



# HTML Introduction



CS 1020 – Lego Robot Design

# Building Websites

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## HTML (HyperText Markup Language)

- ▶ The dominate language of the internet
- ▶ Describes a webpage's content
- ▶ Controlled by the World Wide Web Consortium (W3C)
- ▶ In practice, affected by Browser compatibility

## CSS (Cascading Style Sheet)

- ▶ Describes a webpage's presentation



# Tag Syntax

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HTML tags include:

1. A start tag
2. An optional attribute name/value pair
3. Content affected by the tag
4. A closing tag

```
<tag-name attribute-name="attribute-value">  
    ... Content ...  
</tag-name>
```



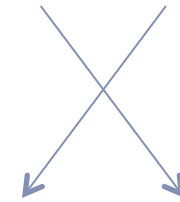
# Document Syntax

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HTML documents are made up of a hierarchical “tree” of tags structuring content.

Correct hierarchy:

`<p> The following text is <b> bold </b> </p>`



Incorrect hierarchy:

`<p> The following text is <b> bold </p> </b>`



# Hello World Example

---

```
<!DOCTYPE html>
<html>
  <head>
    <title> Hello world Page </title>
  </head>
  <body style="color: blue">
    <p> Hello world! </p>
  </body>
</html>
```



# Hello World Example

---

```
<!DOCTYPE html>
<html>
  <head>
    <title> Hello world Page </title>
  </head>
  <body style="color: blue">
    <p> Hello world! </p>
  </body>
</html>
```

The !DOCTYPE tag informs the browser of the webpage's language.

---



# Hello World Example

---

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    <title> Hello world Page </title>
```

```
  </head>
```

```
  <body style="color: blue">
```

```
    <p> Hello world! </p>
```

```
  </body>
```

```
</html>
```

The `html` tags enclose all of the page's content.

---



# Hello World Example

---

```
<!DOCTYPE html>
<html>
  <head>
    <title> Hello world Page </title>
  </head>
  <body style="color: blue">
    <p> Hello world! </p>
  </body>
</html>
```

The head tags contain extra information about the webpage.

---





# Hello World Example

---

```
<!DOCTYPE html>
<html>
  <head>
    <title> Hello world Page </title>
  </head>
  <body style="color: blue">
    <p> Hello world! </p>
  </body>
</html>
```

The `title` tags tell the browser the page's name; often the title is used by the browser to label the window or tab.

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# Hello World Example

---

```
<!DOCTYPE html>
<html>
  <head>
    <title> Hello world Page </title>
  </head>
  <body style="color: blue">
    <p> Hello world! </p>
  </body>
</html>
```

The body tags contain the content displayed on the webpage. The style attribute changes the page's text color.

---



# Hello World Example

---

```
<!DOCTYPE html>
<html>
  <head>
    <title> Hello world Page </title>
  </head>
  <body style="color: blue">
    <p> Hello world! </p>
  </body>
</html>
```

Finally, the `p` tags surround paragraphs of text.

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## A slightly less contrived example...

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```
<html><head>
<meta http-equiv="content-type" content="text/html;
charset=UTF-8">

<title>Empty Page</title>
</head><body>
I have not yet set up my home page.
</body></html>
```



# Common Tags

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- ▶ Headers

`<h1>`, `<h2>`, `<h3>`, ...

- ▶ Italics

`<i>`

- ▶ Boldface

`<b>`

- ▶ Line breaks (singleton tag)

`<br>`

- ▶ Comments (singleton tag)

`<!-- ... -->`

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# Links

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The link tag:

```
<a href="http://www.cs.middlebury.edu">  
    Middlebury CS!  
</a>
```

The href attribute:

- ▶ Use full page address with “http://” to access other website’s pages
- ▶ Use only the page’s filename to access other html pages saved in the same directory



# Images

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The image tag:

```

```

The src attribute:

- ▶ Use full page address with “http://” to access other website’s pages
- ▶ Use only the page’s filename to access other html pages saved in the same directory



# Styling HTML with CSS

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Tags can be stylized by providing extra information in a `style` attribute.

```
<body style="color: blue">  
    <p> Hello world! </p>  
</body>
```

Technically, the `style` attribute applies CSS styling, which is a whole language itself.

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# Style Attribute Syntax

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The `style` attribute consists of a list of CSS property/value pairs, delimited by semicolons.

```
<tag style="property: value; property: value; ...">  
    ... Content affected by stylization ...  
</tag>
```



# Common CSS Properties

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- ▶ **Text color**

  - `color: blue;`

- ▶ **Background color**

  - `background-color: white;`

- ▶ **Height & width**

  - `height/width: 600px;`

- ▶ **Text alignment**

  - `text-align: center/right/justify;`

- ▶ **Text size**

  - `font-size: 30px;`



# More on Web Development

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- ▶ **Tables**

  - [http://w3schools.com/html/html\\_tables.asp](http://w3schools.com/html/html_tables.asp)

- ▶ **Lists**

  - [http://w3schools.com/html/html\\_lists.asp](http://w3schools.com/html/html_lists.asp)

- ▶ **Color names**

  - [http://w3schools.com/cssref/css\\_colornames.asp](http://w3schools.com/cssref/css_colornames.asp)

- ▶ **More CSS properties**

  - <http://w3schools.com/css/default.asp>

- ▶ **Check out other student's webpages**

  - <http://www.cs.middlebury.edu/~username>



# HTML Introduction

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