

HTML

HTML, CSS,
JS Basics



HTML Definition

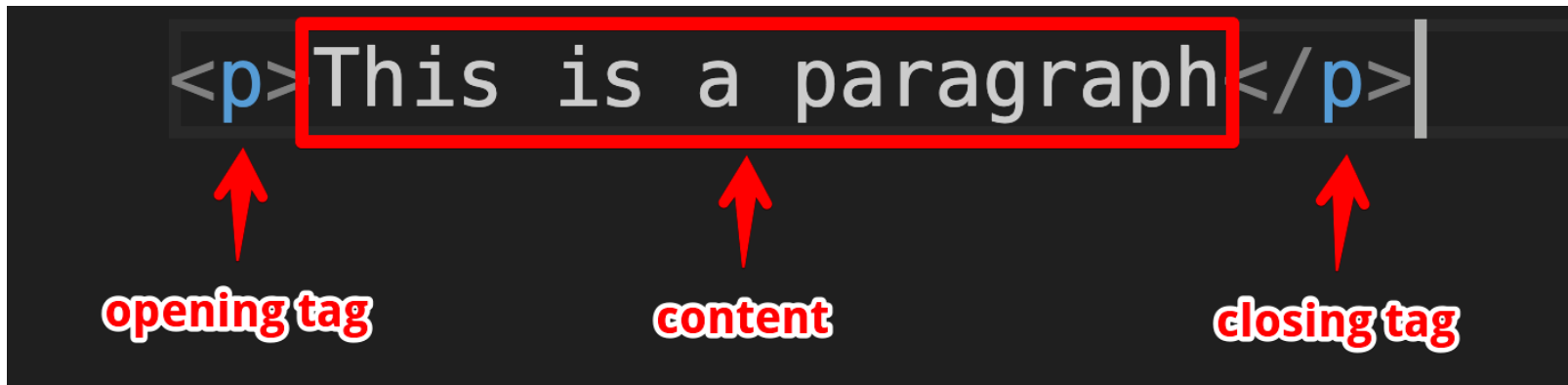
- **Hypertext Markup Language (HTML)** specifies the structure and content of hypertext documents.
- **Hypertext** is text that is able to relate and link to documents beyond itself.
- **Markup** elements, tags and attributes that define the HTML page.

HTML Elements, Tags and Attributes

```
<div id="root">  
  <ul id="nav-acce  
    <li><a id="ski  
      href="#content  
    a></li>  
    <li>  
      <a id="skip-  
        href="#top-n
```

HTML Elements and Tags

- Elements are the atoms of HTML.
- An element has an opening and a closing tag.
- Between the opening and closing tag is the element content.



HTML Nesting

HTML elements can be nested to any depth.

```
<article>
  <p>This is the first paragraph.</p>
  <p>
    This is the second paragraph. This paragraph has
    <strong>strong text</strong> embedded in it.
  </p>
</article>
```

HTML Attributes

- HTML attributes add additional data to HTML tags.
- Attributes can change how an element looks or functions.

```
<a href="http://example.com">This is a link.</a>
```



href attribute

HTML Attributes

- Tags can contain any number of attributes.
- Tags can be standard or custom.

```
<button  
  type="button"  
  id="references-button"  
  class="top-level-entry menu-toggle"  
  aria-controls="references-menu"  
  aria-expanded="false"  
>  
  References  
</button
```

Self Closing Tags

- Some HTML tags are self closing.
- A self closing tag is just a single tag with the forward slash placed at the end of the tag.
- The image tag is a common self closing tag:

```

```


HTML Document Structure

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta
      name="viewport"
      content="width=device-width,
        initial-scale=1.0"
    />
    <title>Document</title>
  </head>
  <body></body>
</html>
```

HTML Document Structure

There are four main parts of an HTML Document.

1. **The document type declaration:** `<!DOCTYPE html>` for HTML5
2. **The outer html tag:** `<html></html>` *root* tag
3. **The head tag:** `<head></head>` contains *metadata* and links to external content
4. **The body tag:** `<body></body>` contains all visible page content

HTML Document Structure

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta
      name="viewport"
      content="width=device-width, initial-scale=1.0"
    />
    <title>Document</title>
  </head>
  <body>
    <p>PAGE CONTENT</p>
  </body>
</html>
```

HTML5 Document Type

HTML wrapper tag

Head tag

Body tag

HTML Document Type Declaration

- The document type declaration tells the browser what version of HTML the page is written in.
- HTML5 is the standard version of HTML and should be used for all new web pages.

```
<!DOCTYPE html>
```

HTML



The <html> tag

- The <html> tag defines the *root* of the HTML document.
- The most important attribute of the <html> tag is the "lang" attribute which defines the language the page is written in.

