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# Web Programming and Problem Solving

## Some Essential HTML Elements

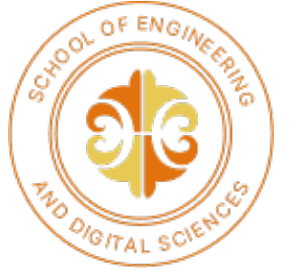
Date: 31.08.2022

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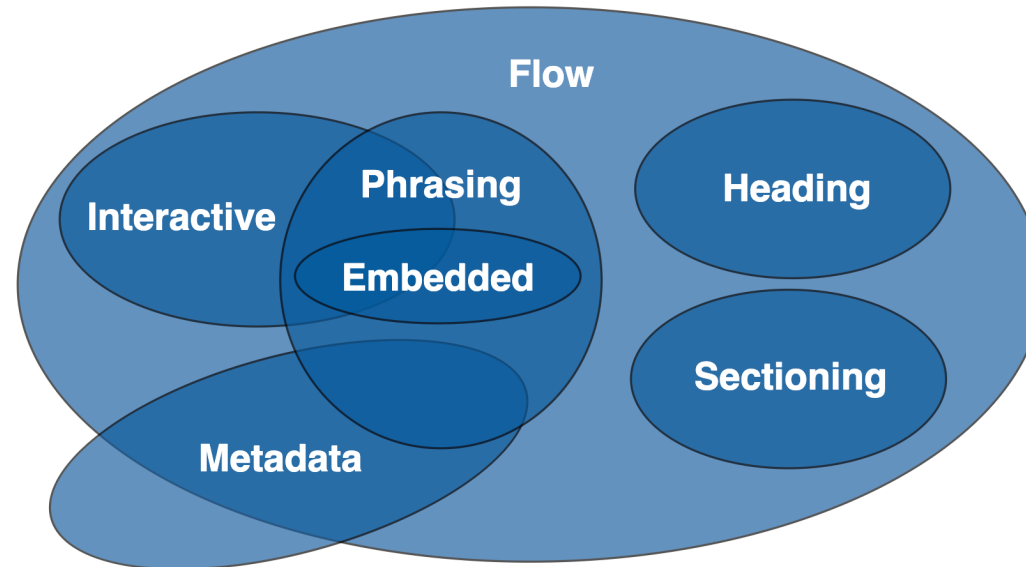
# Content



- HTML Content model
- H1 vs DIV
- Semantic tags
- Links
- Menu
- Displaying Images
- Escape characters

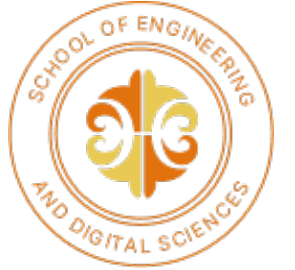
# HTML Content Model

- Each element in HTML falls into zero or more **categories** that group elements with similar characteristics together [w3.org]:
  - Metadata content
  - Flow content
  - Sectioning content
  - Heading content
  - Phrasing content
  - Embedded content
  - Interactive content



<https://www.w3.org/TR/2011/WD-html5-20110525/content-models.html#content-models>

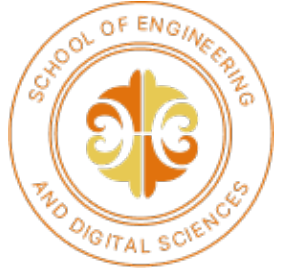
# HTML Content Model



- **Block-level** elements
  - Placed on a **new line** (by default)
  - May include other block-level or inline elements
  - Roughly corresponds to Flow content
  - eg.: *h1, div, p, ul, ol, a*\*
- **Inline** elements
  - Placed on the **same** line line (by default)
  - May include only other inline elements
  - Roughly corresponds to Phrasing content
  - eg.: *span, strong, a*\*

