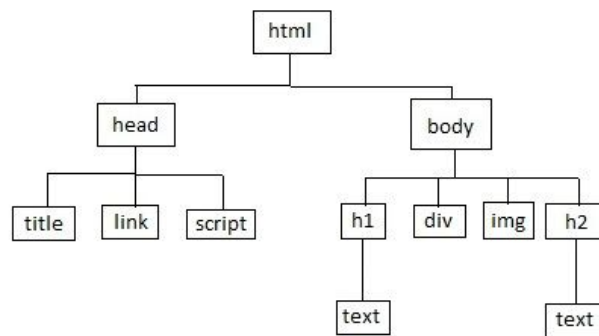


Lecture 3

What we discussed in the last class

- **What is DOM?**

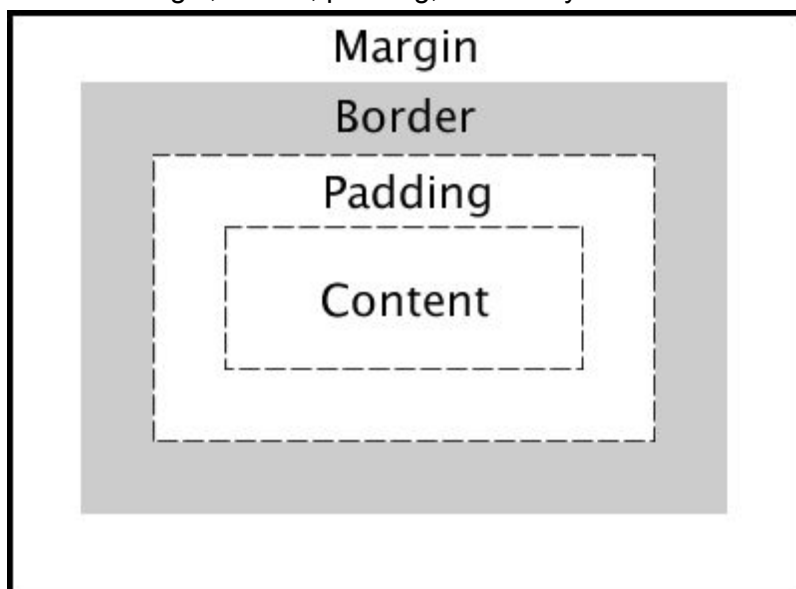
- DOM stands for document object model, it gives HTML a tree structure.



- Here head and body and child elements of html and html is their parent.

- **What is Box Model?**

- Every element of the dom is arranged as a box on the web page. This box contains margin, border, padding, and finally content.



- **What is Page flow?**

- When a webpage is rendered in the browser it has a flow, just like word processors type left to right.
- **Display types** : There are different kinds of display types which are very nicely explained over here :
<https://css-tricks.com/almanac/properties/d/display/>
- Note : div has default display type block and has no default styling.

- **Alright I know how to display elements, how do I position them?**

- Best way to position elements is only using margins, padding, height, width and display types like we did in the class. This would help you create layouts that do not break on different browsers or devices.
- Again CSS tricks has very nicely explained positioning
 - <https://css-tricks.com/almanac/properties/p/position/>
- Now if it is required in special circumstances to position something out of the page flow then **position : absolute / fixed** can be used.
- If the page is 1000px, and you have a box of width 100px, then to center it you can write the following css : (hint : $1000px / 2 - 100px / 2$)

```
.box {  
    position : absolute;  
    width : 100px;  
    left : 450px;  
}
```

- The problem with the above code is that when you resize the page then the box is no longer in the center. This is the problem with calculating properties and setting them manually.
- Another person might come up with the following CSS code to center the box

```
.box {  
    position : absolute;  
    width : 100px;  
    left : 28.34%;  
}
```

This number 28.34% might center the box and is know as a **magic number**, you just arbitrarily set the left value seeing the output on screen. This is error prone because it only works in your browser and may not work in some other device or browser.

- **CSS Tricks Flexbox :**

<https://css-tricks.com/snippets/css/a-guide-to-flexbox/>

Link to flexbox documentation

Code snippet of what we did in the last class

HTML

```
<html>

  <body>

    <!-- Add here code to include the CSS file -->

    <div class = 'parent'>

      <div class = 'header'></div>

      <div class = 'hello'></div>

      <div class = 'footer'></div>

    </div>

  </body>

</html>
```

CSS

```
html, body { height : 100% }

.parent { height : 100%; display : flex; flex-direction : column }

.header { height : 50px; }

.hello { flex-grow : 1; }

.footer { height : 50px; }
```

What happened?

- You created a div with class attribute parent and 3 children divs with 'header', 'hello' and 'footer' class attributes.
- You linked a CSS in the html.
- You gave the html, body, and parent 100% height. **Note** : When you give height in % it is relative to the immediate parent element.

- You set the parent element to flex and the direction to column, this made it into a flexbox and set the flow direction to column.
- You set flex-grow : 1 on the hello element which made the hello element occupy any space that remains after giving header and footer 50px of height.

Assignment to submitted before Friday 6:10 PM. Layout given in the whatsapp group.

Quiz in the next class on HTML / CSS.

Next class snapshot

- Some more HTML / CSS basics.
- **Note : If you are well versed in HTML / CSS basics already then you can leave after giving the quiz.**
- Be on time.

Important resources

- **HTML and CSS complete code snippets :**
<http://www.htmlandcssbook.com/code-samples/>
 - The code snippets given here are pretty good, just open the snippet and view source to understand how the page is created.
- **CSS Tricks Flexbox :**
<https://css-tricks.com/snippets/css/a-guide-to-flexbox/>
- **Magic Numbers :**
<https://css-tricks.com/magic-numbers-in-css/>
- **JS Expert :**
<http://eloquentjavascript.net/>

Keep on reading eloquent javascript (JS Expert Link) whenever you have time.