**HTML and CSS Properties, Attributes, and Explanations**

**1. HTML Basic Tags, Attributes, and Their Explanations**

**a. Common Tags:**

* <html> – Root element that wraps the entire HTML document.
* <head> – Contains meta-information like title, links to stylesheets, etc.
* <title> – Sets the title of the webpage (appears in the browser tab).
* <body> – Encloses all visible page content like text, images, etc.
* <h1> to <h6> – Heading tags; <h1> is the largest, <h6> is the smallest.
* <p> – Paragraph tag; used for blocks of text.
* <a> – Anchor tag; creates hyperlinks.
* <img> – Image tag; displays images using src.
* <br> – Line break tag; breaks content to the next line.
* <hr> – Horizontal rule; displays a thematic break (a line).

**b. Global Attributes:**

* id, class, style, title, lang

**c. Anchor Tag (<a>) Attributes:**

* href: link URL
* target: e.g., \_blank opens in a new tab

**d. Image Tag (<img>) Attributes:**

* src: image file path
* alt: alternate text
* width, height

**e. Input/Form Tags:**

* <form> – Container for form elements.
* <input> – Input field for text, numbers, email, etc.
* <textarea> – Multi-line input field.
* <select> – Drop-down list.
* <option> – Options inside <select>.
* <label> – Describes the input field.
* <fieldset> – Groups related form elements.
* <legend> – Title for the fieldset.
* <button> – Clickable button (submit or regular).
* <form>, <input>, <textarea>, <select>, <option>, <label>, <fieldset>, <legend>, <button>

**f. Input Attributes:**

* type, name, value, placeholder, required, readonly, checked, disabled

**g. Table Tags:**

* <table> – Creates a table.
* <thead> – Groups header rows.
* <tbody> – Groups body content rows.
* <tfoot> – Groups footer rows.
* <tr> – Table row.
* <th> – Header cell; bold and centered by default.
* <td> – Data cell; standard cell in a table.
* <table>, <thead>, <tbody>, <tfoot>, <tr>, <th>, <td>

**h. List Tags:**

* <ul> – Unordered list (bulleted).
* <ol> – Ordered list (numbered).
* <li> – List item used within <ul> or <ol>.
* <ul>: unordered list
* <ol>: ordered list
* <li>: list item

**2. CSS Properties**

**. Box Model:**

* margin: outer spacing
* padding: inner spacing
* border: outlines element (e.g., 1px solid black)
* width, height

**b. Typography:**

* font-family: e.g., Arial, Verdana
* font-size: e.g., 16px, 1.2em
* font-weight: e.g., normal, bold, 500
* text-align: left, center, right
* line-height: vertical spacing between lines
* color: text color
* text-shadow: e.g., 2px 2px 5px gray

**c. Background & Borders:**

* background-color: sets background color
* background-image: sets an image background
* background-size: cover, contain
* border-radius: rounds corners (e.g., 10px)
* box-shadow: adds shadow to box

**d. Display & Positioning:**

* display: block, inline, flex, grid
* position: static, relative, absolute, fixed, sticky
* top, left, bottom, right: used with positioning
* z-index: layer stacking

**e. Flexbox:**

* display: flex
* flex-direction: row, column
* justify-content: center, space-between
* align-items: center, flex-start

**f. Overflow:**

* overflow: visible, hidden, scroll, auto
* overflow-x, overflow-y: for horizontal/vertical control

**g. Transforms & Effects:**

* transform: scale, rotate, translate, skew
* filter: blur, grayscale, invert
* opacity: transparency level

**h. Animation:**

* transition: smooth change on hover (e.g., all 0.3s ease)
* animation: custom animations with keyframes
* @keyframes: define animation steps