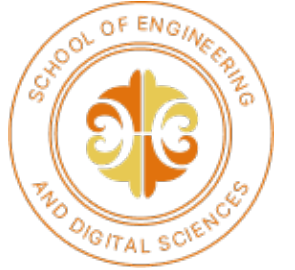


# H1 vs DIV



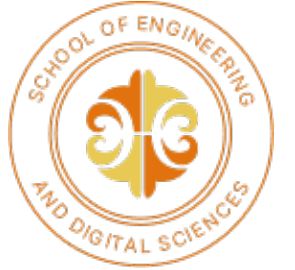
- **H1** tag
  - Needs to reflect the content of the page
  - Helps SEO (Search Engine Optimization)
- **DIV** tag
  - Block-level element – universal tag
  - Can be styled with CSS to look like any other element

# Semantic tags

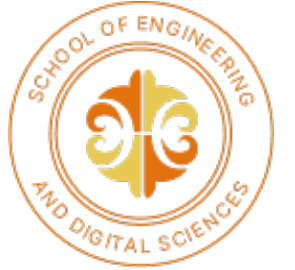


- Semantic tags imply some meaning to the content
- Human/machines can better understand the structure of a document
- Some useful tags:
  - header, footer
  - nav
  - section, article, aside

# Links



- **Fragment** links
  - `<a href="#some_element_name">Page Fragment</a>`
  - `<div id="some_element_name">...</div>`
- **Internal** links
  - `<a href="some_page.html">Some internal page</a>`
- **External** links
  - `<a href="http://w3.org">Some external link</a>`
- **Image** links
  - `<a href="http://w3.org"></a>`
- **Email** links
  - `<a href="mailto:email">Email link</a>`



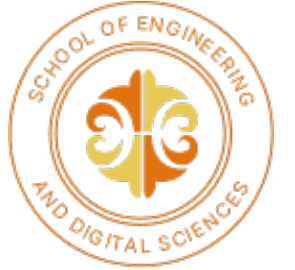
- Use **target** attribute of **<a>** tag to:
  - open in the new window
    - `<a href="some_url" target="_blank">....</a>`
  - open in the current window
    - `<a href="some_url" target="_self">....</a>`



- To create a **menu** for a website use:
  - semantic tag **<nav>** to wrap menu items
  - **unordered list** to wrap each menu item
  - apply **CSS** and **JS** to style a menu (later)

```
<nav>
  <ul>
    <li><a href="url1">Menu Item 1</a></li>
    <li><a href="url2">Menu Item 2</a></li>
    <li><a href="url3">Menu Item 3</a></li>
  </ul>
</nav>
```

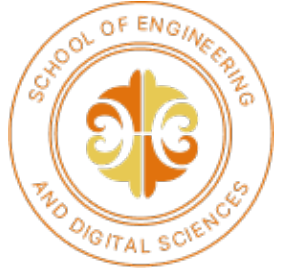
# Displaying Images



- Some useful notes on **<img>** tag
  - remember that **<img>** is an inline element
  - use **src** attribute is similar to **href** attribute
  - the attribute **alt** is required for visually impaired people
  - use **width** and **height** attributes to allocate space on the page
  - Images can be used as links (as logo)

```
<a href="http://w3.org"></a><br>
```

# Escape characters

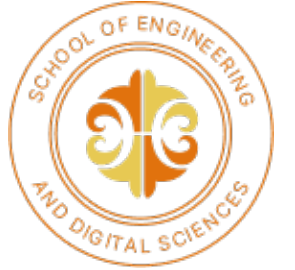


There are 3 main characters to be escaped:

- use `&lt;` to escape `<` symbol
  - use `&gt;` to escape `>` symbol
  - use `&amp;` to escape `&` symbol
- 
- Useful escape symbols:
    - `&quot;` - to make a quotation
    - `&nbsp;` - non-breaking space
    - `&copy;` – copyright symbol



# Summary



- Key takeaways:
  - Use **h1** tag for a page to convey the topic of the content
  - Use **semantic tags** whenever possible to improve your SEO
  - Use different types of **links** for your needs
  - Use **unordered lists** for menu items
  - Use wisely **width** and **height** attributes of <img> tag
  - Use **escape character** not to break your HTML code

Thanks for Attention!