

Pseudo-classes and pseudo-elements in CSS are selectors used to style elements in special ways, but they have different purposes and syntax.

## Definitions and Differences

- Pseudo-class: Targets an element based on its state or user interaction, such as when a user hovers over a link or an element is the first child. It uses a single colon `:` followed by the pseudo-class name. Example: `a:hover` changes style when a link is hovered.
- Pseudo-element: Styles a specific part of an element, like the first letter or before/after content of an element. It uses a double colon `::` followed by the pseudo-element name. Example: `p::first-line` styles only the first line of a paragraph.

## Key Difference Table

Aspect	Pseudo-Class	Pseudo-Element
What it targets	Element state or condition	Specific part of an element
Syntax	Single colon <code>:</code>	Double colon <code>::</code>
Use	Styling states (hover, focus)	Styling parts (first-line, before)
Examples	<code>:hover</code> , <code>:active</code>	<code>::before</code> , <code>::first-letter</code>

## Syntax Examples and Usage

- Pseudo-class syntax:

CSS

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

Example:

CSS

```
a:hover {  
  color: green;  
}
```

- Pseudo-element syntax:

CSS

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

Example:

CSS

```
p::first-line {  
  color: blue;  
  font-weight: bold;  
}
```

## When to Use

- Use pseudo-classes to style elements based on interaction or dynamic states (hover, focus, visited links).
- Use pseudo-elements to style specific parts of elements or insert content before/after elements for enhanced styling.

## Use on Popular Web Pages

Many prominent web pages indexed by Google use pseudo-classes and pseudo-elements extensively for interactive effects, content styling, and design improvements, especially sites rich in content like news portals, e-commerce pages, and blogs. Websites heavily dependent on CSS frameworks also apply these features to enhance user experience with minimal JavaScript.

For specific examples, top-ranking web pages often use pseudo-classes like `:hover` on buttons and links and pseudo-elements like `::before` and `::after` to add decorative icons or styling cues.