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta
      name="viewport"
      content="width=device-width, initial-
    />
    <title>Document</title>
  </head>
  <body>
    <p>PAGE CONTENT</p>
  </body>
</html>
```

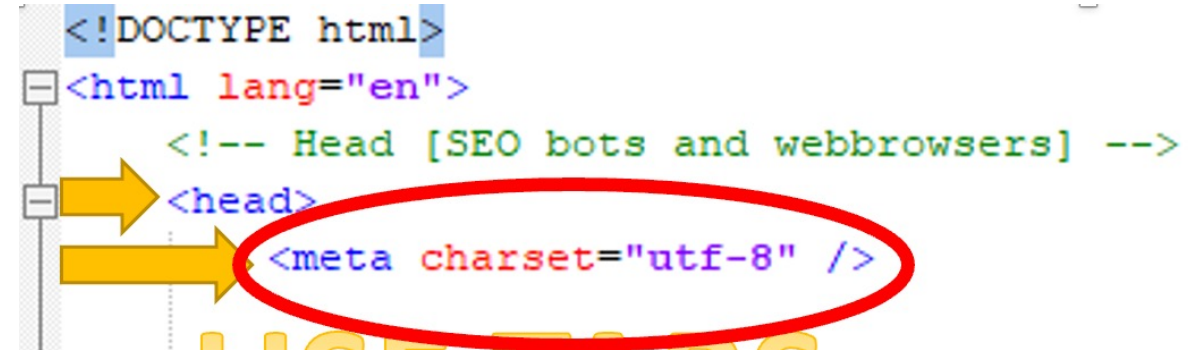
The <head> tag

- The <head> wraps the non-visible content of the webpage.
- The <head> contains meta information.
- The <head> has links to external files (CSS and JS).

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta
      name="viewport"
      content="width=device-width, initial-scale=1.0"
    />
    <title>Document</title>
  </head>
  <body>
    <p>PAGE CONTENT</p>
  </body>
</html>
```

Charset utf-8

- An important meta tag is the “charset” tag.
- There are various character sets but the standard one to use for web pages is utf-8.
- Declaring the charset allows the browser to understand the text the page is written in.
- utf-8 supports all languages and alphabets.



The diagram shows a snippet of HTML code with several annotations. A vertical line on the left has two checkboxes, with the bottom one checked. Two yellow arrows point from this line to the code: one to the opening <head> tag and another to the <meta charset="utf-8" /> tag. The <meta charset="utf-8" /> tag is circled in red. The code itself is as follows:

```
<!DOCTYPE html>
<html lang="en">
  <!-- Head [SEO bots and webbrowsers] -->
  <head>
    <meta charset="utf-8" />
```

The <body> tag

The <body> wraps all visible content of the webpage.

