

A vibrant, abstract background featuring numerous translucent, spherical bubbles in shades of orange, blue, and purple against a dark purple backdrop.

# 4

# Day-4: CSS Combinators

## CSS Combinators:

- The CSS combinator represent the relationship between two selectors.
- The CSS selector are the patterns that can be used for styling the particular HTML element. Sometimes, it is possible that there is more than one simple selector, and to combine the multiple simple selector, we use the combinator.

## Why use CSS Combinator ?

- Learning about combinator makes you better at writing CSS and helps you to avoid excess CSS code.
- Combinators can also help you pinpoint the section or part of HTML you want to style with high accuracy because they are based on the relationship between the selector.

## Types of Combinators in CSS

The combinators are of 4 types, which are given below:

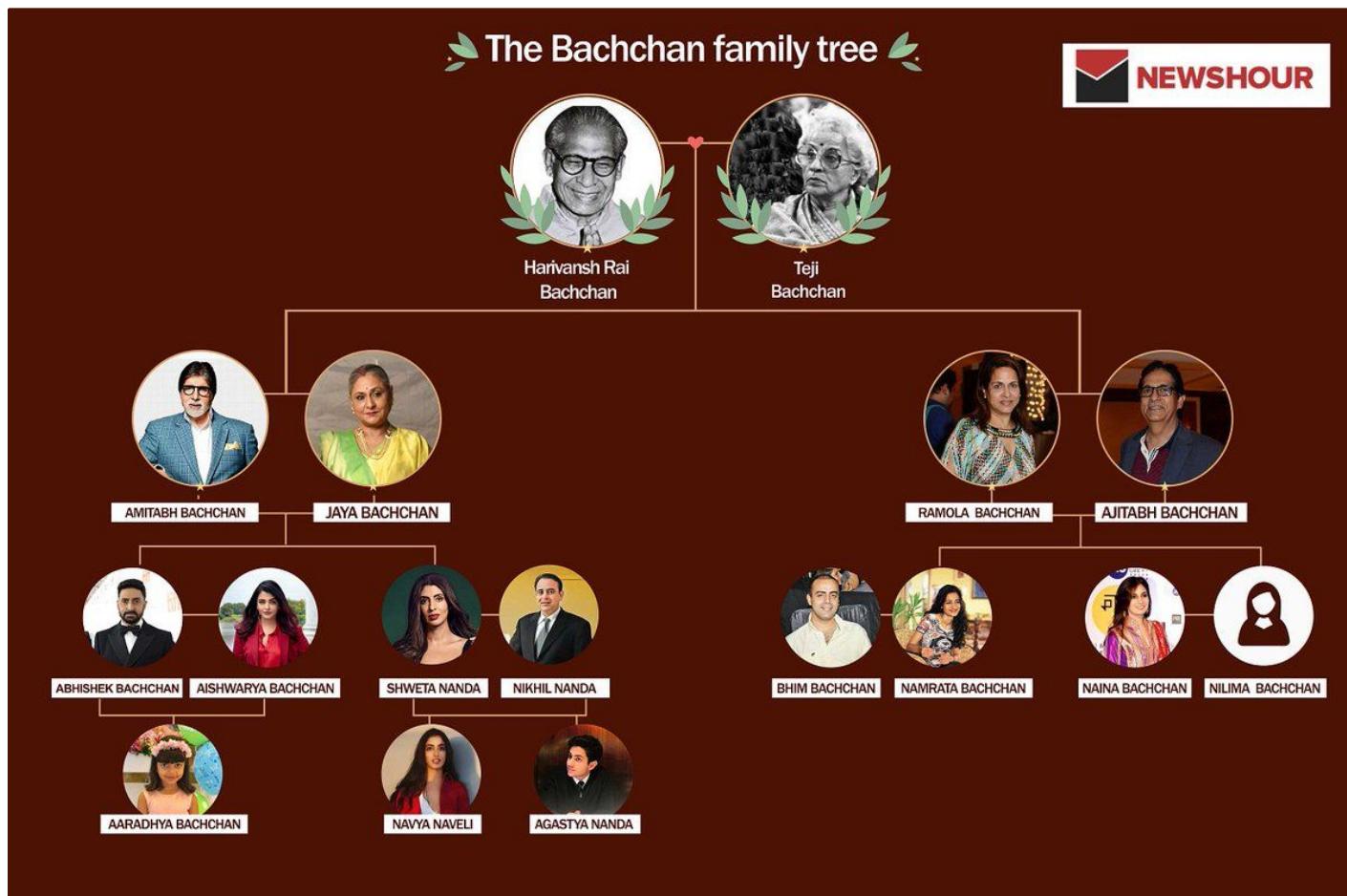
1. Descendant selector ( ) (space)
2. Child selector (>)
3. General sibling selector (~)
4. Adjacent sibling selector (+)

