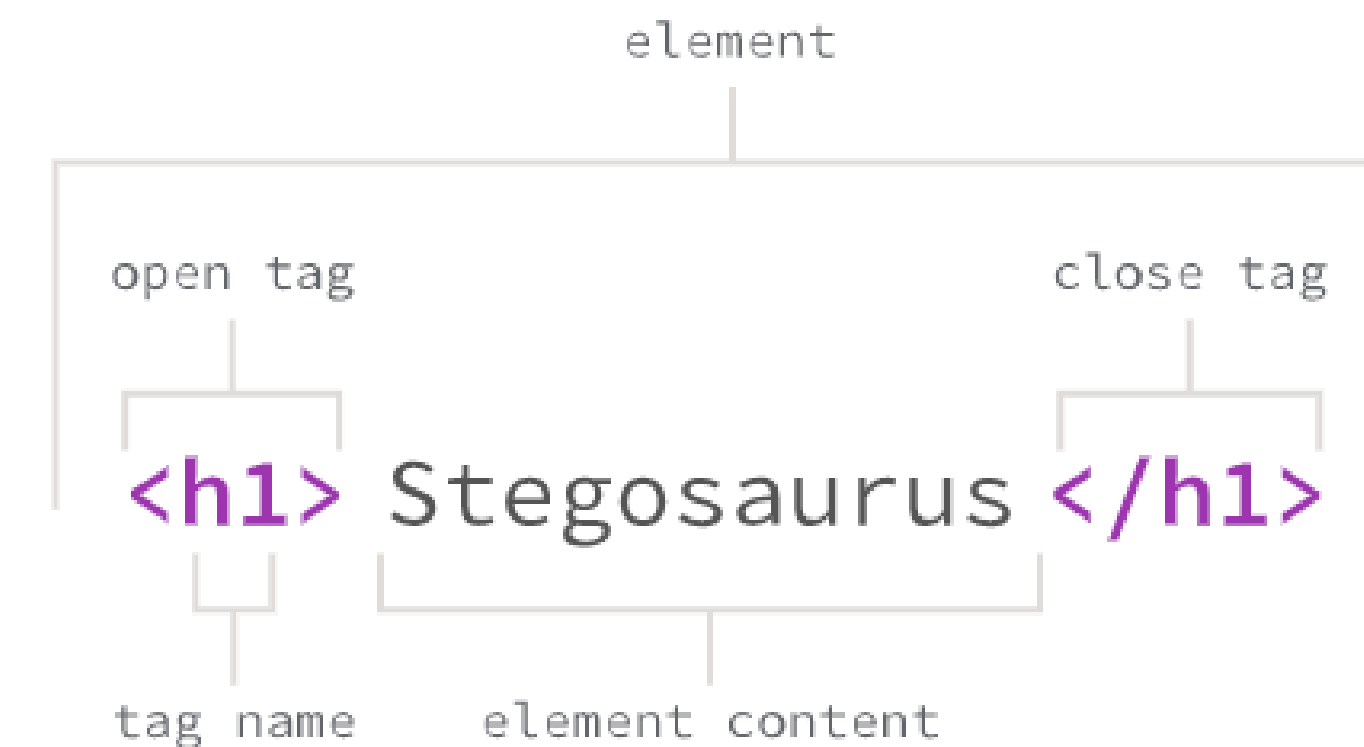# Introduction to HTML, CSS, & Web Patterns

What is HTML?

Hypertext Markup Language (HTML)

- The foundation of all web pages

- It provides the content for the web page and provides context for the content

- It can link to external pages and load in resources such as stylesheets and scripts

- It can function by itself without need of other languages, but is improved by them

Tags

- Used to display and organize content

- Allows us to provide context to the browser for content

  Ex: Stegosaurus is the main heading

- Most tags consist of an open and close tag with content (and more tags) in between

Semantics AKA What Tags to Use

- It is important to use the correct tag to provide the proper context for the browser

  - Accessibility, SEO, readability, organization

- Do **not** use tags for styling (ex: `<i>` is not the italics tag)

- Helpful references for proper semantics

  - MDN: HTML Elements Reference

  - Learn the Web: HTML Semantics Cheat Sheet

Attributes

- Most tags have attributes

- The attributes generally define extra properties that aren't specifically visible.

  Ex: the <a> tag must have an attribute named href that points to the URL the link will navigate to.

