Front End Technologies
CSS - Day 8

Agenda

- **Pseudo classes**

Pseudo-classes: A pseudo-class can be defined as a keyword which is combined to a selector that defines the special state of the selected elements. It is added to the selector for adding an effect to the existing elements based on their states. A pseudo-class starts with a colon **(:).**

There are three types of pseudo-classes available:

- Tree structural based pseudo-classes
- Dynamic pseudo classes
- UI States pseudo classes

Tree structural based pseudo-classes: CSS structural pseudo classes are part of the CSS pseudo classes. Let's understand different CSS structural pseudo classes with an examples.

- **Only-child pseudo class:** Selects a specified element if it is the only child element under the parent element.

Example: selects elements when they are the only child element of another element.

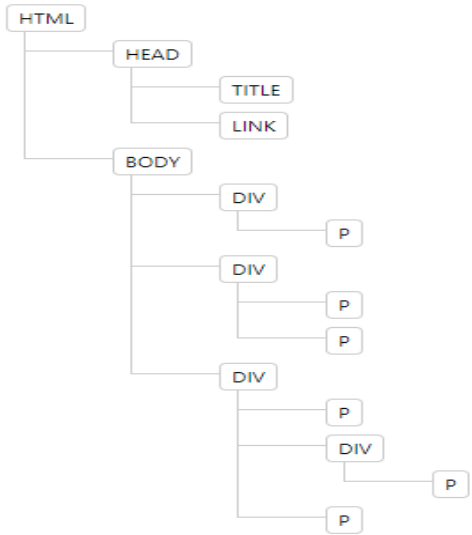
Index.html

```
<!DOCTYPE html>
<html>
<head>
    <title>Example</title>
    <link rel="stylesheet" type="text/css" href="index.css">
</head>
<body>
    <div>
        <p>Only Child p</p>
    </div>
    <div>
        <p>First Child p</p>
        <p>Second Child p</p>
    </div>
    <div>
        <p>First Child p</p>
        <div>
            <p>Only Child p</p>
        </div>
        <p>Second Child p</p>
    </div>
</body>
</html>
```

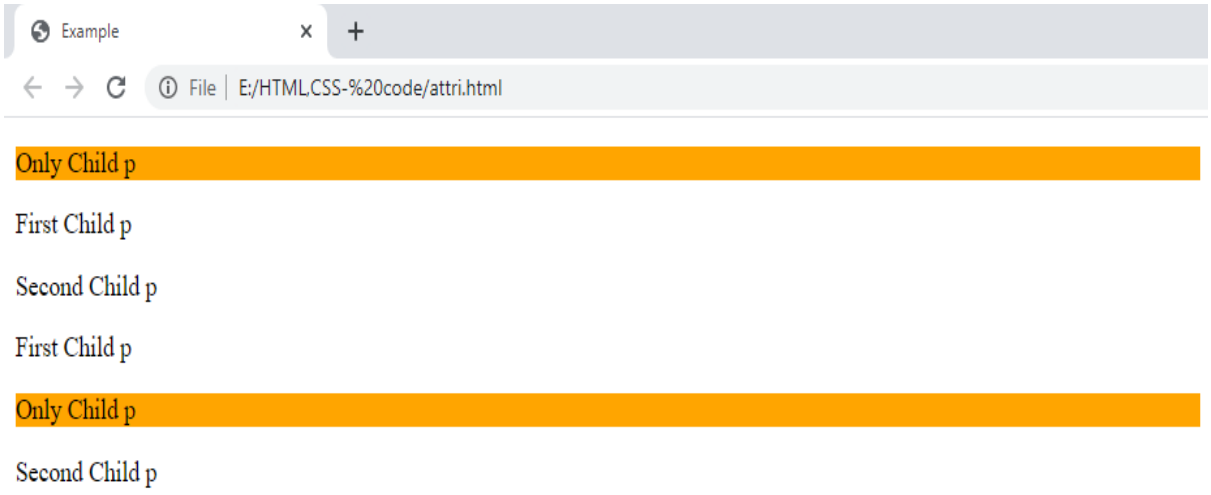
Index.css

```
p:only-child{
    background-color: orange;
}
```

Tree representation:



Output:



Example: To add a border to any image that's the only child of another element.