## Descendant Selector in CSS

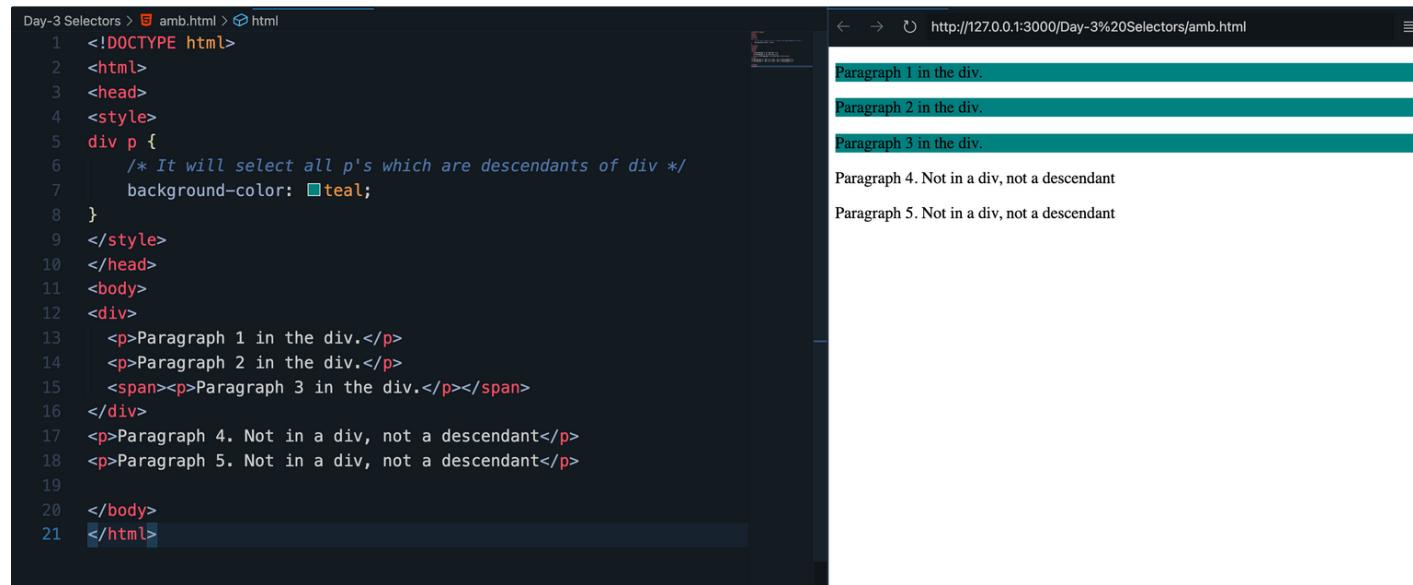
- **Descendant Meaning:** A person who is related to you and who lives after you, such as your child or grandchild
- Syntax

```
selector1 selector2 selector3... { // style properties }
```

