Diploma in Web Development – Part I

Lesson 3

What is the Front-End?

Presented by:
Julian Quirke
Web Development Educator

Lesson 2 Recap

How Do Websites Work?

- Websites & Web Applications
- Components of a Web Application
- Delivering Websites to a Browser

- Summary
- Q&A

Today's Lesson

What is the Front-End?

- HTML: A Container for Content
- CSS: The Language of Web Design
- JavaScript: For Dynamic Interactivity

- Summary
- Q&A

Let's Begin!

HTML: A Container for Content

HyperText Markup Language

HTML: A Container for Content

HyperText Markup Language

is a standardised system for tagging text files to **allow** font, colour, hyperlink, and other effects on web pages

HTML: A Container for Content

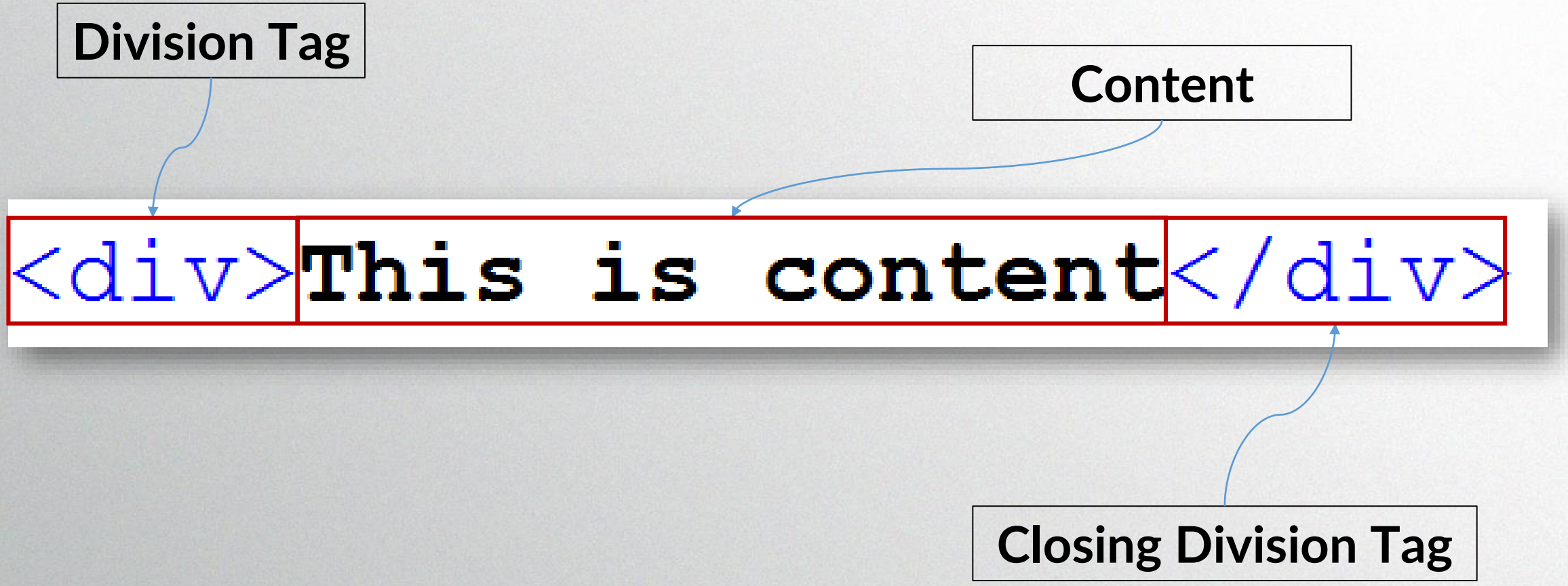
HTML: A Container for Content

- A HTML document can be separated into the **head** and **body**
  - The head contains information about the document (metadata)
  - The body contains the contents of the HTML document

HTML: A Container for Content

- Tags help describe different kinds of content
  - **Content** includes text, video, images, etc
- A HTML **element** is the HTML opening tag, content, and closing tag
- **Nesting** is when an element has another element inside it

HTML: A Container for Content



HTML: A Container for Content


```
<div>This is content</div>
```

Division Element

HTML: A Container for Content


```
<div>
    <p>Paragraph content</p>
</div>
```