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta
      name="viewport"
      content="width=device-width, initial-scale=1.0"
    />
    <title>Document</title>
  </head>
  <body>
    <p>PAGE CONTENT</p>
  </body>
</html>
```



HTML Comments

- Comments are ignored and not displayed by the browser.
- Comments can be useful for documenting and describing your code.

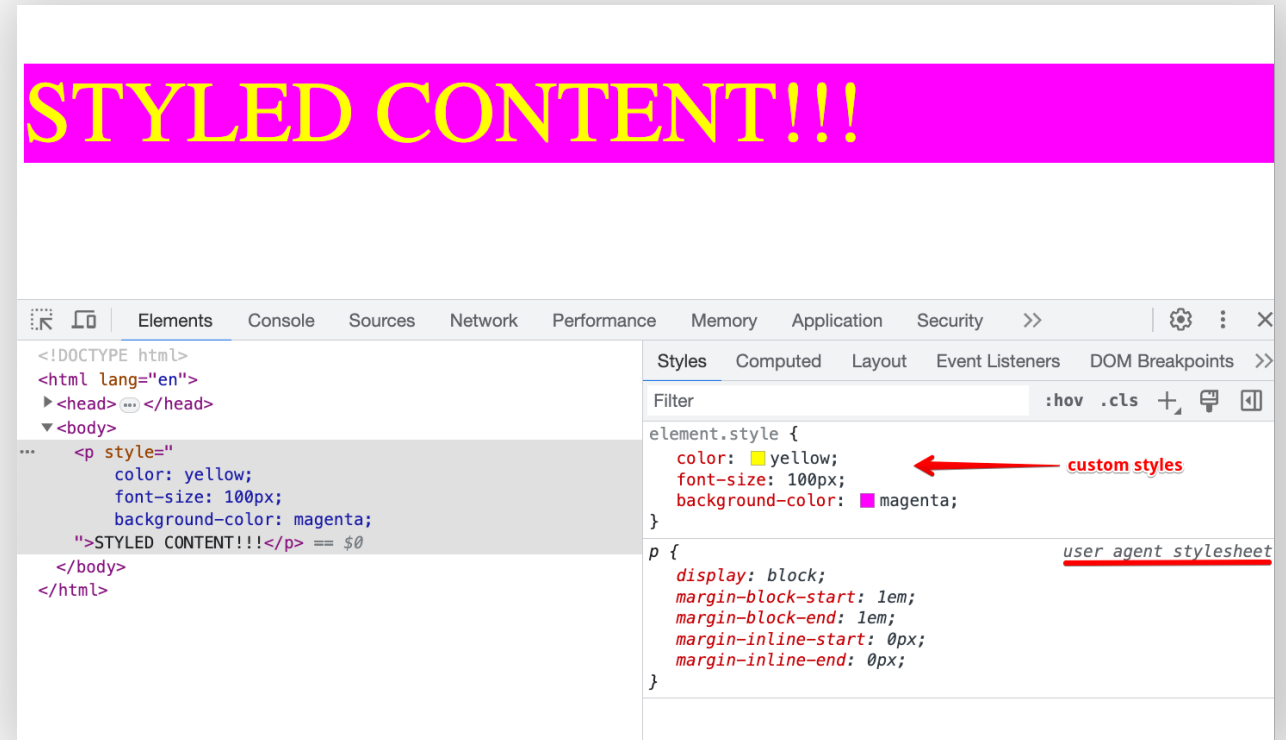
```
<!-- Example 1 : Hyperlinks on same page -->  
<h2>  
    Hyperlink to jump to chapter on same page  
</h2>
```

CSS: Cascading Style Sheets

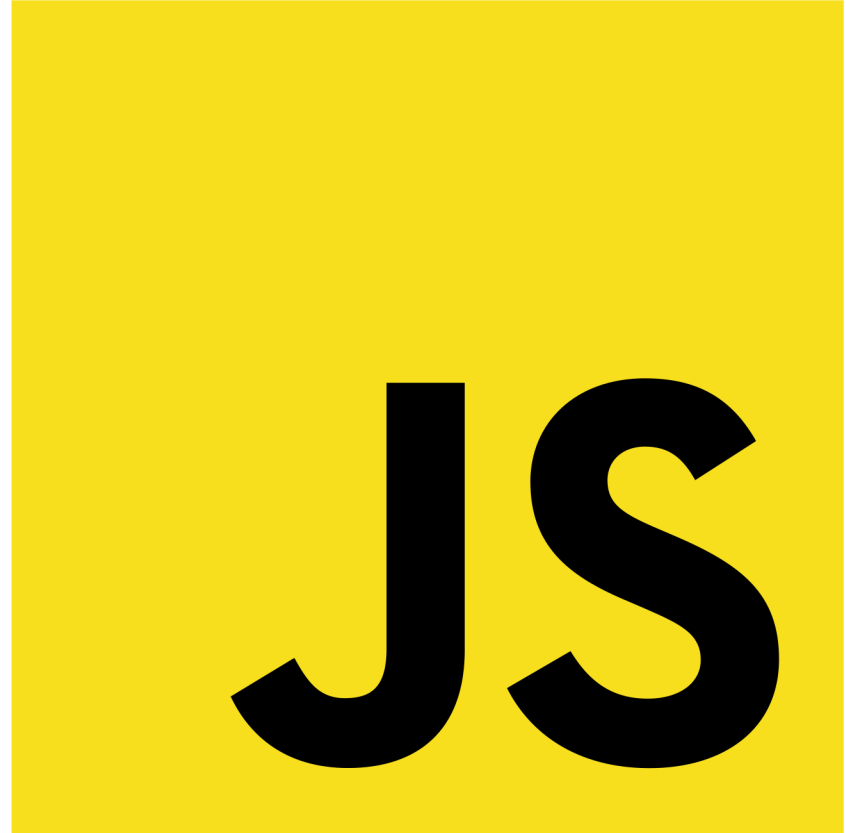
CSS
IS
AWESOME

CSS

- Defines the presentation layer of the webpage
- Browsers provide default (user agent) stylesheets