## Practical example:

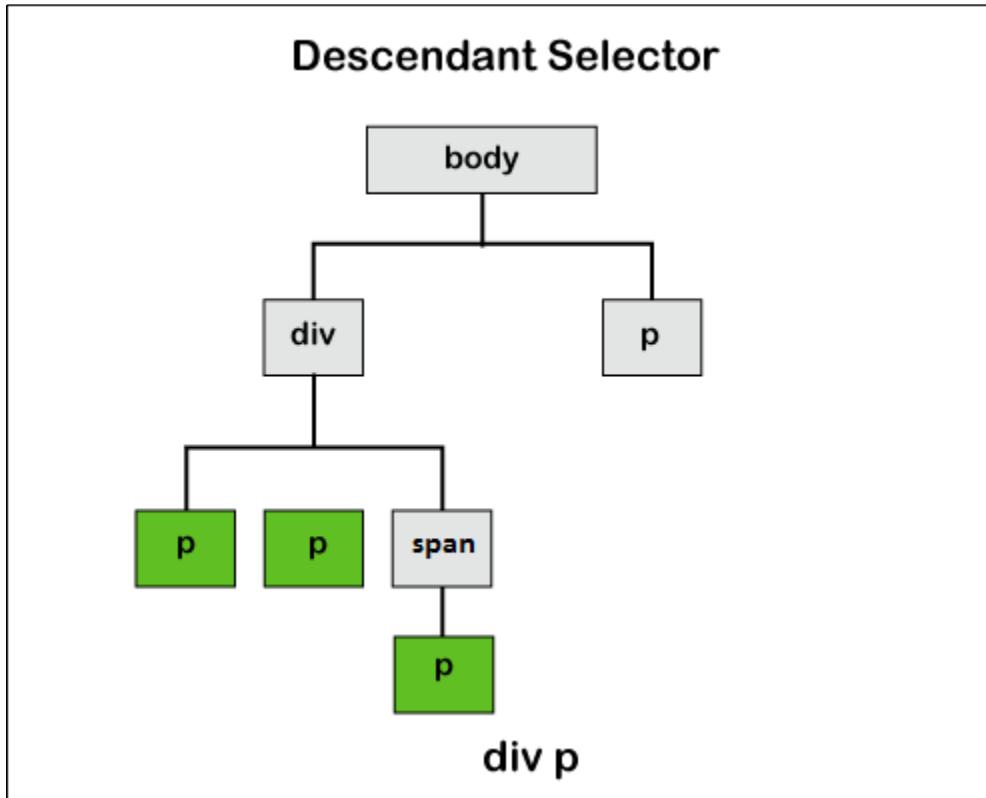


- Look at Amitabh's family tree
  - Number of Descendants for Harivansh Rai Bachan - 15
  - Number of Descendants for Amitabh Bachan - 7
  - Number of Descendants for Abhishek Bachan - 1 (Aaradhya)
  - Number of Descendants for Sweta Nanda - 2



```
Day-3 Selectors > amb.html > html
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <style>
5  div p {
6      /* It will select all p's which are descendants of div */
7      background-color: teal;
8  }
9  </style>
10 </head>
11 <body>
12 <div>
13 <p>Paragraph 1 in the div.</p>
14 <p>Paragraph 2 in the div.</p>
15 <span><p>Paragraph 3 in the div.</p></span>
16 </div>
17 <p>Paragraph 4. Not in a div, not a descendant</p>
18 <p>Paragraph 5. Not in a div, not a descendant</p>
19
20 </body>
21 </html>
```

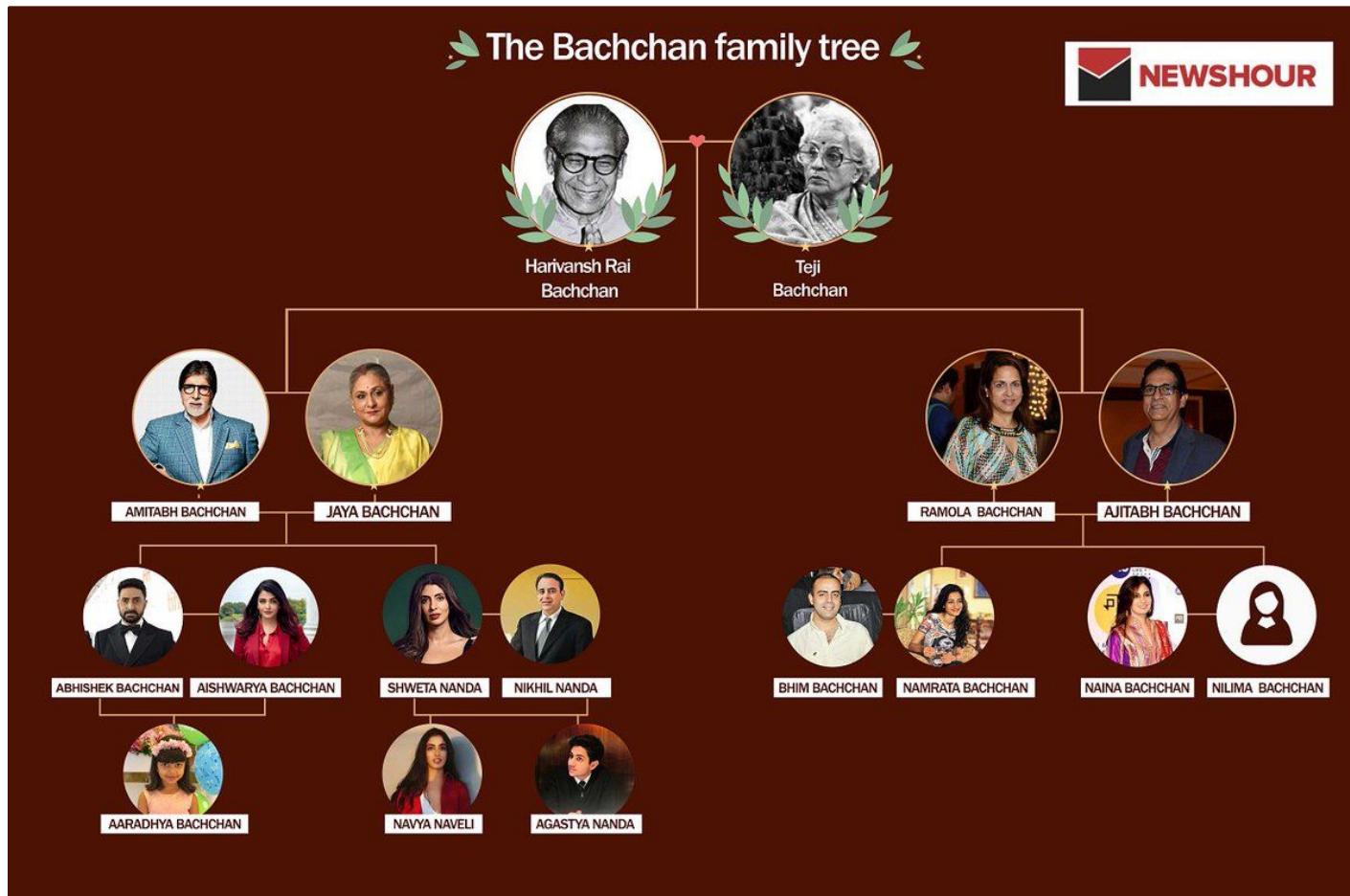
- Live code: [Codepen](#)



- In the above figure div, p will select all p's which are descendants of div

## Child Selector

- The child selector uses the greater than sign (`>`) to separate the elements. The child selector is used when we want to apply the styling properties to the immediate child/children of the particular HTML element.
- This combinator is quite strict than the descendant selector and the styling properties are acquired only when the second selector is the direct child of the first one.