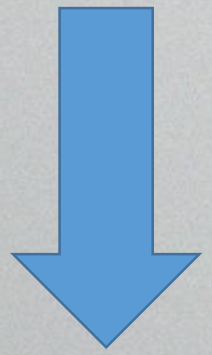
Paragraph Element
(Nested in a division element)

HTML: A Container for Content


```
<div>
    <p><a>Anchor Content</a></p>
</div>
```

Anchor Element
(Nested in a paragraph element)

HTML: A Container for Content



```
<div>
    <p><a>Paragraph content</a></p>
</div>
```

HTML: A Container for Content

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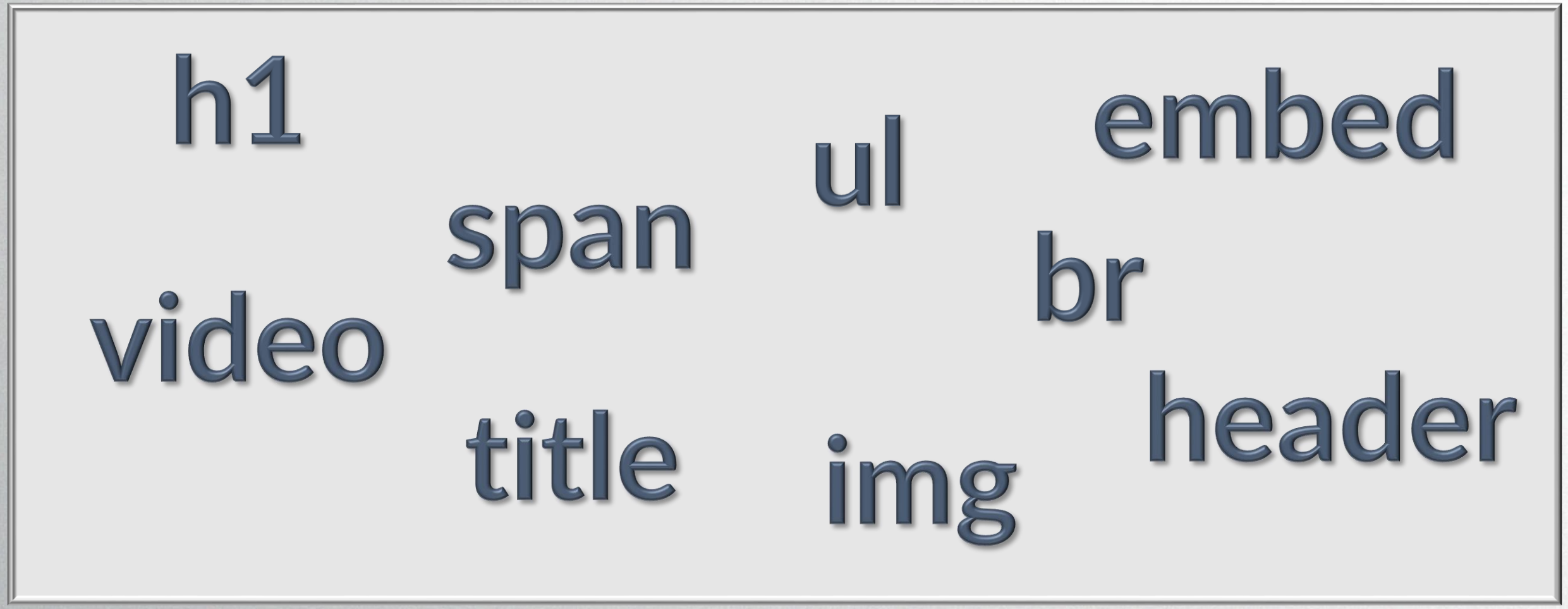
Other Common HTML Tags



HTML: A Container for Content

Attributes give a browser more information about a HTML element

- Written inside the opening tag of a HTML element
- Global & Element-Specific

HTML: A Container for Content


```
<a>Shaw Academy</a>
```

Insert an attribute here

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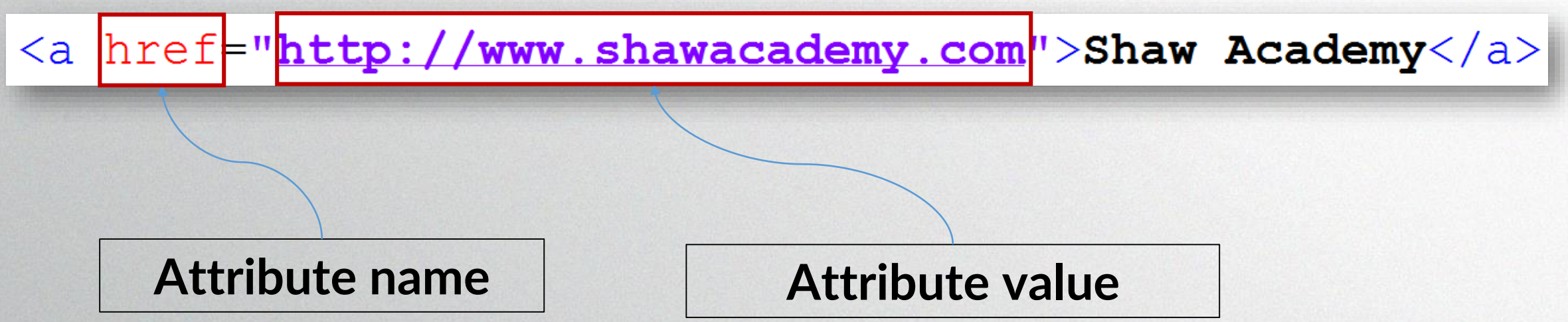
HTML: A Container for Content



HTML: A Container for Content

Other Common HTML Attributes

src

id

class

style

name

onclick

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Cascading StyleSheets

Cascading StyleSheets

describe how HTML elements are to be displayed on a user's browser

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CSS: The Language of Web Design

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Cascading StyleSheets

describe how HTML elements are to be displayed on a user's browser

Determines the COLOURS, **FONT**, layout

and much, much, more!

CSS: The Language of Web Design

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CSS: The Language of Web Design

Responsible for:

- All visual aspects of content

  (e.g. font, colour, text-size, visibility)

- All HTML element layouts

  (e.g. position, size, overlap)

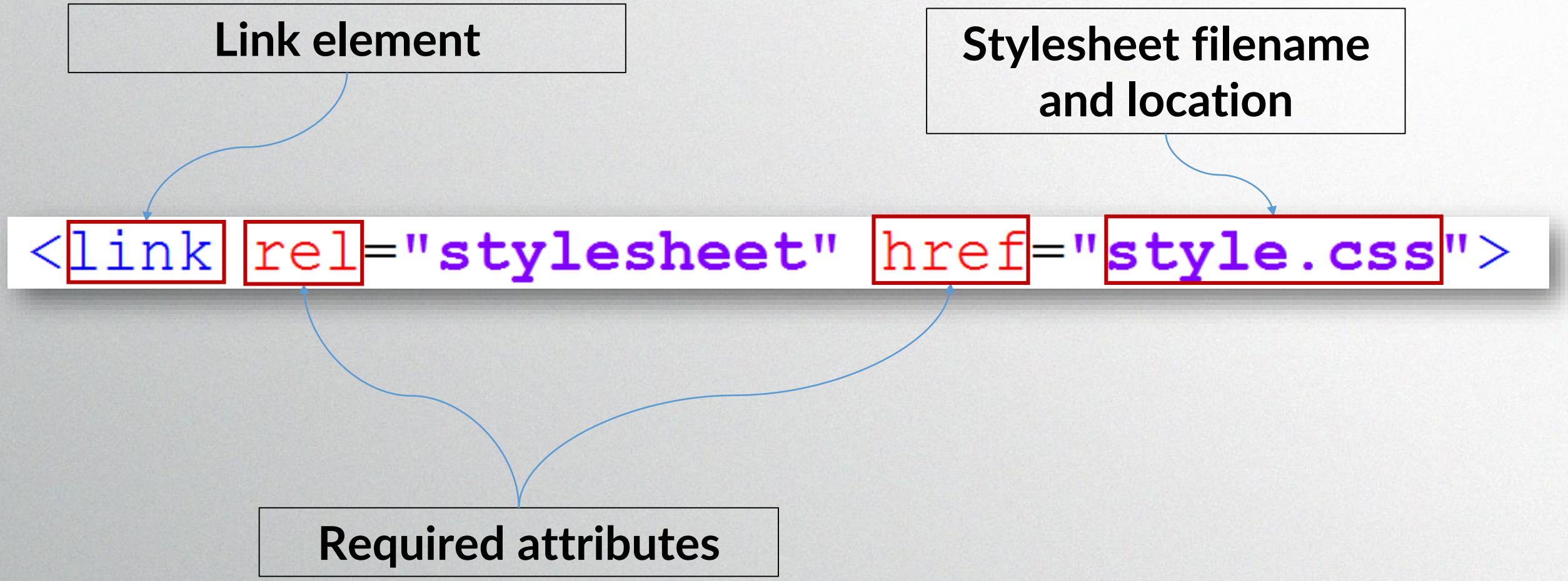
CSS: The Language of Web Design

CSS can be added to a HTML document in 3 ways:

- **Inline**: Directly into the value for the style attribute of an element
- **Internal**: Inside a "**style**" element

  External: using a "**link**" element with rel and href attributes (recommended)

CSS: The Language of Web Design



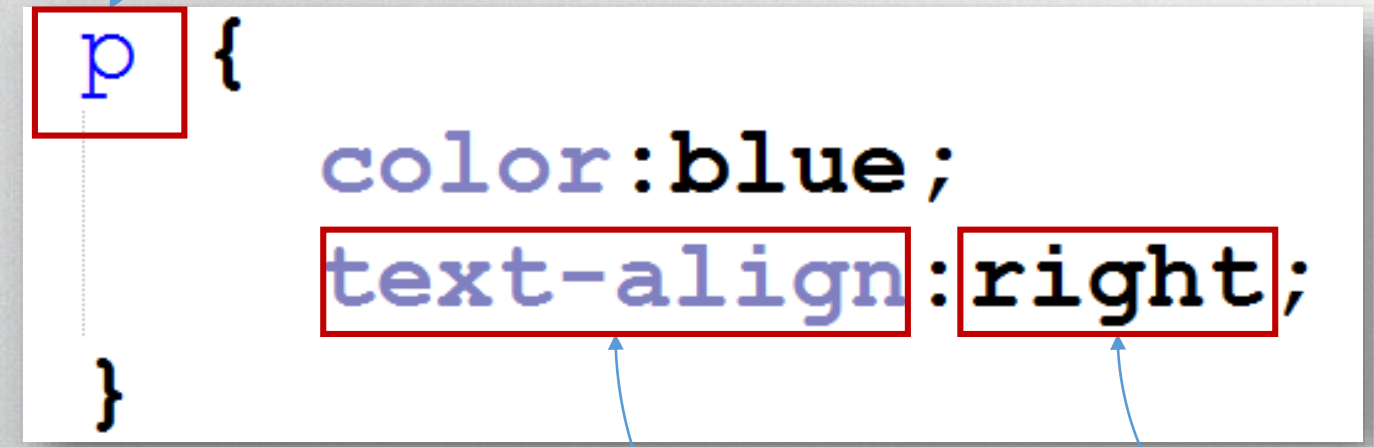
CSS: The Language of Web Design

To affect a HTML element or elements:

1. Select the element or elements using a CSS **selector**
2. Choose the CSS **property** to change
3. Set your property to a chosen **value**

CSS: The Language of Web Design

Selector
(element / .class / #id)



Property

Value

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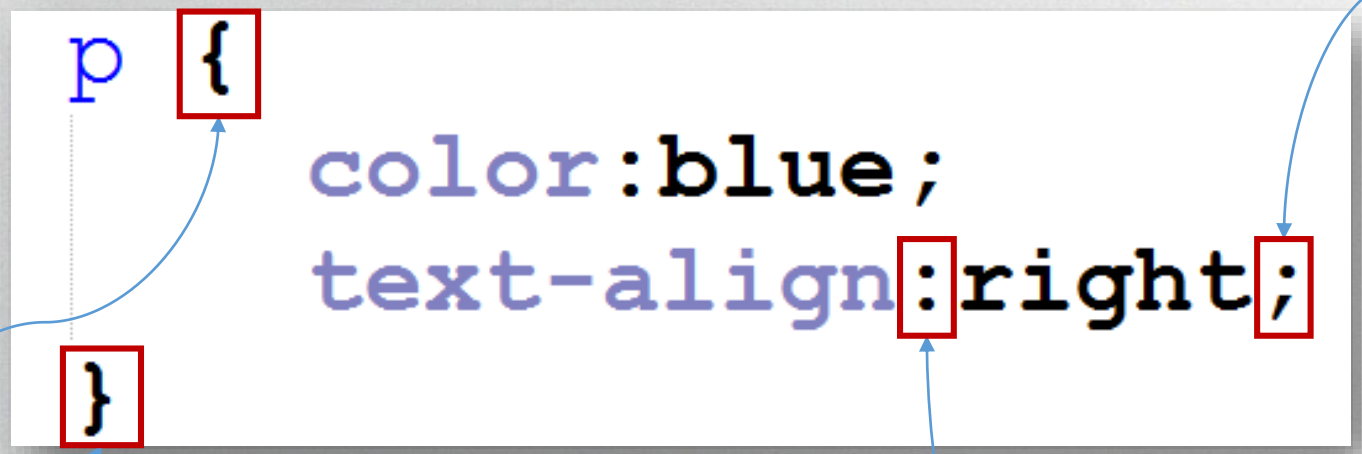
Syntax



