In CSS, every HTML element is treated as a rectangular box. The box model consists of:

1. **Content**: The actual content of the element.
2. **Padding**: The space **inside** the element, between the content and the border.
3. **Border**: The line surrounding the padding and content.
4. **Margin**: The space **outside** the element, between the border and other elements.

**1. Padding**

**Definition**: Padding is the space between the content of an element and its border. It pushes the border **outward** but remains inside the element itself.

**Syntax**

selector {

padding: value; /\* Value can be px, %, em, rem, or auto \*/

}

**Properties**

* **padding-top**: Space above the content.
* **padding-right**: Space to the right of the content.
* **padding-bottom**: Space below the content.
* **padding-left**: Space to the left of the content.
* **padding**: Shorthand for all sides.

**Examples**

1. **Uniform Padding**:

.box {

padding: 20px;

}

This applies 20px padding to all 4 sides.

**Padding Different for Each Side**

**.box {**

**padding: 10px 20px 30px 40px; /\* top, right, bottom, left \*/**

**}**

**Padding for Specific Sides:**

**.box {**

**padding-top: 10px;**

**padding-right: 15px;**

**padding-bottom: 10px;**

**padding-left: 15px;**

**}**

**Padding adds space inside the border.**

1. **Margin**

**Definition: Margin is the space outside an element's border. It separates the element from other elements.**

selector {

margin: value; /\* Value can be px, %, em, rem, or auto \*/

}

**Properties**

* **margin-top**: Space above the element.
* **margin-right**: Space to the right of the element.
* **margin-bottom**: Space below the element.
* **margin-left**: Space to the left of the element.
* **margin**: Shorthand for all sides.

**Examples**

1. **Uniform Margin**:

.box {

margin: 20px;

}

This applies 20px margin to all 4 sides.

**Margin Different for Each Side**:

.box {

margin: 10px 20px 30px 40px; /\* top, right, bottom, left \*/

}

Margin for Specific Sides

.box {

margin-top: 10px;

margin-bottom: 20px;

}

**Auto Centering**: You can horizontally center a block element by setting left and right margins to auto.

.box {

margin: 0 auto;

width: 50%;

}

 Margin **creates space outside** the element.

 Margins **do not** affect the size of the element itself

+-----------------------------------+

| MARGIN |

| +---------------------------+ |

| | BORDER | |

| | +-------------------+ | |

| | | PADDING | | |

| | | +-----------+ | | |

| | | | CONTENT | | | |

| | | +-----------+ | | |

| | +-------------------+ | |

| +---------------------------+ |

|  |
| --- |
|  |

Example :

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Padding and Margin Example</title>

<style>

/\* Basic styles for the body \*/

body {

font-family: Arial, sans-serif;

margin: 0;

padding: 0;

background-color: #f8f9fa;

}

/\* Container for all the boxes \*/

.container {

width: 90%;

margin: 0 auto;

text-align: center;

}

/\* Box 1: Demonstrating Padding \*/

.box-padding {

background-color: #4CAF50; /\* Green \*/

color: #fff;

padding: 20px; /\* Adds space inside \*/

border: 2px solid #2e7d32;

margin: 20px; /\* Adds space outside \*/

}

/\* Box 2: Demonstrating Margin \*/

.box-margin {

background-color: #FF9800; /\* Orange \*/

color: #fff;

margin: 30px; /\* Adds space outside \*/

border: 2px solid #ef6c00;

padding: 10px; /\* Adds space inside \*/

}

/\* Box 3: Combination of Padding and Margin \*/

.box-mixed {

background-color: #2196F3; /\* Blue \*/

color: #fff;

padding: 25px; /\* Adds space inside \*/

margin: 40px; /\* Adds space outside \*/

border: 2px solid #1976d2;

}

/\* Header style \*/

h1 {

text-align: center;

margin-top: 20px;

}

</style>

</head>

<body>

<h1>CSS Padding and Margin Example</h1>

<div class="container">

<!-- Box with Padding -->

<div class="box-padding">

<h2>Box with Padding</h2>

<p>This box has 20px padding inside and 20px margin outside.</p>

</div>

<!-- Box with Margin -->

<div class="box-margin">

<h2>Box with Margin</h2>

<p>This box has 30px margin outside and 10px padding inside.</p>

</div>

<!-- Box with Padding and Margin -->

<div class="box-mixed">

<h2>Box with Padding and Margin</h2>

<p>This box has 25px padding inside and 40px margin outside.</p>

</div>

</div>

</body>

</html>