Front End
Software Development

Front End Technologies (weeks 7 - 12)

Week 04

Agenda

- Questions
- Document Object Model (DOM)
- Finding Elements in the DOM
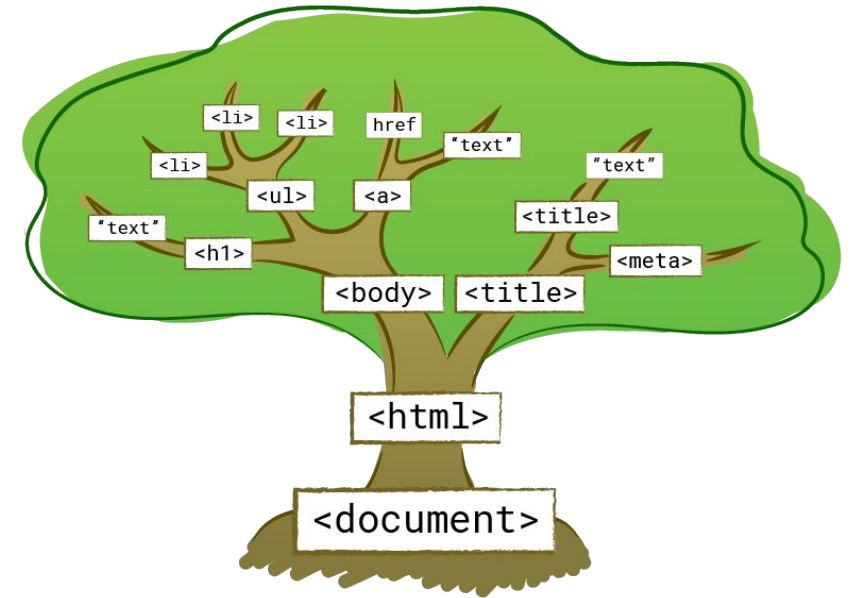- Finding Elements by CSS Selectors
- Interacting with the DOM

Questions

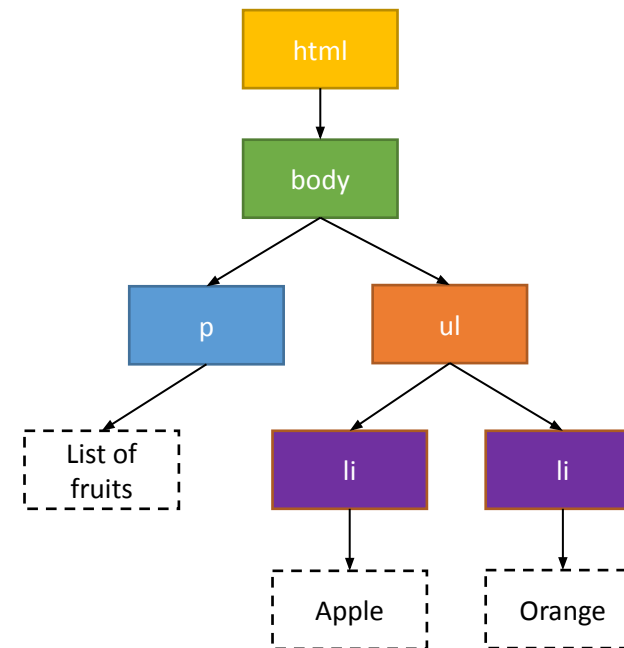# Document Object Model
(DOM)

- Tree Hierarchy

- Elements / Nodes

  Node refers to HTML, text & comments. Whitespace between elements are text nodes.

  - Parent
  - Child*(ren)*
  - Sibling

```html
<html>
<body>
    <p>List of fruits</p>
    <ul>
        <li>Apple</li>
        <li>Orange</li>
    </ul>
</body>
</html>
```

Finding Elements
(DOM)

- Locate By Id
  *Note: **id** is unique. Only one per page.*

  ```
  <p id="welcome">Hello</p>

  document.getElementById('welcome');
  ```

- Locate By Type
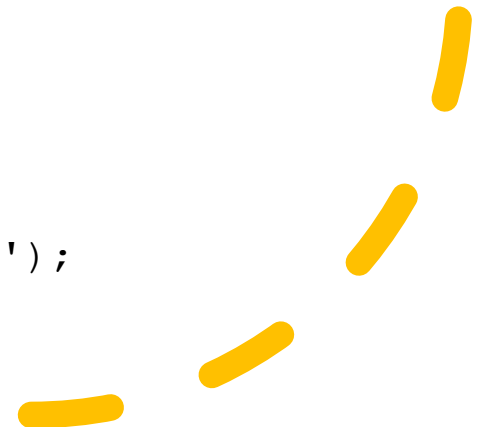 *Note: Can return multiple items.*

  ```
  <p>Hello</p>

  document.getElementsByTagName('p');
  ```

