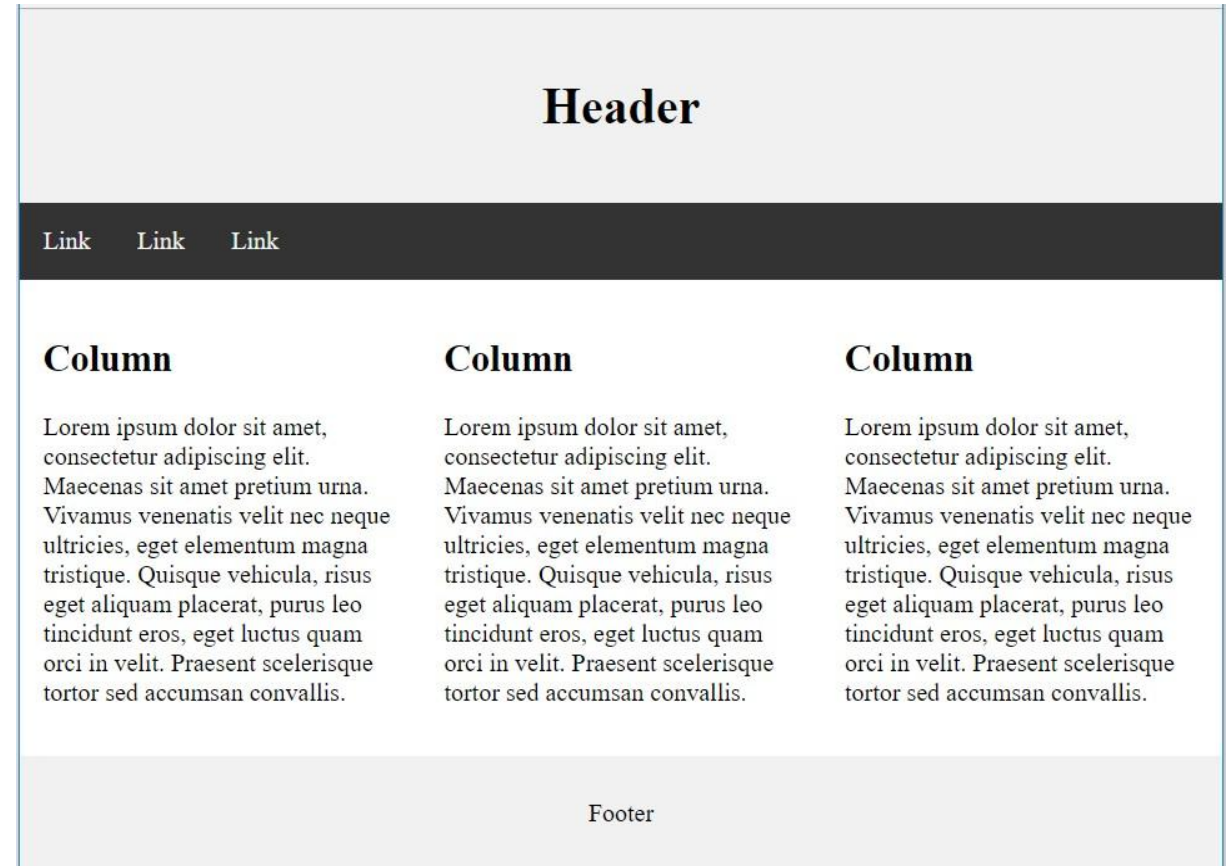
To create a 2-column layout, change the width to 50%, to create a 4-column layout, use 25%, etc.

[Footer]

- The footer is placed at the bottom of your page. It often contains information like copyright and contact info:

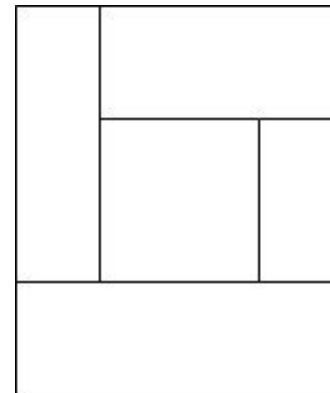
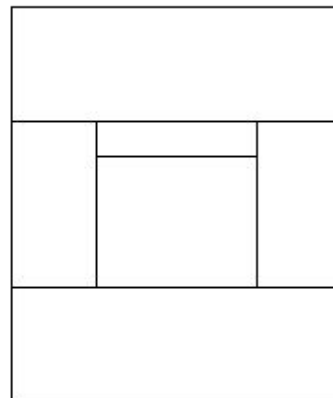
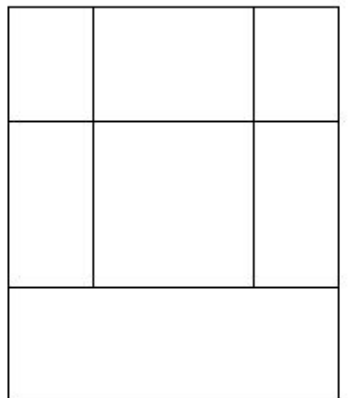
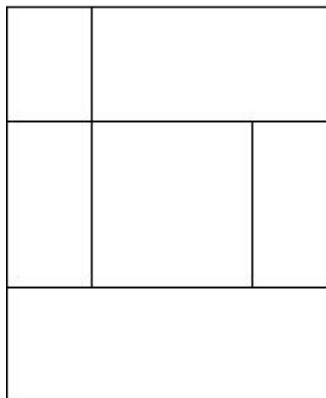
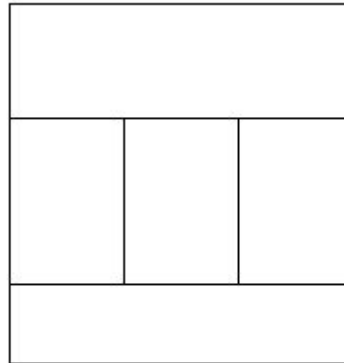
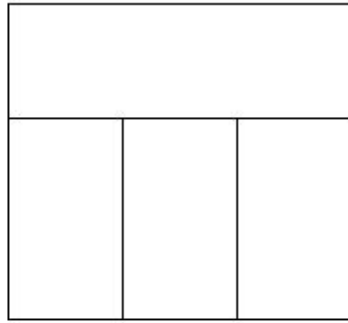
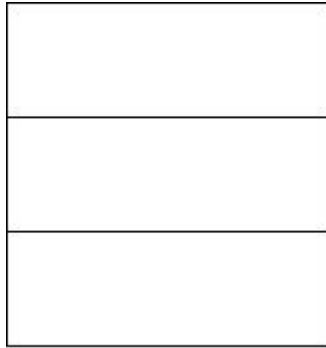
```
footer {  
    background-color: #f1f1f1;  
    padding: 10px;  
    text-align: center;  
    clear: both; /* clear the floats */  
}
```

```
<footer>  
    <p>Footer</p>  
</footer>
```



[Exercise (5)]

→ Create the following page layouts using only the float property:



[Exercise (6)]

- Create the following page using the page layout techniques we've learned:

Beijing

The Flight

The City

The Culture

The Food

The City

Beijing is the capital of the People's Republic of China, the world's second most populous city proper, and most populous capital city.

The city, located in northern China, is governed as a direct-controlled municipality under the national government with 16 urban, suburban, and rural districts

As a city combining both modern and traditional architecture, Beijing is an ever-changing megacity rich in history but also truly modern.

Footer Text

[Control questions]

1. Which attribute has higher weight: “class” or “id”?
2. What is the weight of the following selector?
h2#page-header a.logo-text.text-white
3. How to overwrite inline styles placed in HTML using CSS?
4. What is the default value of “display” property for elements with “float: right”?
5. How floating elements affect height of parent element?
6. How elements going after tags with “float” property are displayed?
7. How does “clear: right” work?
8. Which element has to contain “clear: both” if you want to fix the problem with overlapping floating elements?

[Materials]

Core materials:

<https://habr.com/post/137588/>

<https://canonium.com/articles/css-understanding-weight-selectors>

<https://learn.javascript.ru/float>

<https://html5book.ru/css-position/#float>

Additional materials:

<http://css.yoksel.ru/specificity/>

Video materials:

<https://www.youtube.com/watch?v=2-drD2pKMPs>

<https://www.youtube.com/watch?v=xara4Z1b18I>