Assume you are good guide/explainer to the beginner and expert in finding elements in web pages using css selector then provide all possible ways to use css selector from beginner to advanced along with how the html looks like

Absolutely! Let's go step-by-step—from **beginner to expert level**—on how to **use CSS selectors to find elements in web pages**, with clear **examples of HTML** and **CSS selectors**.

🔰 BEGINNER LEVEL

1. Tag Selector

Selects all elements of a specific HTML tag.

HTML:

```
<p>Hello World</p>
<p>Another paragraph</p>
```

CSS Selector:

```
p
```

---

2. ID Selector

Targets an element with a specific `id`.

HTML:

```
<div id="header">Welcome</div>
```

CSS Selector:

```
#header
```

---

3. Class Selector

Selects elements with a specific class.

HTML:

```
<div class="box">Box 1</div>
<div class="box">Box 2</div>
```

CSS Selector:

```
.box
```

---

4. Universal Selector

Selects **all** elements on the page.

HTML:

```
<div>Hello</div>
<p>World</p>
```

CSS Selector:

```
*
```

---

5. Group Selector

Select multiple elements at once.

HTML:

```
<h1>Title</h1>
p>Paragraph</p>
```

CSS Selector:

```
h1, p
```

🧭 INTERMEDIATE LEVEL

6. Descendant Selector (space)

Selects elements that are **nested inside** another.

HTML:

```
<div class="container">
  <p>This is inside container</p>
</div>
```

CSS Selector:

```
.container p
```

---

7. Child Selector (>)

Selects only **direct children**.

HTML:

```
<div class="container">
  <p>Direct Child</p>
  <div>
    <p>Nested Paragraph</p>
  </div>
</div>
```

CSS Selector:

```
.container > p
```

---

8. Adjacent Sibling Selector (+)

Selects the element that is **immediately next** to a specified one.

HTML:

```
<h2>Heading</h2>
<p>Paragraph right after h2</p>
```

CSS Selector:

```
h2 + p
```

---

9. General Sibling Selector (~)

Selects **all siblings** after a certain element.

HTML:

<h2>Heading</h2>
Paragraph 1
Paragraph 2

CSS Selector:

h2 ~ p

---

10. Attribute Selector

Targets elements by attributes.

a. Exact Match
<input type="text">

input[type="text"]

b. Contains Word (~=)
Click

div[class~="primary"]

c. Starts With (^=)
Link

a[href^="https"]

d. Ends With ($=)
<img src="logo.png">

img[src$=".png"]

e. **Contains Substring (=)*
User

div[data-id*="user"]

💎 ADVANCED LEVEL

11. Nth Child

Selects based on index (starting from 1).

HTML:

```
<ul>
  <li>Item 1</li>
  <li>Item 2</li>
</ul>

li:nth-child(2)   /* Selects "Item 2" */
```

---

12. Nth-of-Type

Similar to `nth-child`, but only counts same tag type.

```
<div><span>1</span><p>2</p><p>3</p></div>

p:nth-of-type(2)  /* Selects 2nd <p> */
```

---

13. First-child / Last-child

```
<ul>
  <li>First</li>
  <li>Middle</li>
  <li>Last</li>
</ul>

li:first-child     /* Selects "First" */
li:last-child      /* Selects "Last" */
```

---

14. Not Selector

Exclude elements matching a selector.

```
<div class="box">Box</div>
<div class="circle">Circle</div>

div:not(.circle)
```

---

15. Empty Selector

Matches elements with **no children**.

div:empty

---

16. Multiple Class or ID

a. With multiple classes
Content

.box.red.big

b. With ID and class
Text

#unique.highlight

---

17. Chaining with Attributes, Classes, and Tags

<input type="email" class="input email" name="user-email">

input.email[type="email"][name="user-email"]

🧪 Example Use Case in Automation (e.g. Cypress, Selenium)

// Cypress
cy.get('input[type="text"].username')

// Selenium with Java
driver.findElement(By.cssSelector("div.container > ul li:first-child"))

📌 Summary Table

Selector Type	Example
Tag	`div`
ID	`#header`
Class	`.box`
Descendant	`.container p`
Child	`.parent > .child`
Adjacent Sibling	`h2 + p`
General Sibling	`h2 ~ p`
Attribute	`[type="text"]`
Starts With	`[href^="https"]`
Ends With	`[src$=".png"]`
Contains	`[data-id*="user"]`
:nth-child(n)	`li:nth-child(2)`
:first-child	`li:first-child`
:not(selector)	`div:not(.active)`
Combined (complex)	`div.card[data-id^="12"]`

Would you like this turned into a **PDF reference sheet**, or want a **project or exercise** to practice these?