Benjamin Zhuang - Week 1 Day 1

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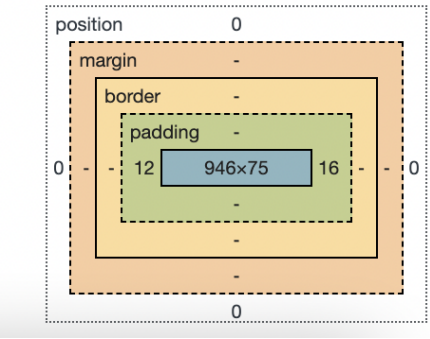
1. What is HTML?
    - HTML stands for Hypertext Markup Language. It is a standardized system to display and structure the contents of web pages.
2. What is a block element? How is it different from inline elements?
    - A **block element** is affected by both the width and the height property. It always creates a new line and it will attempt to take up the full width. In addition, it can be affected by all margins (top, right, down, left). In contrast, an **inline element** does not make a new line. It is not affected by width and height. It is only affected by left and right margins.
3. What is the importance of the meta tag?
    - It defines some metadata descriptions about the website, such as the encoding, description, author, etc. This meta description is important for the search engine. It enables the search engine to know what the page is about, so they will be able to show appropriate contents in search results.
4. What would happen if you clicked on a link created using <a href="javascript:void(0)">?
    - Nothing will happen, stay on the same page.
5. What is an iframe?
    - An iframe is a nested browsing content. It is an HTML embedding within the current HTML document.
6. What is CSS?
    - CSS stands for Cascading Style Sheet. It is a language to describe the format and look of the HTML content displayed on the web pages.
7. How do you import CSS?
    - To import external style sheets, you will use the <link> tag. There are a couple other ways to include CSS, such as inline CSS with the style attribute and internal CSS with the <style> tag in the <head> section of the HTML document.
8. What are the different types of CSS selectors?
    - There are five categories of CSS selectors, which includes:
        i. **Simple selectors**: selects an element by their type, class, and id.
        ii. **Combinator selectors**: selects an element based on its relationship with other elements.
        iii. **Pseudo-class selectors**: selects an element based on its active state.
        iv. **Pseudo-element selectors**: selects a certain part of an element rather than the element itself.

v. **Attribute selector**: selects an element based on specific attributes present in an element.

9. What are the different types of attribute selectors?
    - There are many types of attribute selectors. For example,
        i. [attr]: selects elements with an attribute name *attr.*
        ii. [attr=value]: selects elements such that the attribute name is exactly the *value*.
        iii. [attr~=value]: selects elements whose attribute name is whitespace-separated list of words, one of which is exactly the *value*.
        iv. [attr|=value]: selects elements such that the attribute name is exactly the *value*, or begins with the *value* and immediately followed by a hyphen.
        v. [attr^=value]: selects elements such that the attribute name starts with the *value*.
        vi. [attr$=value]: selects elements such that the attribute name ends with the *value*.
        vii. [attr*=value]: selects elements such that the attribute name contains the *value* at least once.
10. What is a pseudo-class?
    - A pseudo-class is a selector that selects elements based on their specific states, such as the first element of their type, or they are being hovered by a mouse pointer.
11. What is a pseudo-element?
    - A pseudo-element is a selector that selects part of the element rather than the element itself, such as first-line, insert content before/after the element.
12. What are two ways that we can make an element invisible? What is the difference?
    - display: none, which hides the content and **does not take up the space**.
    - visibility: hidden, which also hides the content but **still takes up the space**.
13. What is SVG and why do we use it?
    - SVG stands for scalable vector graphics. We use them because they can be zoomed or resized without losing qualities as we do if we used rasterized images.
14. What is the Box Model? Describe each part.
    - A box model is essentially a box wrapping around **every HTML elements**, which includes,
        i. Content: The content of the box.
        ii. Padding: Area around the content, transparent.
        iii. Border: A border around the padding.
        iv. Margin: Area around the border, transparent.



15. What is the difference between margin and padding? 1. Can padding be negative? Can margin be negative?
    - Padding cannot be negative. Margin can be negative. A **positive** margin places the element **further** from its neighbors, while a **negative** margin places the element **closer** from its neighbors.
16. Assume an element has the following properties. What is the element size (width & height)?
    - The element's size is 214px by 154px. This element is a **content-box** model, in which the size of any padding and border is added after the final rendered width. Therefore,
        i. Final width = width + padding + border + margin
        = 100px + 10px + 2px * 2 + 50px * 2 = 214px
        ii. Final height = width + padding + border + margin
        = 100px + 10px + 2px * 2 + 20px * 2 = 154px
17. Assume an element has the following properties. What is the element size (width & height)?
    - The element's size is 200px by 140px. This element is a **border-box** model, in which the size of any padding and border is included in the width and height of the element. Therefore,
        i. Width, height = content width + padding + border = 100px, 100px
        ii. Final width = width + margin = 100px + 50px * 2 = 200px.
        iii. Final height = height + margin = 100px + 20px * 2 = 140px
18. Assume a parent element has width = 200px and one child element. If the child element's width is set to 'auto', what are the values of its width, left-margin, & right-margin?
    - The width of the child element is 200px and the margins are both 0.
19. Assume a parent element has width = 200px and one child element with width=100px. If the child element's margin-right is set to 'auto', what are the child element's left-margin & right-margin values?
    - The left-margin of the child element is 0 and the right-margin is 100px.

20. Assume a parent element has width = 200px and one child element with width=100px. If the child's margin is set to 'auto', what are its left-margin & right-margin values? 1. What are the left & right margin values if the child's width was 300px?
    - If the child element width is 100px, the left and right margin are 50px each.
    - If the child element width is 300px, the left and right margin are 0.