- Look at Amitabh's family tree
  - Number of Childs for Harivansh Rai Bachan - 2
  - Number of Childs for Amitabh Bachan - 2
  - Number of Childs for Abhishek Bachan - 1 (Aaradhya)
  - Number of Childs for Sweta Nanda - 2

The screenshot shows a comparison between the source code and its rendered output.

**Source Code (amb.html):**

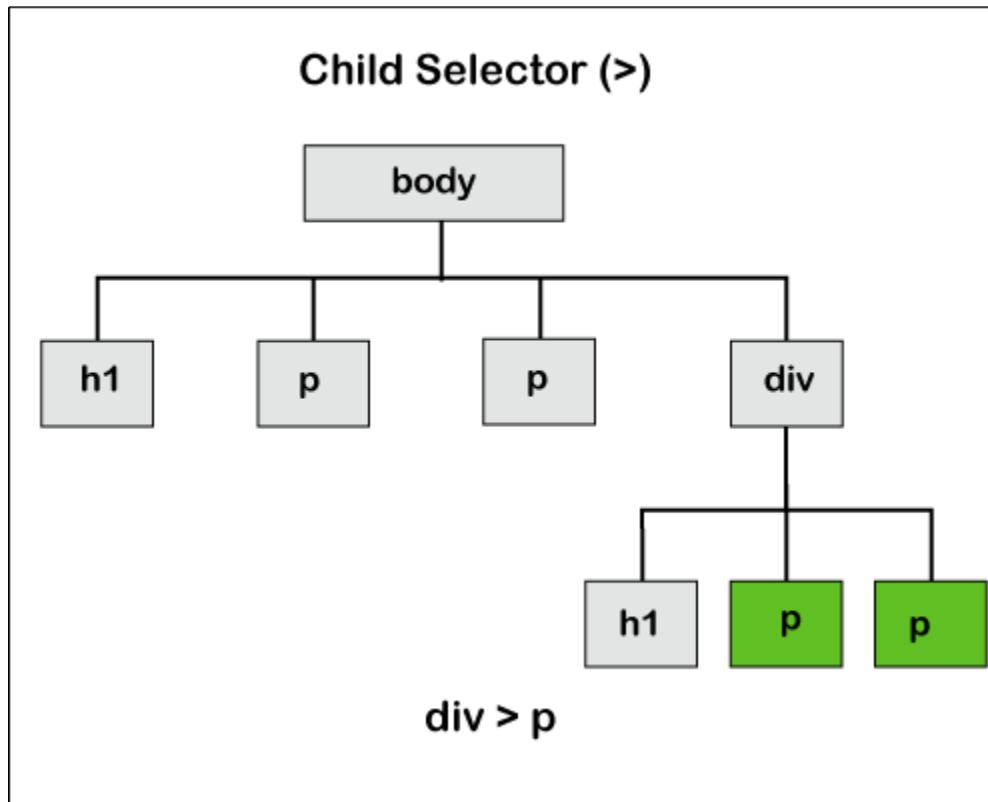
```
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <style>
5  div > p {
6      /* Selects all p's which are child of div */
7      background-color: teal;
8  }
9  </style>
10 </head>
11 <body>
12
13 <div>
14     <p>Paragraph 1 in the div.</p>
15     <p>Paragraph 2 in the div.</p>
16     <span><p>Paragraph 3 in the div, but it is not child of div, it is child of span</p></span>
17 </div>
18
19 <p>Paragraph 4. Not in a div, not child of div</p>
20 <p>Paragraph 5. Not in a div, not child of div</p>
21
22 </body>
23 </html>
24
```

**Browser Output:**

The browser window title is "http://127.0.0.1:3000/Day-3%20Selectors/amb.html". The content is as follows:

- Paragraph 1 in the div. (Background color: teal)
- Paragraph 2 in the div. (Background color: teal)
- Paragraph 3 in the div, but it is not child of div, it is child of span. (Background color: white, no border)
- Paragraph 4. Not in a div, not child of div. (Background color: white, no border)
- Paragraph 5. Not in a div, not child of div. (Background color: white, no border)