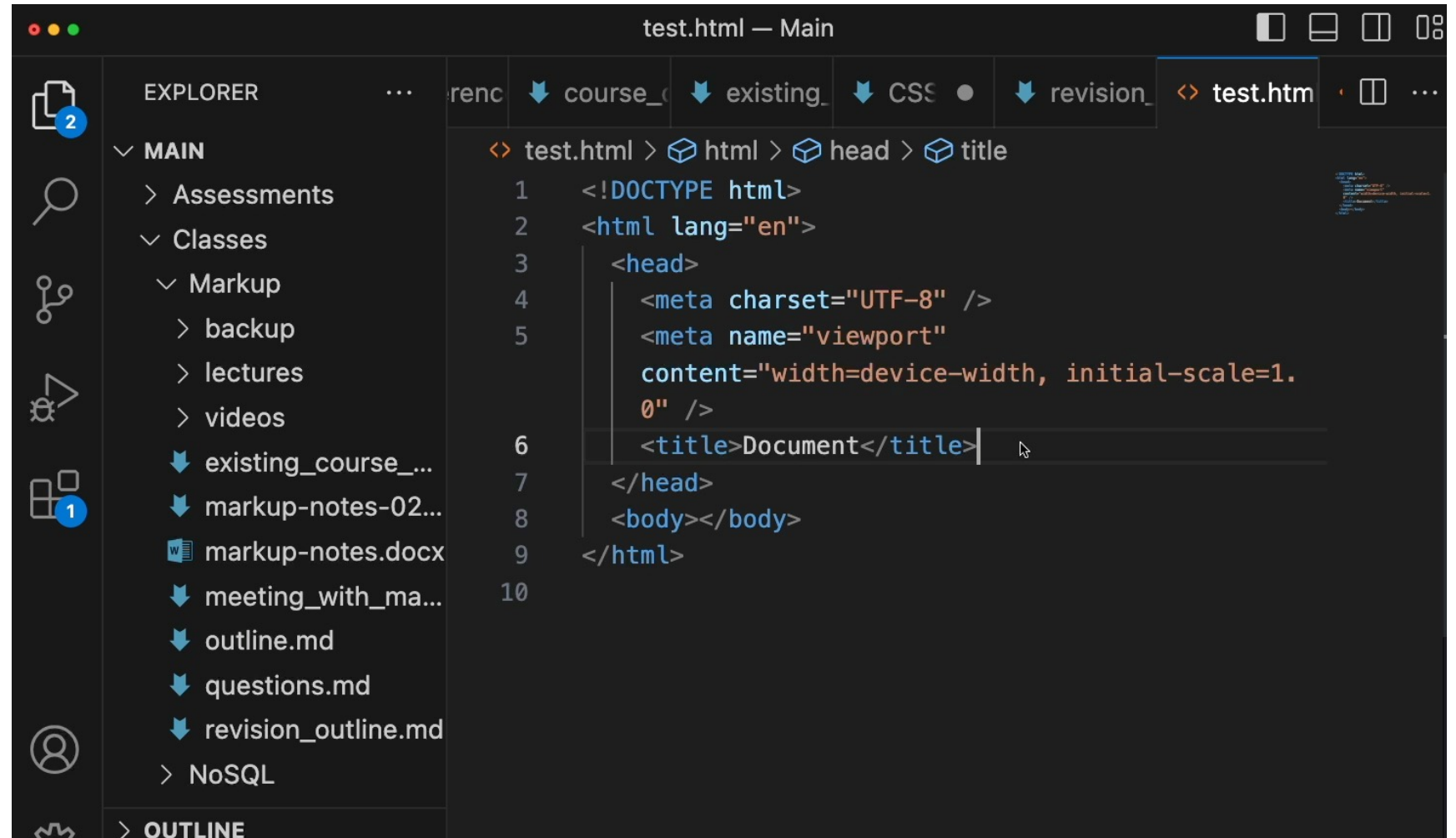


JavaScript



JavaScript

- JavaScript is a scripting language that provides dynamic functionality to web pages and applications.



```
test.html — Main
EXPLORER
MAIN
  Assessments
  Classes
  Markup
    backup
    lectures
    videos
    existing_course_...
    markup-notes-02...
    markup-notes.docx
    meeting_with_ma...
    outline.md
    questions.md
    revision_outline.md
  NoSQL
OUTLINE
test.html > html > head > title
1 <!DOCTYPE html>
2 <html lang="en">
3   <head>
4     <meta charset="UTF-8" />
5     <meta name="viewport"
      content="width=device-width, initial-scale=1.0" />
6     <title>Document</title>
7   </head>
8   <body></body>
9 </html>
10
```

inholland
**university of
applied sciences**