**Assignment - 2 (CSS Box Model**)

# **Question 1:** Explain the CSS box model and its components (content, padding, border, margin). How does each affect the size of an element?

* The **CSS box model** is a fundamental concept that describes how elements are structured and how their sizes are calculated on a web page. Every HTML element is considered a rectangular box that consists of the following four parts (from innermost to outermost):

1. **Content**

* This is the innermost area where text, images, or other content is displayed.
* Size is controlled by: width and height properties.
* Default behaviour: The content size defines the basic size of the box.

1. **Padding**

* The space between the content and the border.
* It adds space inside the element, pushing the border outward.
* Affects size: Yes, it increases the visible size of the element unless using box-sizing: border-box.

padding: 10px;

1. **Border**

* The line surrounding the padding (and content).
* Can be styled with width, color, and type (solid, dashed, etc.).
* Affects size: Yes, it adds to the overall size unless using box-sizing: border-box.

border: 2px solid black;

1. **Margin**

* The space outside the element's border.
* Creates spacing between this element and others.
* Does not affect the element's size, but affects how far it is from adjacent elements.

margin: 15px;

**box-sizing Property**

* content-box (by default): width and height apply only to content. Padding and border are added outside.
* border-box: width and height include **content + padding + border**. Total size stays consistent.

**Example:**

.box {

width: 200px;

height: 100px;

padding: 20px;

border: 5px solid black;

margin: 10px;

box-sizing: content-box; /\* or border-box \*/

}

* With content-box: Total width = 200 + 20×2 (padding) + 5×2 (border) = 250px
* With border-box: Total width stays 200px (content shrinks to accommodate padding + border)

# **Question 2: What is the difference between border-box and content-box box-sizing in CSS? Which is the default?**

* The box-sizing property in CSS controls how the total width and height of an element is calculated — specifically, whether or not padding and border are included inside the set width and height.

1. **content-box (Default)**

* Default value in CSS.
* width and height apply only to the content.
* Padding and border are added outside the content size.
* More traditional but can lead to layout issues when padding/border increase the total size unexpectedly.
* Example:

.box {

width: 200px;

padding: 20px;

border: 10px solid;

box-sizing: content-box;

}

**Total rendered width:**  
200 (content) + 40 (padding) + 20 (border) = **260px**

1. **border-box**

* width and height include content + padding + border.
* Easier for layout control — total size remains fixed regardless of padding/border.
* Example:

.box {

width: 200px;

padding: 20px;

border: 10px solid;

box-sizing: border-box;

}

**Total rendered width:** Always **200px**

The actual content shrinks to accommodate padding and border within the 200px.

**Best Practice**

Modern CSS frameworks and developers commonly use:

\* {

box-sizing: border-box;

}

To make layout and spacing **more predictable** across all elements.