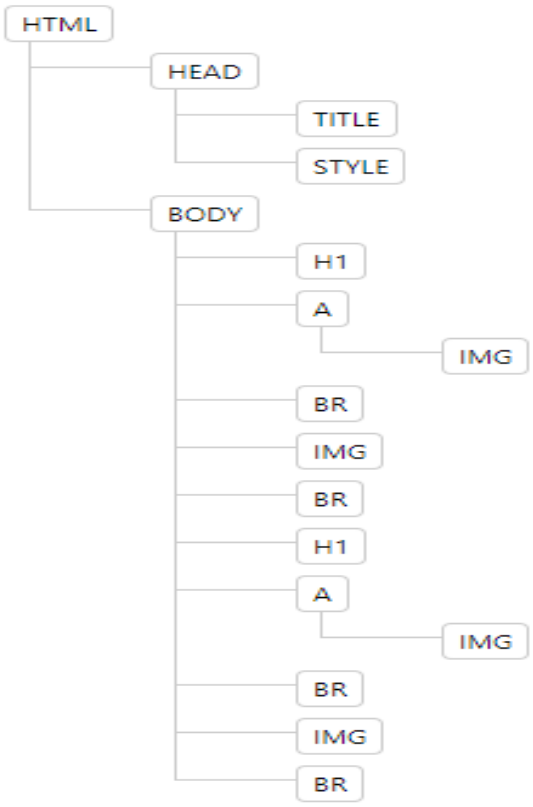
Index.html

```
<!DOCTYPE html>
<html>
<head>
    <title>Example</title>
    <style type="text/css">
        img:only-child{
            border:2px solid red;
        }
    </style>

</head>
<body>
    <h1>Java</h1>
    <a href="https://en.wikipedia.org/wiki/Java_(programming_language)"><img src="java.jpg" width="255" width="255"></a><br>
    <img src="james.jpg" width="255" width="255"><br>

    <h1>Python</h1>
    <a href="https://en.wikipedia.org/wiki/Python_(programming_language)"><img src="python.jpg" width="255" width="255"></a>
    <br>
    <img src="gudio.jpg" width="255" width="255"><br>
</body>
</html>
```

Tree Representation:



Output:

Java

Python

Example: To select any image that's the only-child and is direct child of an element.

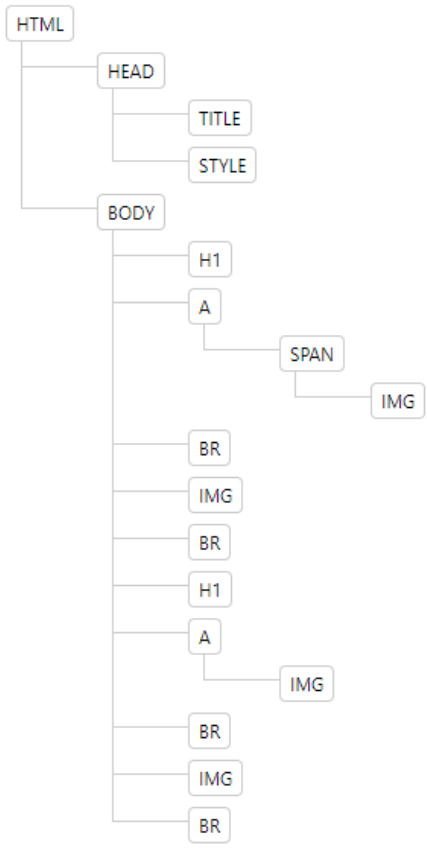
Index.html

```
<!DOCTYPE html>
<html>
<head>
    <title>Example</title>
    <style type="text/css">
        a[href] > img:only-child{
            border:2px solid red;
        }
    </style>

</head>
<body>
    <h1>Java</h1>
    <a href="https://en.wikipedia.org/wiki/Java_(programming_language)">
        <span>
            <img src="java.jpg" width="255" width="255">
        </span>
    </a><br>
    <img src="james.jpg" width="255" width="255"><br>

    <h1>Python</h1>
    <a href="https://en.wikipedia.org/wiki/Python_(programming_language)"><img src="python.jpg" width="255" width="255"></a>
    <br>
    <img src="gudio.jpg" width="255" width="255"><br>
</body>
</html>
```

Tree representation:



Output:

Java

Python

- **Only-of-type pseudo class:** Selects a specified child element if it is the only child element of its type under the parent element.

