**Assignment 2**

**💡 Q.1 What’s Box Model in CSS ?**

**Ans.:**

The CSS box model is a way of describing how elements are laid out on a web page. It consists of four parts: content, padding, border, and margin.

Content: This is the actual content of the element, such as text, images, or other HTML elements.

Padding: This is the space between the content and the border of the element.

Border: This is the line that surrounds the content and padding of the element.

Margin: This is the space between the border of the element and other elements on the page.

The box model is a fundamental concept in CSS, and it is used to control the layout of all elements on a web page. You can use the box model properties to change the size, color, and style of the content, padding, border, and margin of an element.

Some of the most important box model properties include:

width: This property sets the width of the content area of the element.

height: This property sets the height of the content area of the element.

padding: This property sets the amount of padding around the content area of the element.

border: This property sets the style, width, and color of the border around the element.

margin: This property sets the amount of space between the element and other elements on the page.

**💡 Q.2 What are the Different Types of Selectors in CSS & what are the advantages of them?**

**Ans.:**

CSS selectors are used to select elements on a web page. There are many different types of selectors, each with its own advantages.

Type selectors select elements based on their tag name. They are the most basic and efficient type of selector.

Class selectors select elements based on their class attribute. They are a versatile way to select elements, and they can be used to group elements together for styling.

ID selectors select elements based on their ID attribute. They are very specific, and they can be used to select a single element on a page.

Attribute selectors select elements based on their attributes. They can be used to select elements with specific attributes, which can be useful for styling or targeting elements.

Pseudo-class selectors select elements based on their state or condition. They can be used to style elements based on their state, which can be useful for creating dynamic and interactive web pages.

Pseudo-element selectors select parts of elements. They can be used to style specific parts of elements, which can be useful for creating custom layouts or highlighting certain content.

**💡 Q.3 What is VW/VH ?**

**Ans.:**

VW and VH are viewport-percentage length units in CSS. They are used to set the size of an element relative to the width or height of the viewport, which is the visible area of the web page.

VW stands for viewport width. 1VW is equal to 1% of the viewport width. For example, if the viewport width is 1000px, then an element with a width of 50VW will be 500px wide.

VH stands for viewport height. 1VH is equal to 1% of the viewport height. For example, if the viewport height is 600px, then an element with a height of 30VH will be 180px high.

VW and VH are useful for creating responsive web pages that can adapt to different screen sizes.

**💡 Q.4 What’s difference between Inline, Inline Block and block ?**

**Ans.:**

Inline elements are laid out one after the other in the direction that sentences run in that particular writing mode. They do not generate line breaks before or after themselves. Inline elements are typically used for text, images, and other small elements that do not need to take up a lot of space.

Inline-block elements are a hybrid of inline and block elements. They behave like inline elements in that they do not generate line breaks before or after themselves, but they can also take up the full width of their container. Inline-block elements are typically used for elements that need to be able to stack on top of each other, but that also need to be able to take up the full width of their container.

Block elements are laid out on a new line, and they take up the full width of their container. Block elements are typically used for elements that need to take up a lot of space, such as paragraphs, images, and tables.

**💡 Q.5 How is Border-box different from Content Box?**

**Ans.:**

The box-sizing property in CSS controls how the width and height of an element are calculated. The default value of box-sizing is content-box, which means that the width and height of an element only include the content of the element, not the padding or border.

The border-box value of box-sizing tells the browser to include the padding and border in the width and height of the element. This means that if you set the width of an element to 100px with border-box, the element will be 100px wide, including the padding and border.

**💡 Q.6 What’s z-index and How does it Function ?**

**Ans.:**

The z-index property in CSS is used to control the order in which elements are displayed on a web page. Elements with a higher z-index value will be displayed on top of elements with a lower z-index value.

For example, if you have two div elements on a page, and you want the first div to be on top of the second div, you would set the z-index of the first div to a higher value than the z-index of the second div.

The z-index value can be any integer, and the default value is 0. The z-index property is only applied to positioned elements, which are elements that have their position property set to something other than static.

The z-index property can be used to create a variety of effects, such as overlays, modal dialogs, and 3D effects.

The z-index property is a powerful tool, but it is important to use it carefully, as it can be difficult to predict the results of stacking elements with different z-index values.

**💡 Q.7 What’s Grid & Flex and difference between them?**

**Ans.:**

Grid is a two-dimensional layout system that allows you to arrange elements in rows and columns. It is more flexible than Flexbox, and it can be used to create more complex layouts. Grid is based on the concept of grid tracks and grid items. Grid tracks are the horizontal and vertical lines that divide the grid into cells. Grid items are the elements that are placed in the grid cells. Grid tracks can be of different sizes, and they can be divided into equal or unequal columns. This allows you to create a wide variety of layouts, from simple to complex.

Flexbox is a one-dimensional layout system that allows you to arrange elements in rows or columns. It is simpler than Grid, but it is still very powerful. Flexbox is based on the concept of flex containers and flex items. Flex containers are the elements that contain the flex items. Flex items are the elements that are placed in the flex container. Flex containers can be either inline or block. Inline flex containers are laid out in a single line, while block flex containers are laid out in multiple lines. Flex items can be stretched or shrinked to fit the flex container. This allows you to create a variety of layouts, from simple to complex.

**💡 Q.8 Difference between absolute and relative and sticky and fixed position explain with example.**

**Ans.:**

Absolute positioning means that an element is positioned independently of the rest of the document. This means that the element will not be affected by the position of its parent elements. For example, if you have an <img> element with absolute positioning, and you move the <div> element that contains it, the <img> element will stay in the same place.

Relative positioning means that an element is positioned relative to its normal position in the document flow. This means that the element will be moved relative to its normal position, but it will not break the flow of the document. For example, if you have an <img> element with relative positioning, and you move it 100px to the right, it will be moved 100px to the right, but the rest of the document will flow around it.

Sticky positioning is a new positioning type that was introduced in CSS 2.1. It is a combination of relative and fixed positioning. When an element with sticky positioning is scrolled past its original position, it will snap to its original position and stay there. For example, if you have a header with sticky positioning, and you scroll down the page, the header will stay at the top of the page until you scroll past it.

Fixed positioning means that an element is positioned relative to the viewport. This means that the element will stay in the same place even when the user scrolls the page. For example, if you have a navigation bar with fixed positioning, it will stay at the top of the page even when the user scrolls down the page.

**💡 Q.9 Build Periodic Table as shown in the below image.**

**Ans.: Code is Attached in folder.**

**💡 Q.10 Build Responsive Layout both desktop and mobile and Tablet, see below image for reference ?**

**Ans.: Code is Attached in folder.**