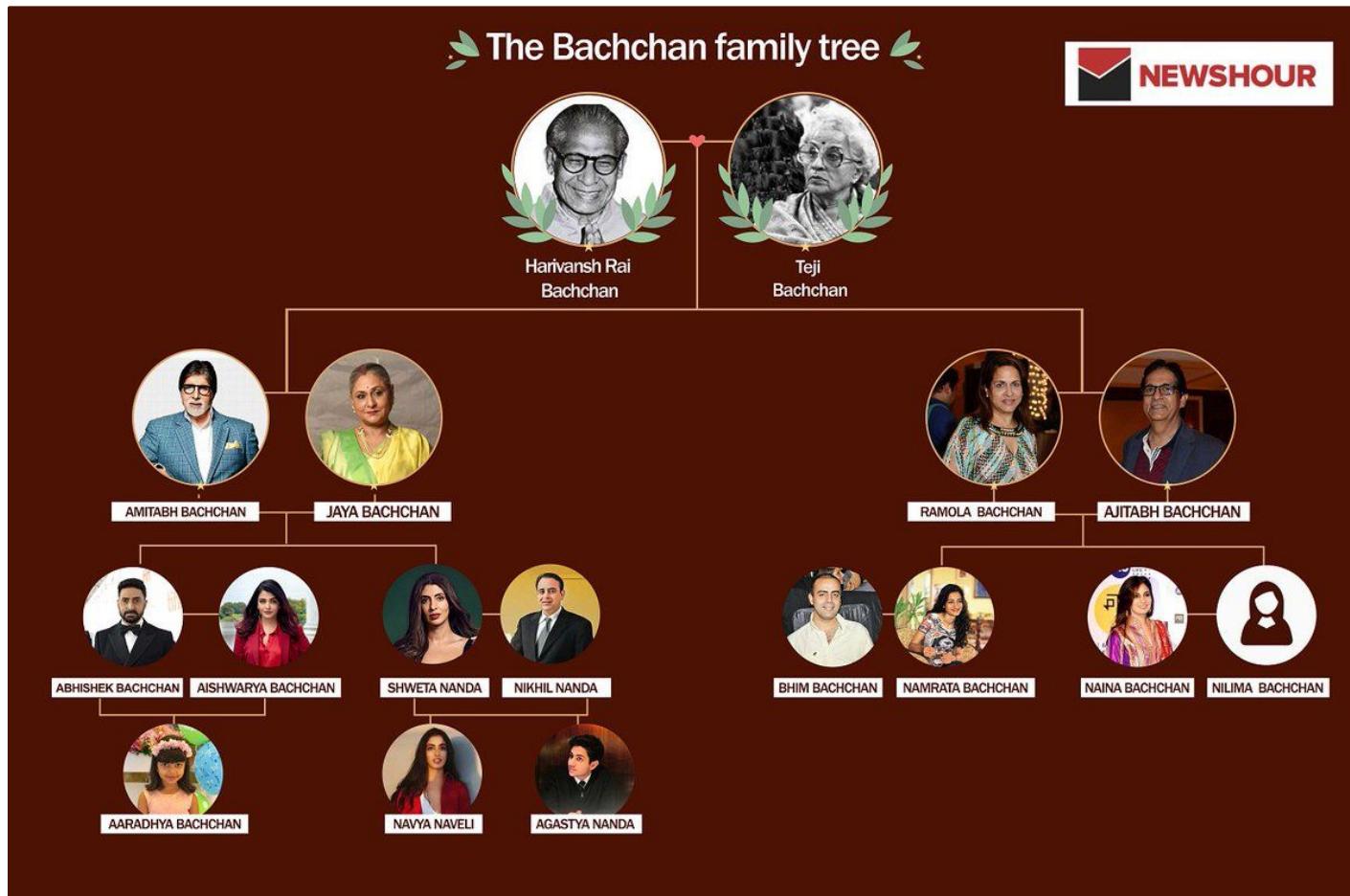
- Live code: [Codepen](#)



- In the above figure `div>p` will select all p's which are **childs** of div

## General Sibling Selector:

- **Sibling meaning:** A brother or sister from the same parent
- The general sibling selector is used when the user wants to set the CSS properties for the elements that are the siblings of each other even if they are not the immediate ones.
- This selector is used when we have to set the styling properties of the elements that have the same parent element. This selector can be separated by adding the (~) sign between them.



- Look at Amitabh's family tree
  - Number of general siblings for Amitabh Bachan - 1 (Ajitabh Bachan)
  - Number of general siblings for Abhishek Bachan - 1 (Sweta Nanda)
  - Number of general siblings for Bhim Bachan - 3
  - Number of general siblings for Aaradhy - 0