Semicolons denote the end of a statement

Property-Value pairs for a given selector are enclosed in curly braces

Colons separate properties and values

JavaScript: For Dynamic Interactivity

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JavaScript

JavaScript: For Dynamic Interactivity

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JavaScript: For Dynamic Interactivity

JavaScript

is a scripting language commonly used to handle events and create responsive interaction within web browsers

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JavaScript: For Dynamic Interactivity

- Gives a browser instructions
- Can perform any action allowed by the browser
- Developer's instructions must be explicit
  - **What** data to access/change
  - **When** actions are to be performed

JavaScript: For Dynamic Interactivity

JavaScript can be added to a HTML document in 3 ways:

- **Inline**: Directly into the value for an event attribute of an element
- **Internal**: Inside a "script" element
- **External**: using a "script" element with an src attribute (recommended)

JavaScript: For Dynamic Interactivity

How to Handle an Event

1. Listen for the event trigger
   - User Input:
     - Button is pressed
     - User is typing
     - Mouse hover
   - Computer Event:
     - Page has loaded
     - Time has passed

JavaScript: For Dynamic Interactivity

How to Handle an Event

2. Respond appropriately

- Send a server request

  (and handle the response)
- Do some calculations
- Update HTML document
- Much, much more!

JavaScript: For Dynamic Interactivity

- Kind of Information == Datatype
  - String
  - Number
  - Boolean
- Information is stored in Variables
- Execute instructions == **Call** a function

JavaScript: For Dynamic Interactivity

Variables

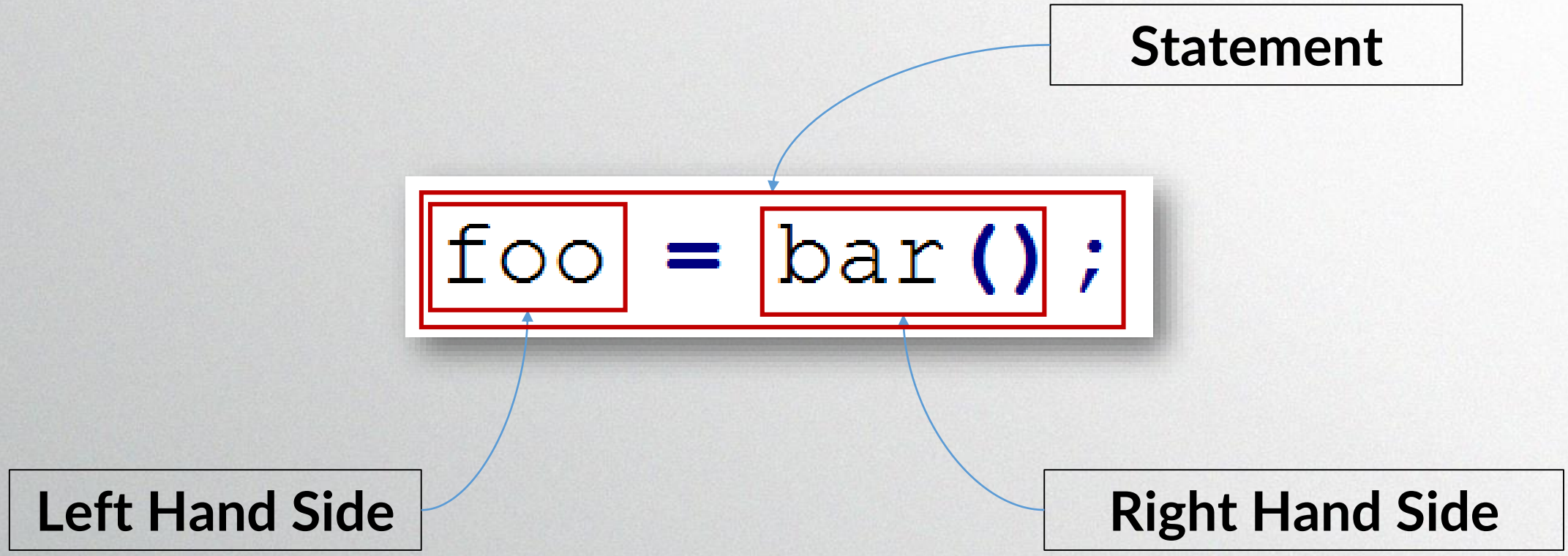
- Declare with the **var** keyword
- Can store any datatype
- **Call** by naming the variable
- Reusable / Modifiable