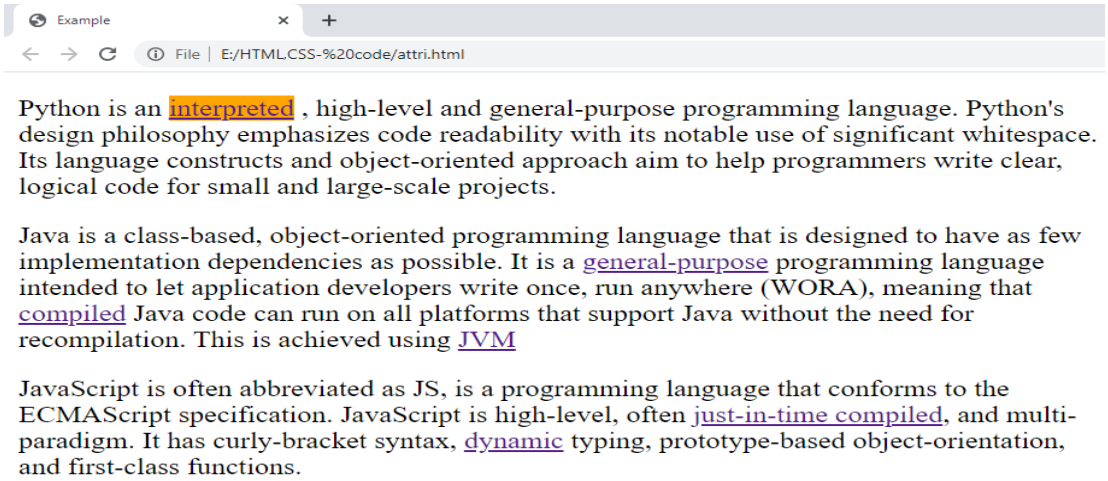
Example:

Index.html

```
<!DOCTYPE html>
<html>
<head>
    <title>Example</title>
    <style type="text/css">
        a:only-of-type{
            background-color: orange;
        }
    </style>

</head>
<body>
    <div>
        <p>Python is an <a href="https://en.wikipedia.org/wiki/Interpreted_language">interpreted</a>
        , high-level and general-purpose programming language. Python's design philosophy emphasizes code readability with
        its notable use of significant whitespace. Its language constructs and object-oriented approach aim to help
        programmers write clear, logical code for small and large-scale projects.</p>
    </div>
    <div>
        <p>Java is a class-based, object-oriented programming language that is designed to have as few implementation
        dependencies as possible. It is a <a href="https://en.wikipedia.org/wiki/General-purpose_language">general-purpose</a
        > programming language intended to let application developers write once, run anywhere (WORA), meaning that <a href="
        https://en.wikipedia.org/wiki/Compiler">compiled</a> Java code can run on all platforms that support Java without
        the need for recompilation. This is achieved using <a href="https://en.wikipedia.org/wiki/Java_virtual_machine">JVM</
        a></p>
    </div>
     <div>
         <p>JavaScript is often abbreviated as JS, is a programming language that conforms to the ECMAScript specification.
         JavaScript is high-level, often <a href="https://en.wikipedia.org/wiki/Just-in-time_compilation">just-in-time
         compiled</a>, and multi-paradigm. It has curly-bracket syntax, <a href="https://en.wikipedia.org/wiki/
         Type_system#DYNAMIC">dynamic</a> typing, prototype-based object-orientation, and first-class functions.</p>
     </div>
 </body>
 </html>
```

Output:



- **First-child:** Selects first child element under the parent element when first child element is a specified element.