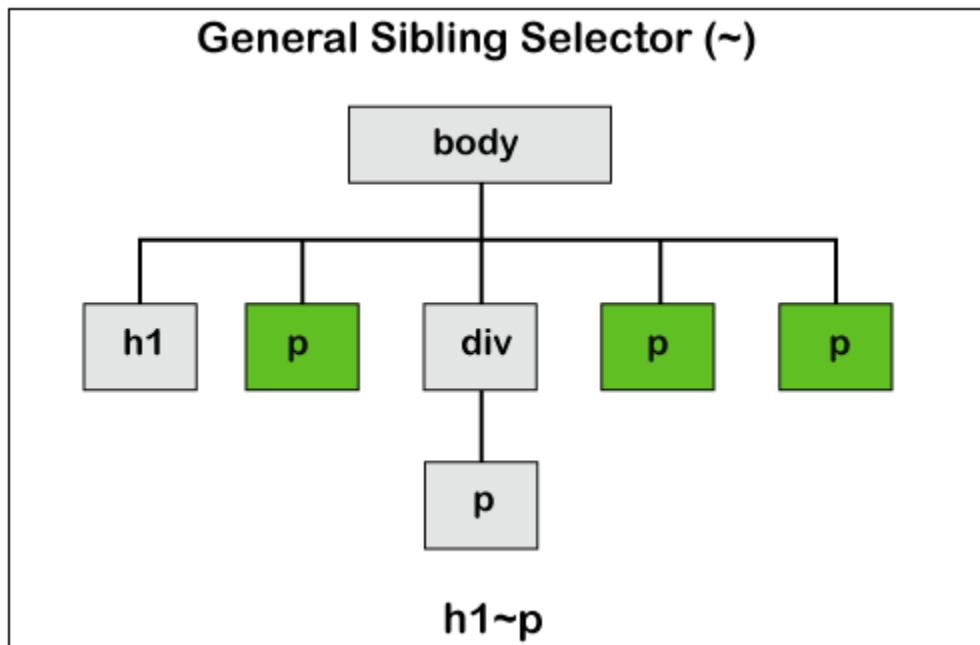
Remember that siblings will be of the same generation

```

Day-3 Selectors > amb.html > ...
1  <!DOCTYPE html>
2  <html>
3    <head>
4      <style>
5        h3 ~ p {
6          /* selects all p's which are general siblings of h3 */
7          background-color: yellow;
8        }
9      </style>
10     </head>
11     <body>
12       <h3>I am heading 3</h3>
13       <p>Paragraph 3, general sibling of h3</p>
14       <p>Paragraph 4, general sibling of h3</p>
15       <p>Paragraph 5, general sibling of h3</p>
16       <p>Paragraph 6, general sibling of h3</p>
17       <p>Paragraph 7, general sibling of h3</p>
18     </body>
19   </html>
20

```

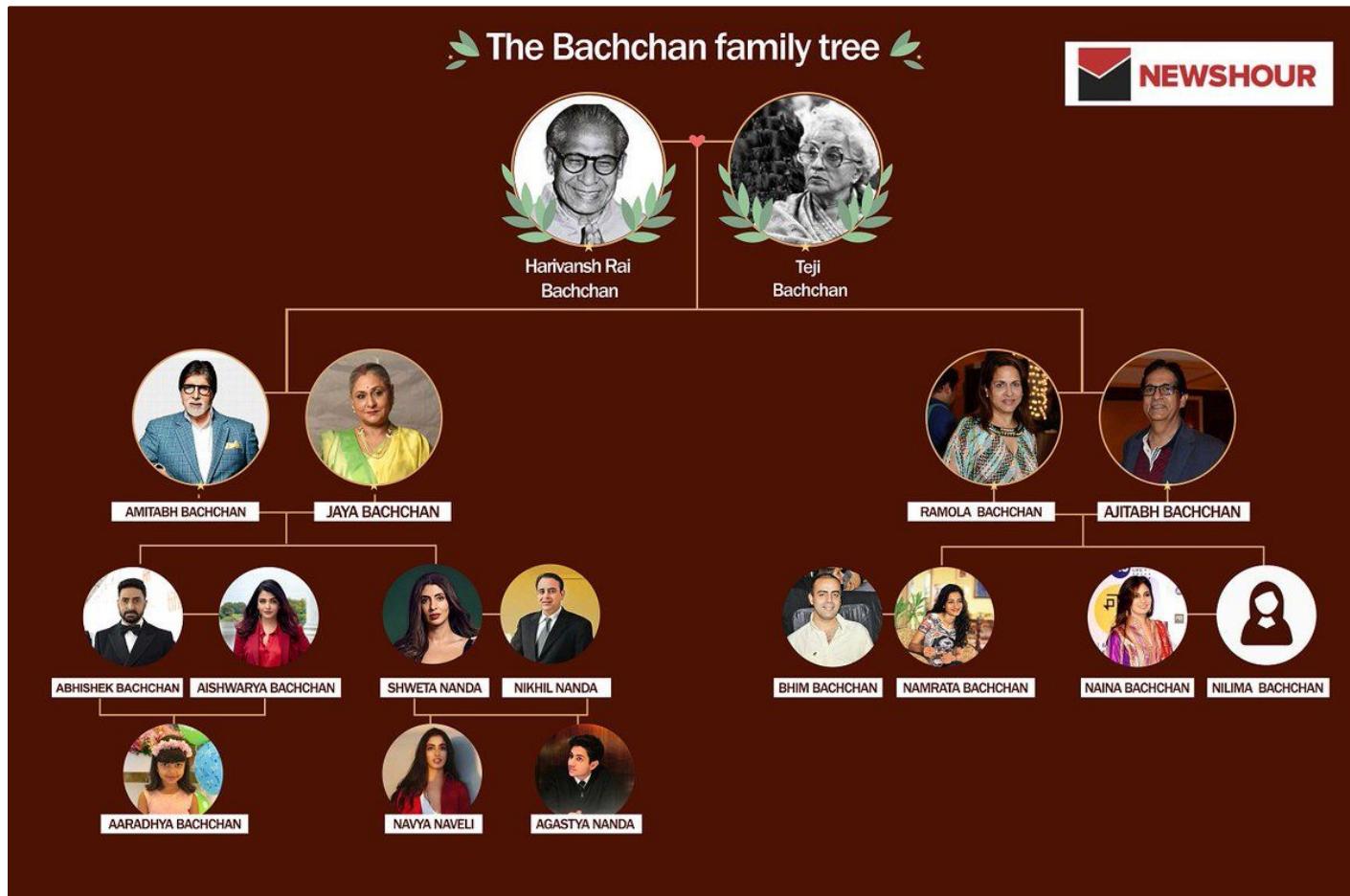
- Live code: [Codepen](#)