Self Closing Tags

- Some tags don't have a close tag— only and open tag. These are called self-closing tags.

self-closing tag

`<img src="images/pteranodon.jpg" alt="Pteranodon">`

multiple attributes

- A `<img>` tag is an example: it's only an open tag with a few attributes that define the image to display at that location.

Sample Navbar

```html
<header>
  <h1>Titanosaur</h1>
  <img src="images/titanosaur.jpg" alt="Titanosaur skeleton">
  <p>The heaviest creatures ever to walk the earth.</p>
  <nav>
    <ul>
      <li><a href="#desc">Description</a></li>
      <li><a href="#paleo">Paleobiology</a></li>
      <li><a href="#tax">Taxonomy</a></li>
    </ul>
  </nav>
</header>
```

What is HTML?

View Source

How to View Page Source Code

- Right click and select "View Page Source" or use shortcut `command + option + u`

  - This will open a new tab showing the HTML source code for the webpage.

- Right click and select "Inspect" or use shortcut `command + option + i`

  - This will open the developer tools. If you use the right click option, it will bring you directly to the element you clicked on in the elements tab

What is CSS?

Cascading Style Sheets (CSS)

- Provides styling (design) for our webpages

  - Colors, fonts, layout, visibility, size, transforms, animations, and more!

- It doesnt understand our content, it simply presents it

- Cascading means that each line of code is applied in order and will override previously lines of code that conflict
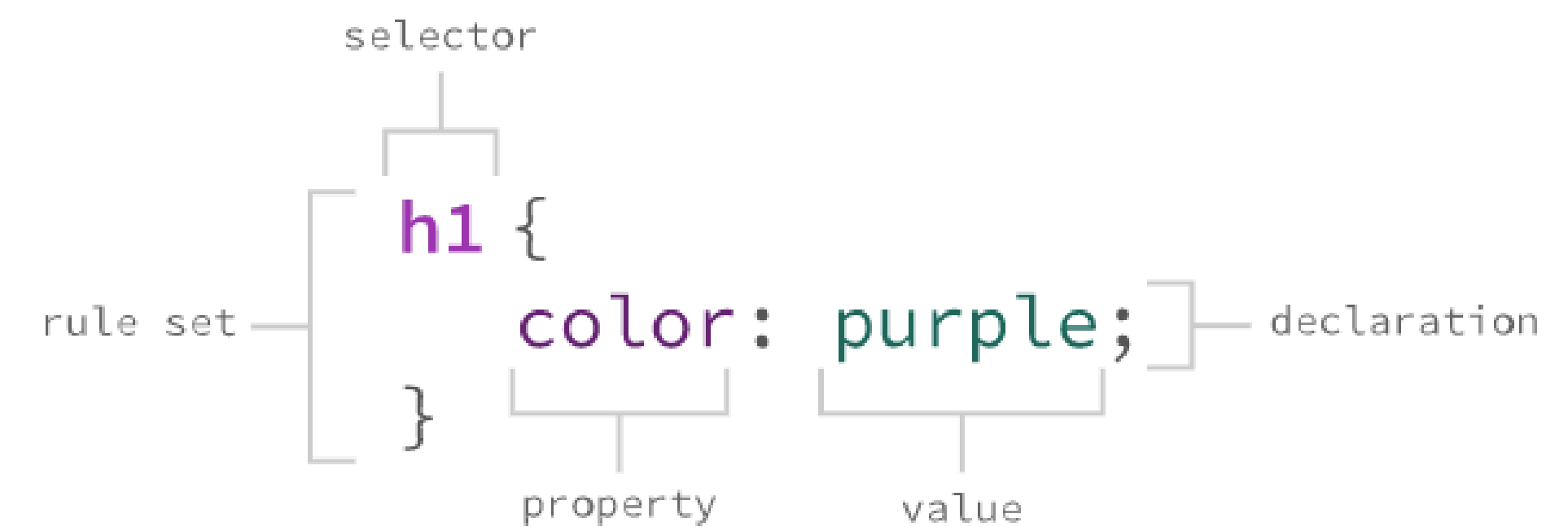
  Ex: If I set the color of all <p> tags on line 34 to orange and then set the <p> color to blue on line 65, the <p> tags will be colored blue as that rule came second.

Ruleset

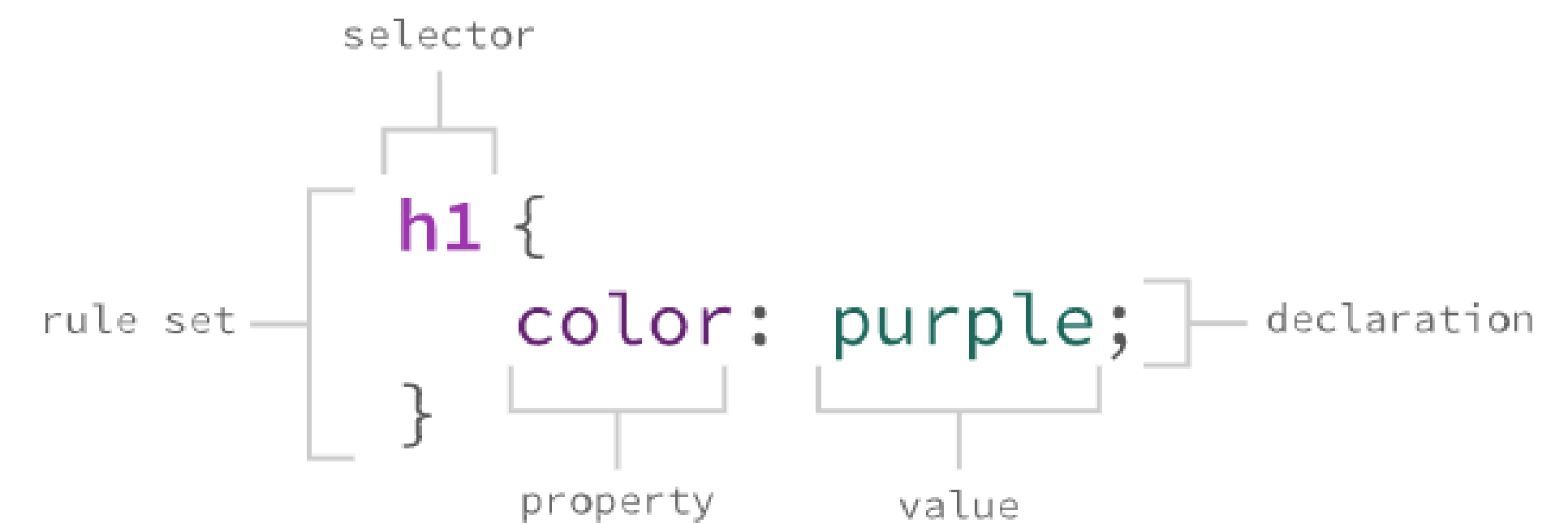A grouping of CSS propreties that change how elements look.

Selector: The piece of code that tells the CSS which HTML element should be targeted.

Declaration: A line of CSS that changes the look of an element.

```
                    selector

              h1 {
rule set          color: purple;      declaration
              }
               property      value
```

Property: A defined set of attributes about the look of HTML that can be changed.

Value: What that attribute's style will be changed to. A value can be a predefined keyword (purple) or an amount (5rem) depending on the property.

selector

rule set

```
h1 {
    color: purple;
}
```

declaration

property

value

CSS Selectors

- How we choose which HTML element to apply the styles to

- Selectors can target either one single element, or multiple

- Make sure to be specific when selecting an element to make sure you do not accidentally apply styles to the wrong element!

- Check out this CSS Selectors reference guide

VS Code

Introduction to VS Code

- Let's take a quick tour of VS Code!

- Check out Steve's <u>Get Started with VS Code</u> video

- Don't forget to practice your <u>keyboard shortcuts</u>!

  - And test your skills <u>here</u>

Emmet

- A default plug-in in VS Code that allows you to quickly add large amounts of code with less keystrokes

- Check out the documentation for helpful tips and tricks

Live Server

- A plug-in that provides a quick and easy to set up server to view your web page

- To start the server, open your HTML file, right click inside of the file and select "Open with Live Server"

- To stop the server, right click inside of the HTML file and select "Stop Live Server" or click the stop button at the bottom of the window

What Are
Web Patterns?

Web Patterns

- A web pattern is a term referring to designed elements on a web page

- Common examples of patterns include navigation bars, cards, banners, forms, etc.

- It is common to create a library of patterns that can be reused throughout a website

  - Some examples:
    US Web Design System, MailChimp, Bootstrap

The in-class activities and assignments over the course of the semester will create a number of web patterns that can be used together like a mini pattern library.