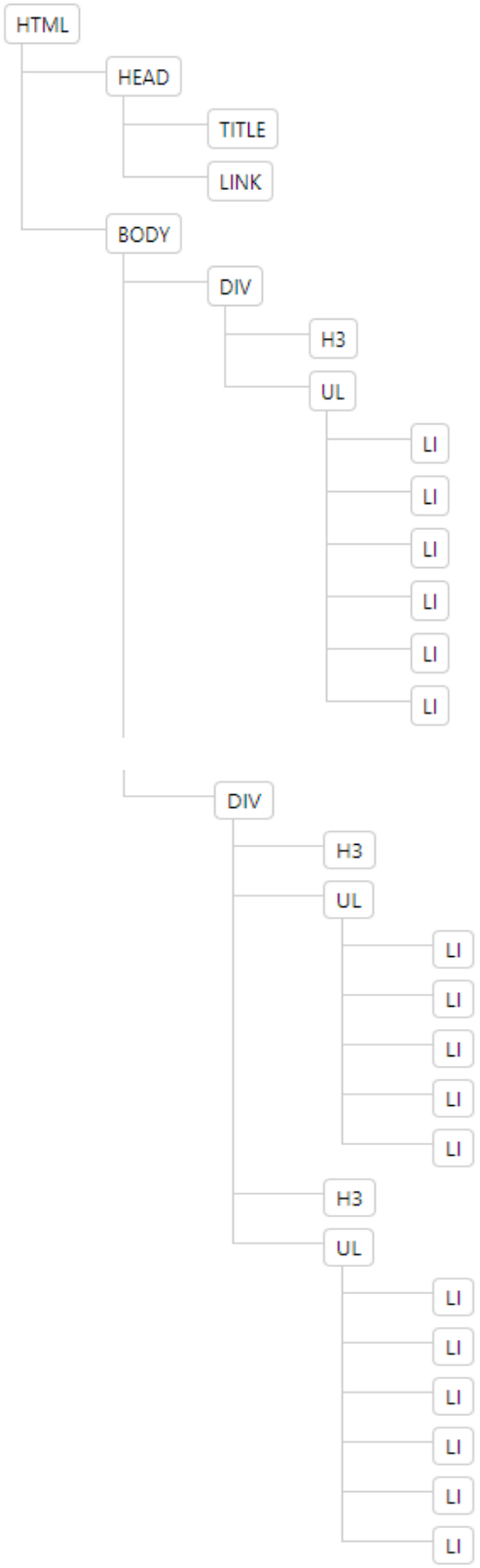
Example:

Index.html

```
<!DOCTYPE html>
<html>
<head>
    <title>Example</title>
    <link rel="stylesheet" type="text/css" href="index.css">

</head>
<body>
    <div>
        <h3>Popular languages</h3>
        <ul>
            <li>C</li>
            <li>Java</li>
            <li>Python</li>
            <li>C++</li>
            <li>C#</li>
            <li>JavaScript</li>
        </ul>
    </div>
      <div>
          <h3>Popular Framework</h3>
          <ul>
              <li>Spring</li>
              <li>Django</li>
              <li>Node.JS</li>
              <li>.NET Core</li>
              <li>Flask</li>
          </ul>
          <h3>Highest Paying Jobs</h3>
          <ul>
              <li>Devops Engineer</li>
              <li>Full Stack Developer</li>
              <li>Data Scientist</li>
              <li>AI-ML Engineer</li>
              <li>Cloud Engineer</li>
              <li>Cyber Security Expert</li>
          </ul>
      </div>
 </body>
 </html>
```