- In the above figure `h1 ~ p` will select all p's which are siblings of h1

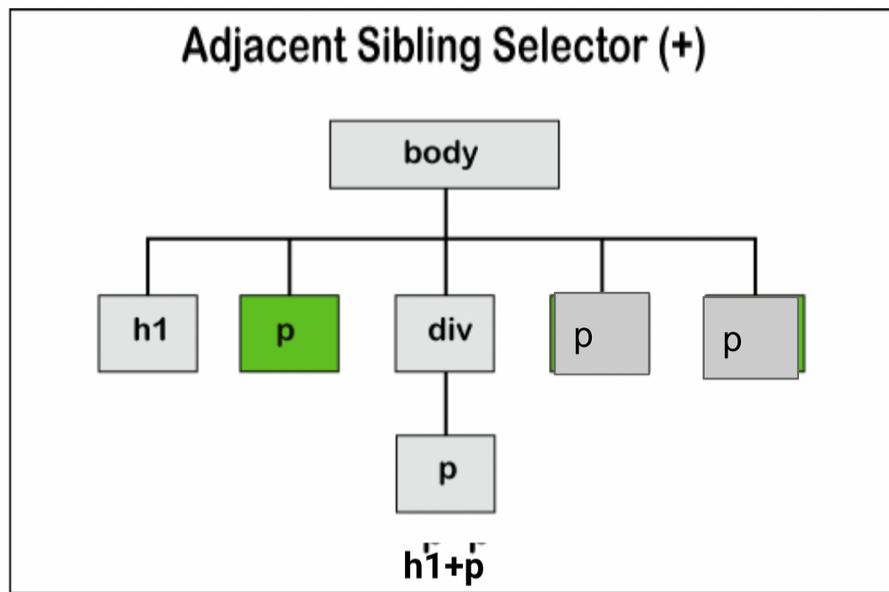
## Adjacent / Immediate sibling Selector in CSS

- The adjacent sibling selector is used when we want to apply the CSS property or styling to the adjacent sibling of any element.
- The siblings should have the same parent element and also the second element must be the immediate follower of the first element.
- The selectors are separated by adding the (+) sign between the separators.



- Look at Amitabh's family tree
  - Number of immediate siblings for Amitabh Bachan - 1 (Ajitabh Bachan)
  - Number of immediate siblings for Abhishek Bachan - 1 (Sweta Nanda)
  - Number of immediate siblings for Bhim Bachan - 1 (Namrata Bachan)
  - Number of immediate siblings for Navya Naveli - 1

Remember that siblings will be of the same generation



## Overview of all selectors:

Selector	Example	Example description
<u>.class</u>	.intro	Selects all elements with class="intro"
<u>#id</u>	#firstname	Selects the element with id="firstname"
<u>*</u>	*	Selects all elements
<u>element</u>	p	Selects all <p> elements
<u>element,element</u>	div, p	Selects all <div> elements and all <p> elements
<u>element element</u>	div p	Selects all <p> elements inside <div> elements
<u>element&gt;element</u>	div > p	Selects all <p> elements where the parent is a <div> element
<u>element+element</u>	div + p	Selects all <p> elements that are placed immediately after <div> elements
<u>element1~element2</u>	p ~ ul	Selects every <ul> element that are preceded by a <p> element

## More Selectors:

## CSS *element,element* Selector

Select and style all `<h2>` elements AND all `<p>` elements:

```
<!DOCTYPE html> <html> <head> <style> h2, p { background-color: yellow; } </style> </head> <body> <h1>Demo of the element, element selector</h1> <h2>Welcome to My Homepage</h2> <div> <p>My name is Donald.</p> <p>I live in Duckburg.</p> </div> <p>My best friend is Mickey.</p> </body> </html>
```

## CSS Attribute Selectors

- The `[attribute]` selector is used to select elements with a specified attribute.



The screenshot shows a code editor on the left and a browser window on the right. The code editor displays an HTML file named 'amb.html' with the following content:

```
Day-3 Selectors > amb.html > ...
1  <!DOCTYPE html>
2  <html lang="en">
3    <head>
4      <title>Document</title>
5
6      <style>
7        a[href="https://www.masaischool.com/"]
8        {
9          color: red;
10         }
11
12        a[target="_blank"] {
13          font-size: 40px;
14        }
15      </style>
16    </head>
17    <body>
18      <a href="https://www.masaischool.com/" target="_blank">Masai school</a>
19      <a href="https://sso.masaischool.com/signin/?returnTo=https://dashboard
20          masaischool.com/#/">Onwards</a>
21      >
22    </body>
23  </html>
24
25
```

The browser window shows the rendered HTML with the following output:

Masai school Onwards

The link 'Masai school' is red and has a font size of 40px. The link 'Onwards' is black.

Live code : [Link](#)

## Types of attribute selector

	<b>Selector</b>	<b>Example</b>	<b>Description</b>
Presence & Value	[attr]	a[title]	Matches elements with an <i>attr</i> attribute (whose name is the value in square brackets).
	[attr=value]	a[href="https://example.com"]	Matches elements with an <i>attr</i> attribute whose value is exactly <i>value</i> — the string inside the quotes.
	[attr~=value]	p[class~="special"]	Matches elements with an <i>attr</i> attribute whose value is exactly <i>value</i> , or contains <i>value</i> in its (space separated) list of values.
	[attr =value]	div[lang ="zh"]	Matches elements with an <i>attr</i> attribute whose value is exactly <i>value</i> or begins with <i>value</i> immediately followed by a hyphen.
Substring Matching	[attr^=value]	li[class^="box-"]	Matches elements with an <i>attr</i> attribute (whose name is the value in square brackets), whose value begins with <i>value</i> .
	[attr\$=value]	li[class\$="-box"]	Matches elements with an <i>attr</i> attribute whose value ends with <i>value</i> .
	[attr*=value]	li[class*="box"]	Matches elements with an <i>attr</i> attribute whose value contains <i>value</i> anywhere within the string.

Read more : [Link](#)

## CSS Pseudo-classes

A pseudo-class is used to define a special state of an element.

For example, it can be used to:

- Style an element when a user mouses over it

- Style visited and unvisited links differently
- Style an element when it gets focus

## Syntax

The syntax of pseudo-classes:

```
selector:pseudo-class {   property: value; }
```

- Although there are various CSS pseudo-classes, here we are going to discuss some of the most commonly used pseudo-classes. The widely used CSS classes are tabulated as follows:

## All CSS Pseudo Classes

 Show All

---

Selector	Example
<u>:active</u>	<u>a:active</u>
<u>:checked</u>	<u>input:checked</u>
<u>:disabled</u>	<u>input:disabled</u>
<u>:empty</u>	<u>p:empty</u>
<u>:enabled</u>	<u>input:enabled</u>
<u>:first-child</u>	<u>p:first-child</u>
<u>:first-of-type</u>	<u>p:first-of-type</u>
<u>:focus</u>	<u>input:focus</u>
<u>:hover</u>	<u>a:hover</u>
<u>:in-range</u>	<u>input:in-range</u>

<u>:invalid</u>	<u>input:invalid</u>
<u>:lang(<i>language</i>)</u>	<u>p:lang(it)</u>
<u>:last-child</u>	<u>p:last-child</u>
<u>:last-of-type</u>	<u>p:last-of-type</u>
<u>:link</u>	<u>a:link</u>
<u>:not(selector)</u>	<u>:not(p)</u>
<u>:nth-child(n)</u>	<u>p:nth-child(2)</u>
<u>:nth-last-child(n)</u>	<u>p:nth-last-child(2)</u>
<u>:nth-last-of-type(n)</u>	<u>p:nth-last-of-type(2)</u>

:nth-of-type(n)p:nth-of-type(2):only-of-typep:only-of-type:only-childp:only-child:optionalinput:optional:out-of-rangeinput:out-of-range:read-onlyinput:read-only:read-writeinput:read-write:requiredinput:required

## CSS Pseudo-elements

A CSS pseudo-element is used to style specified parts of an element.

For example, it can be used to:

- Style the first letter, or line, of an element
- Insert content before, or after, the content of an element

:rootroot

## Syntax

The syntax of pseudo-elements:

```
selector::pseudo-element {   property: value; }
```

:target

#news:target

:visited

a:visited

Live code :[Codepen](#)

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## All CSS Pseudo Elements

 Show All

## Untitled

 Selector Example::afterp::after::beforep::before::first-letterp::first-letter::first-linep::first-line::selectionp::selection

Read more: [Link](#)