- Locate By Class
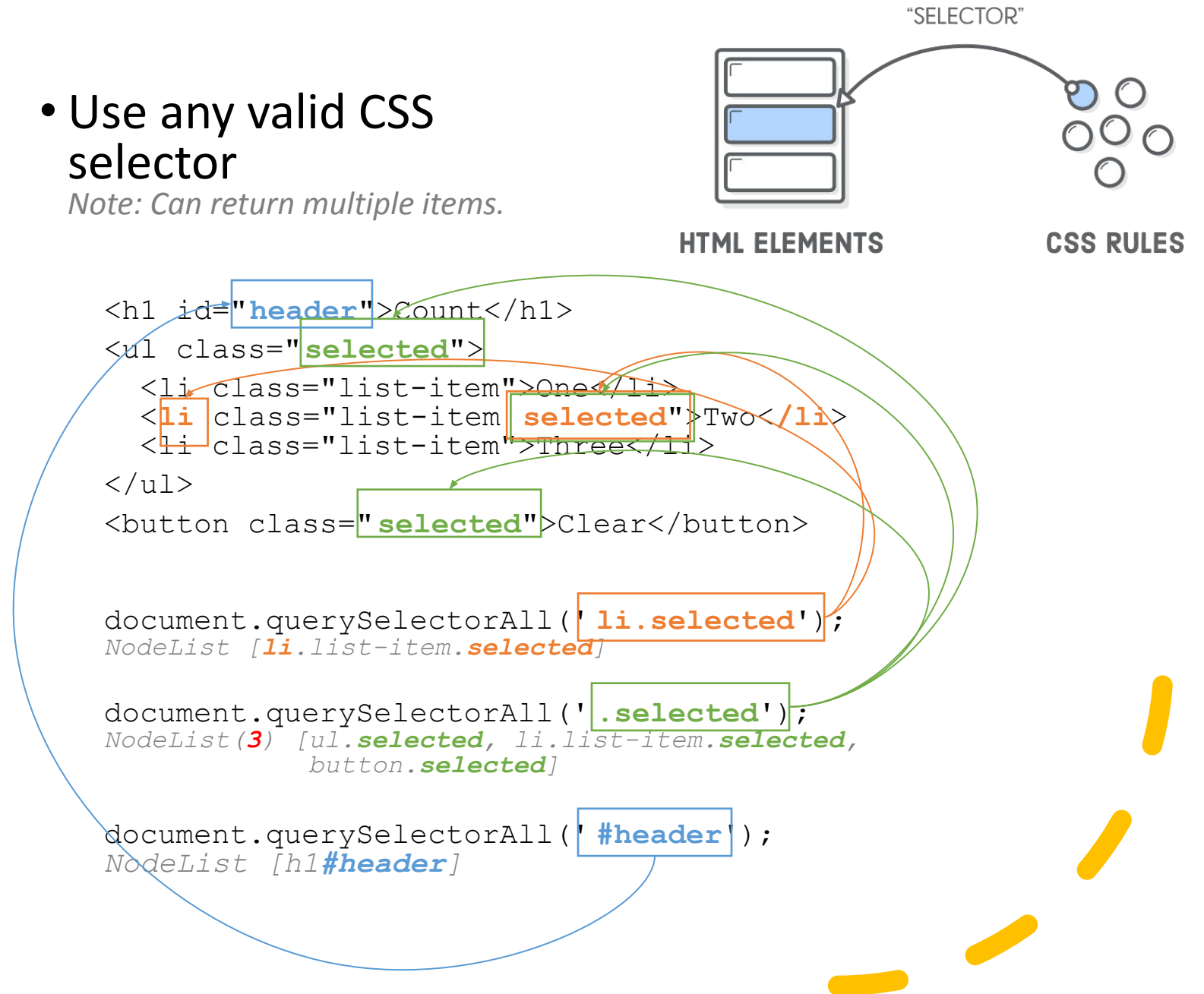 *Note: Can return multiple items.*

  ```
  <div class="link">Hello</div>
  <a href="#" class="link">Hello</p>

  document.getElementsByClassName('link');
  ```

Finding Elements
(CSS Selectors)

- Use any valid CSS selector

  Note: Can return multiple items.

"SELECTOR"

HTML ELEMENTS   **CSS RULES**

```
<h1 id="header">Count</h1>
<ul class="selected">
  <li class="list-item">One</li>
  <li class="list-item selected">Two</li>
  <li class="list-item">Three</li>
</ul>
<button class="selected">Clear</button>


document.querySelectorAll('li.selected');
NodeList [li.list-item.selected]


document.querySelectorAll('.selected');
NodeList(3) [ul.selected, li.list-item.selected,
             button.selected]


document.querySelectorAll('#header');
NodeList [h1#header]
```

Interacting

- Properties
  - innerHTML
  - outerHTML
  - innerText
  - textContent
  - attributes
  - childNodes vs. children
  - parentNode
  - style

- Methods *(Action / Cause)*
  - click()
  - blur()
  - focus()
  - getAttribute()
  - addAttribute()
  - removeAttribute()
  - removeChild()
  - createElement()
  - appendChild()
  - addEventListener()

- Events *(Effect)*
  - *click*
  - *dblclick*
  - *change*
  - *blur*
  - *focus*
  - *mouseover*
  - *keypress*
  - *... (lots more)*
  - *<custom>*

*Note: This is not a complete list. There are **MANY** more!*

DEMO

DOM Interaction
(Actions & Events)