Assignment Questions

1. Box Model in CSS could be defined as the structure of element orientation within a web page. For instance if an element is created it is treated as a box which has can be placed, designed and worked with. The Box Model consists of various properties including – Margin, padding, Border and content. In this, the content layer holds the actual content of the element, the padding layer provides space around the content, the border layer surrounds the padding, and the margin layer creates space between elements.
2. There are various kind of selectors available in CSS namely are:
   1. Element Selectors: Selects element on the basis of their tag name.
   2. Class Selectors: Selects element on the basis of class attribute.
   3. ID Selectors: Selects elements based on their Unique ID attribute.
   4. Attribute Selectors: Selects elements based on their attribute value.
   5. Pseudo Classes: Selects elements based on certain states or actions, such as :hover or :focus. They are given by (:)
   6. Pseudo Elements: Select and style a specific part of element such as ::before and ::after. It is denoted with (::).

The advantage of using different variety of Selectors include the ability to target certain elements, within the HTML page to position and style according to our own will.

1. VW (Viewport Width) and VH (Viewport Height): These are units of measurement in CSS that represents the percentage of viewport’s width and height, respectively. 1 VW is equal to 1% of viewport’s width and similarly 1VH is equal to 1% of viewport’s height. They are helpful to adapt to various screen sizes.
2. The difference between the Inline, Inline-Block and Block elements are:
   1. **Inline elements:** Inline elements do not start on a new line and only take up the necessary width to display their content. They cannot have width and height properties set, and margins and padding only affect the left and right sides. Examples of inline elements are <span> and <a>.
   2. **Inline-block elements:** Inline-block elements are similar to inline elements, as they do not start on a new line. However, they can have width and height properties set, and margins and padding affect all sides. They respect the box model and can be positioned like block elements. Examples of inline-block elements are <img> and <button>.
   3. **Block elements:** Block elements start on a new line and occupy the full available width. They can have width and height properties set, and margins and padding affect all sides. Block elements create a block-level formatting context and can contain other block and inline elements. Examples of block elements are <div> and <p>.
3. The major difference between Content Box and Border box are:
   1. **Content Box:** The Content box is basically the default box of the box model which is nothing but the innermost segment inside it. And by default it is no margin and padding but some border.
   2. **Border Box:** And the Border box is that segment of Box-model, which contains the Content Box and provides some border to it. Within this box also lies the padding whereas outside this is Margin.
4. Since the development is done in the 2D space. Thus, it was difficult to implement overlay of elements to give the website a 3-D feel. This is where z-index was introduced. The purpose of Z-Index is to make the elements be positioned either on the top or below a certain element in the design. They can either be positive, negative or 0. But by default its value is 0.
5. Grid and Flex are two CSS layout models that are responsible for creating responsive and flexible web layouts:
   1. **Grid:** CSS Grid Layout is a two-dimensional layout system that allows you to create complex grid-based layouts. It works with both rows and columns, allowing you to divide the page into a grid and position elements within the grid cells. Grid provides precise control over the placement and alignment of elements, making it suitable for creating grid-based designs.
   2. **Flexbox:** CSS Flexbox (Flexible Box Layout) is a one-dimensional layout model that works with a single row or column. It allows you to create flexible and dynamic layouts by distributing space and aligning elements within a container. Flexbox is best suited for arranging elements in a single direction, such as horizontally or vertically.

The main difference between Grid and Flexbox is the layout approach they offer. Grid focuses on creating grid-based layouts with both rows and columns, while Flexbox focuses on arranging elements within a single row or column

1. The major difference between the positing specificity in CSS are:
   1. **Absolute position:** When an element is positioned absolutely, it is removed from the normal document flow and positioned relative to its nearest positioned ancestor or the initial containing block. It is typically positioned using the top, bottom, left, and right properties. Absolute positioning allows precise placement of elements on a page.
   2. **Relative position:** Relative positioning positions an element relative to its normal position in the document flow. It does not remove the element from the normal flow, but it can be shifted using the top, bottom, left, and right properties. Relative positioning allows elements to be adjusted relative to their original position.
   3. **Sticky position:** Sticky positioning is a mix of relative and fixed positioning. It is based on the element's position in the normal flow until a specified scroll threshold is reached. Once the threshold is crossed, the element becomes fixed to a specific position. Sticky positioning is often used for creating sticky headers or sidebars that remain visible as the user scrolls.
   4. **Fixed position:** When an element is positioned fixed, it is removed from the normal document flow and remains in a fixed position relative to the viewport, even when scrolling. Fixed positioning is often used for creating elements like navigation bars or tooltips that stay fixed in a specific position on the screen.
2. [It is mentioned in Question 09 Folder](Question%209)
3. [It is mentioned in Question 10 Folder](Question%2010)