JavaScript: For Dynamic Interactivity

Function

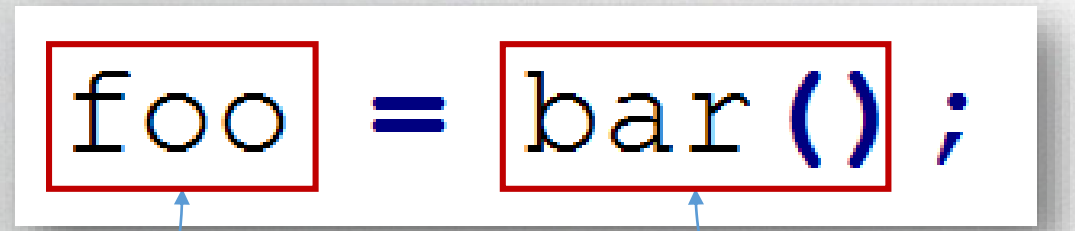
- Declare with the **function** keyword
- **Call** by naming the function
- Reusable / Modifiable

JavaScript: For Dynamic Interactivity



JavaScript: For Dynamic Interactivity

Syntax

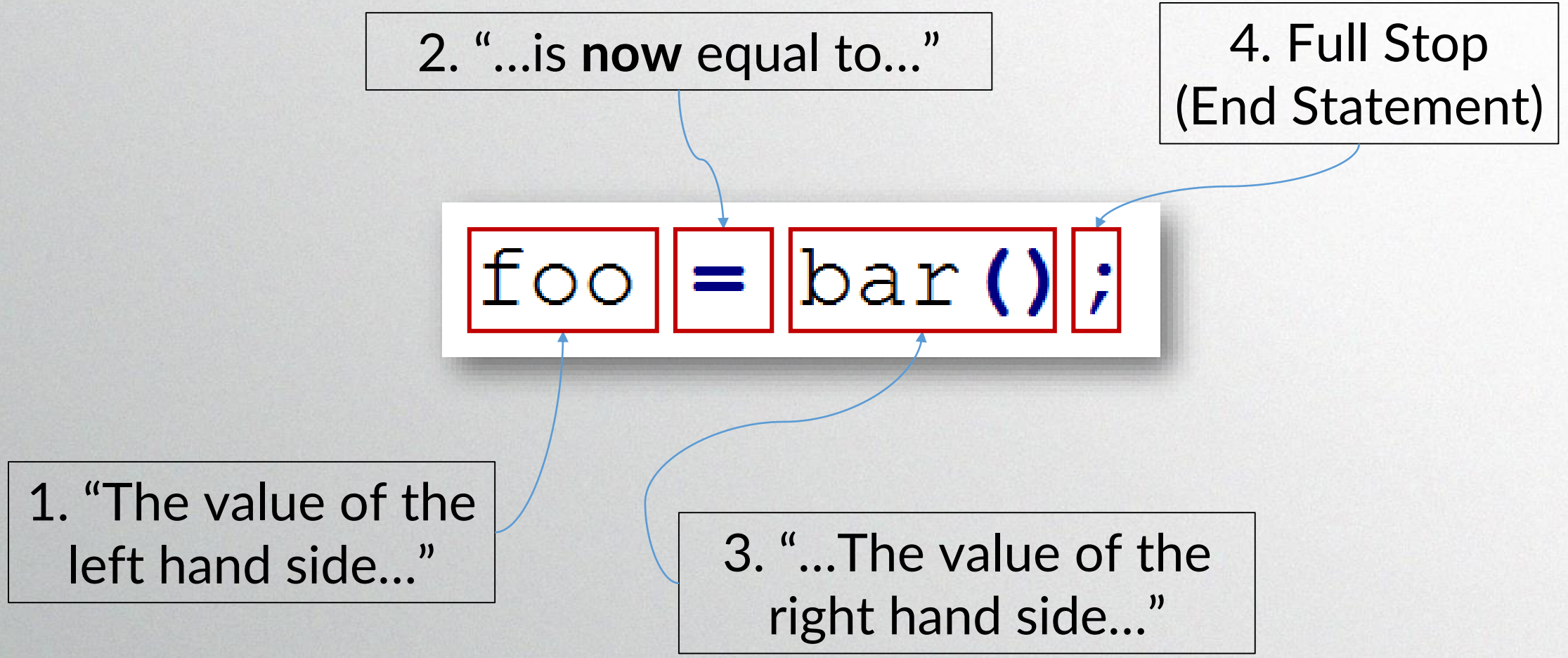


Variable

Function

JavaScript: For Dynamic Interactivity

Syntax



Summary

What is the Front-End?

- ✓ HTML: A Container for Content
- ✓ CSS: The Language of Web Design
- ✓ JavaScript: For Dynamic Interactivity

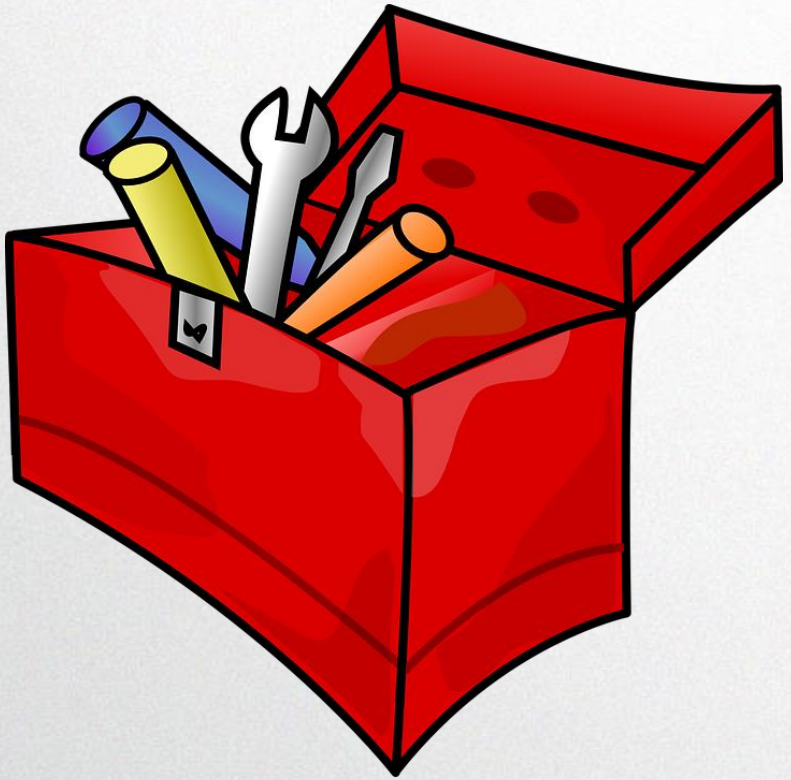
- ➢ Summary
- ➢ Q&A

Today's Toolkit Lesson

Creating Your First HTML Document

- The HTML5 Template
- Common HTML Elements
- Preparing for CSS and JavaScript

- (Recommended: Toolkit Bonus 1)



Next Lesson

- The next session is **"What is the Back-End?"**
  - Back-End Languages
  - Persistent Storage
  - Introduction to SQL
  - Toolkit Bonus 3: **Styling Your Webpage with CSS**

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Q&A

Next Lesson is

What is the Back-End?

- An in-depth look at the technologies and languages used to build the “brain” of a web application
- You will understand the purpose and make-up of Back-End Languages and Databases