**Assignment 2**

Q.1 What’s Box Model in CSS ?

Sol->Css box model is a box which wrap around every HTML element .It consist of margin,padding ,border and the actual content .

Content->the content the actual content present in the content .

Margin->it is transparent ,it is the area around the border.

Padding->it the area between the content and the border.It is also transparent.

Border->it is the border between padding and margin.

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

sol->CSS selectors are use to select the element which we want to style.

There are 5 types of css selectors

1. **Simple selector** ->selects element based on id ,class and name.
2. **Combinator selector**->selects element based on the specific relationship between them.Ex div p{}.
3. **Pseudo class selectors**->select element based on certain state.Ex-a:link,a:hover,a:visited,a:active.
4. **Pseudo element selector**->select and style part of an element.Ex- a::first-line{},a::first-letter
5. **Attribute selector**->select element based on attribute or attribute value.Ex- a[target=”\_blank”]{}

Q.3 What is VW/VH ?

Sol->vw and vh are units of measurement in Css that represent a % of viewport size.

Vw ->viewport width represents 1% of the width of the viewport . for ex 50vw represents 50% width of the viewport.

Vh ->viewport width represents 1% of the height of the viewport . for ex 50vh represents 50% height of the viewport.

These units are useful for creating responsive designs that adapt to different screen size.

Q.4 Whats difference between Inline, Inline Block and block ?

Sol-> Inline ,inline block and block are display property of css that define how the element are rendered and intract with the other elements on the webpage.

1. Inline :An inline element does not start on a new line and takes only as much width as necessary to contain it content . Inline element do not respect height , width , margin or padding properties .Ex-<span>,<a>,<em>,<strong>.
2. Inline-block : It is also like inline it does not start with on a new line but it allow height ,width ,margin padding properties applied to it .Ex-<img>,<input>,<button>.
3. Block:Block element starts with new line and take up full width available .It creates a block that pushes other elements below it .Block element respect width,margin,height ,padding properties.Ex-<div>,<p>,<h1>,<section>.

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

Sol->the box-sizing property controls how the total width and height of an element are calculated including the content,padding and border.The 2 main values for box-sizing are content-box ,border-box.

1. Content-box: with box-sizing:’content-box’. In this the height and width properties given by us is for the content and the width and height of the element is to be calculated as the width=width+padding +border .
2. Border-box: with box-sizing:’border-box’ .In this the width and height which will be given by us is for the actual element and it will be the submittion of content+padding +border.

/\* Using content-box \*/

.element-content-box {

width: 300px;

height: 200px;

padding: 20px;

border: 2px solid black;

/\* Total width: 300px (content) + 40px (padding) + 4px (border) = 344px \*/

/\* Total height: 200px (content) + 40px (padding) + 4px (border) = 244px \*/

box-sizing: content-box;

}

/\* Using border-box \*/

.element-border-box {

width: 300px;

height: 200px;

padding: 20px;

border: 2px solid black;

/\* Total width: 300px (includes content, padding, and border) \*/

/\* Total height: 200px (includes content, padding, and border) \*/

box-sizing: border-box;

}

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

Sol->z-index is a CSS property that controls the stacking order of the positioned element on a web page along the z-axis .It specifies the depth and elevation of the element relative to the other elements.

z-index accepts the interger value higher value represent the higher stacking order.An element with higher stacking order will appear in front of elements with lower value.If 2 element have same will then the element which appears later in the html will be displayed on the top.

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

Sol->flex and Grid are two CSS layout system used for creating responsive and flexible webpage layout.

Differences:-

**Dimensionality**:-flexbox is one dimensional layout system ,operation along a single axis (row or column) ,while grid is a 2 dimensional layout system ,working across both horizontal and vertical axis.

**Layout Control** :-flexbox excels at arranging item within a single row or column ,whereas Grid allow to create complex, grid based layout with precise control over both row and column.

**Use Case**:- flexbox is ideal for creating flexible and responsive layouts for components with dynamic content flow.Grid is well-suited for creating extensive ,grid based designs with consistent rows and columns ,such as multi-column layouts and complex grid structure.

In practice both are used together .

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

Sol->absolute->It is positioned relative to its 1st parent.

.parent {

position: relative;

}

.child {

position: absolute;

top: 50px;

left: 100px;

}

Relative->relative to its normal position and leave a gap in its original position.

.parent {

position: relative;

}

.child {

position: relative;

top: 20px;

left: 30px;

}

Fixed->position the element relative to the browser window.

.fixed-element {

position: fixed;

top: 20px;

right: 30px;

}

Sticky->its position is based on the scrolling position within the containing element or the viewport.

It acts as a hybrid of reative and fixed positioning .It state is relative until scroll reaches a specific threshold at which point it becomes fixed and remain fixed.

.sticky-element {

position: sticky;

top: 50px;

}

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

<!DOCTYPE html>

<html>

<head>

<style>

</style>

<title>HTML CSS JS</title>

</head>

<body>

<div style="display:flex ;margin: 1%;height:20vh" >

<div style='background-color:black; width :30% ;margin: 0 1% 0 0' ></div>

<div style='background-color:blue; width:70%; '></div>

</div>

<div style='height :50vh; background-color :red;margin: 1%'> </div>

<div style="display:flex; height:30vh ; margin:1%">

<div style="background-color:yellow ;width:33% ;margin:0 1% 0 0" ></div>

<div style="background-color:orange ;width:33%; margin:0 1% 0 0"></div>

<div style="background-color:pink ;width:33%; margin:" ></div>

</div>

</body>

</html>