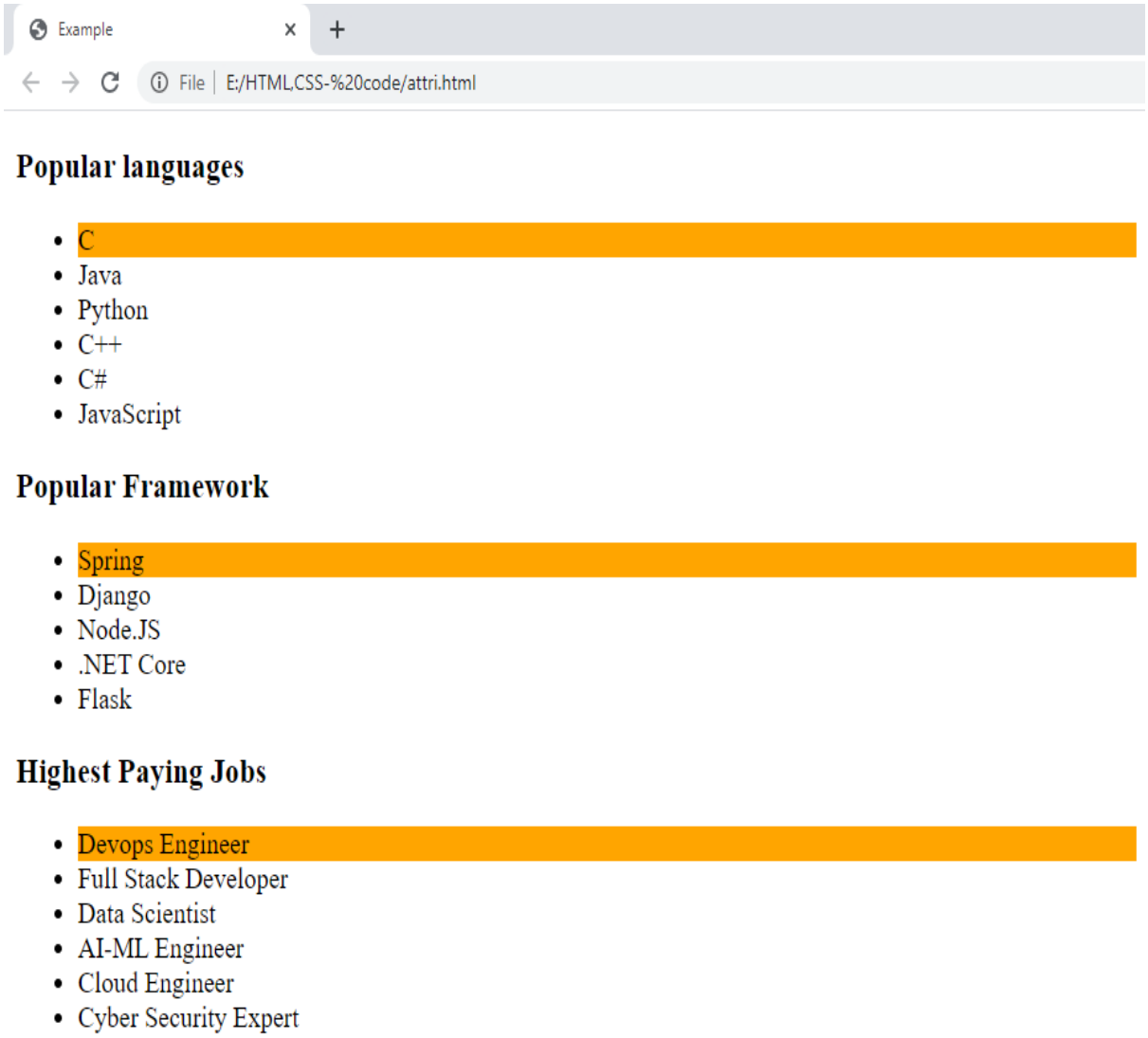
Tree Representation:



Index.css

```
li:first-child{
    background-color: orange;
}
```

Output:



- **Last-child:** Selects last child element under the parent element when last child element is a specified element.

Example:

Index.html

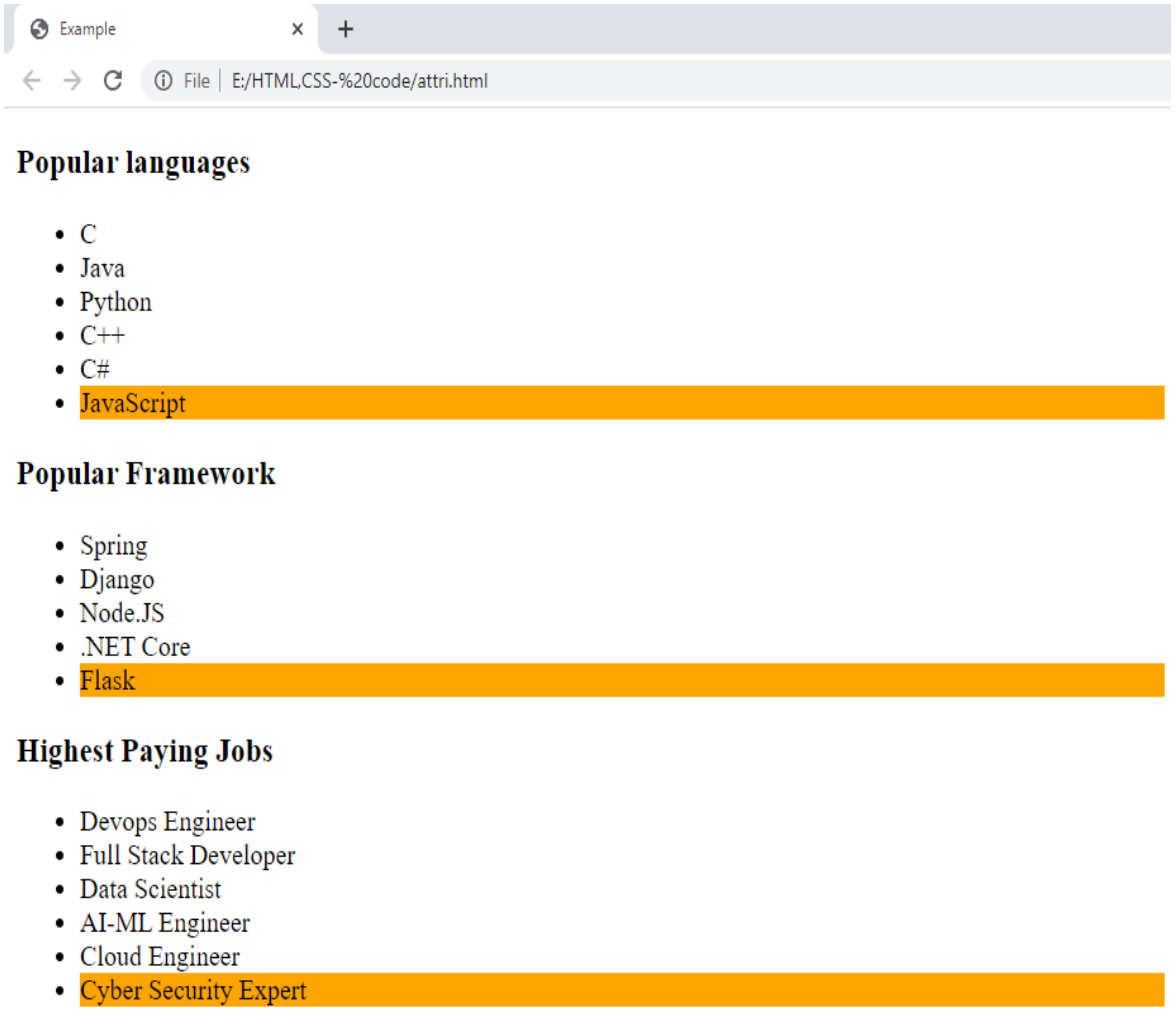
```
<!DOCTYPE html>
<html>
<head>
    <title>Example</title>
    <link rel="stylesheet" type="text/css" href="index.css">

</head>
<body>
    <div>
        <h3>Popular languages</h3>
        <ul>
            <li>C</li>
            <li>Java</li>
            <li>Python</li>
            <li>C++</li>
            <li>C#</li>
            <li>JavaScript</li>
        </ul>
    </div>
      <div>
          <h3>Popular Framework</h3>
          <ul>
              <li>Spring</li>
              <li>Django</li>
              <li>Node.JS</li>
              <li>.NET Core</li>
              <li>Flask</li>
          </ul>
          <h3>Highest Paying Jobs</h3>
          <ul>
              <li>Devops Engineer</li>
              <li>Full Stack Developer</li>
              <li>Data Scientist</li>
              <li>AI-ML Engineer</li>
              <li>Cloud Engineer</li>
              <li>Cyber Security Expert</li>
          </ul>
      </div>
 </body>
 </html>
```

Index.css

```
li:last-child{
    background-color: orange;
}
```

Output:



- **nth child:** Using nth child you can select elements that are the first, last, or only children of other elements. Let's understand how this nth- child works with an example.

Example:
Index.html

```html
<!DOCTYPE html>
<html>
<head>
    <title>Example</title>
    <link rel="stylesheet" type="text/css" href="index.css">

</head>
<body>
    <div>
        <h3>Popular languages</h3>
        <ul>
            <li>C</li>
            <li>Java</li>
            <li>Python</li>
            <li>C++</li>
            <li>C#</li>
            <li>JavaScript</li>
        </ul>
    </div>
      <div>
            <h3>Popular Framework</h3>
            <ul>
                <li>Spring</li>
                <li>Django</li>
                <li>Node.JS</li>
                <li>.NET Core</li>
                <li>Flask</li>
            </ul>
            <h3>Highest Paying Jobs</h3>
            <ul>
                <li>Devops Engineer</li>
                <li>Full Stack Developer</li>
                <li>Data Scientist</li>
                <li>AI-ML Engineer</li>
                <li>Cloud Engineer</li>
                <li>Cyber Security Expert</li>
            </ul>
      </div>
 </body>
 </html>
```

Index.css

```css
li:nth-child(3){
    background-color: orange;
}
```

Output: