Day 2

Project Heartcode

Hands-on Workshop: HTML & CSS

General Overview of Workshop

Day 2



Day 3



Bootstrap

Day 4



GitHub

General Overview of Workshop

Day 5 - Build Your Own Website [Groups of 4-5]

- Build a website with minimum 3 html pages
- Agenda: Raise awareness about different types of cyberbullying
 - MASQUERADING / IMPERSONATION
 - OUTING & TRICKERY
 - ONLINE HARASSMENT
 - EXCLUSION
 - CYBERSTALKING
 - DOXXING
 - FRAPING
- Deployment of website

Pre-Requirements

Pre-Requirements

- Installation of Visual Studio Code
 - Refer to VSC Installation Guide [Windows & Mac]
 - o Refer to VSC Installation Guide for Chromebook
- Sign up for an account on <u>www.github.com</u>
- Installation of Github Desktop
- Introduction to useful VSC Extensions

Project Heartcode Links

tinyurl.com/Heartcode23

Workshop Materials



https://tinyurl.com/heartcode2023cdac

Table of contents

HTML

Introduction, Demonstration & Exercises



CSS

Introduction, Demonstration & Exercises



Wooclap!

HTML & CSS







01 HTML



What is HTML?

- HyperText Markup Language
- HTML file contains multiple tags
- Tags may have attributes that specifies their properties; and attributes have values

HTML





What is HTML?

<head>...</head>

- Placed between html and <body> tag
- Container for metadata (data about data)
- Metadata typically define the document title, character set, styles, scripts, and other meta information.

<body>...</body>

- Defines the document's body
- Contains all contents of an HTML document
- Examples: headings, paragraphs, images, hyperlinks, tables, lists

HTML Tags

Name of Tag

Closing Tag

Note: Closing tag includes /

Sample HTML Page

```
sample1.html X
Workshop > day2 > samplepages > ◆ sample1.html > ...
       <html lang="en">
       <head>
           <meta charset="UTF-8">
           <meta http-equiv="X-UA-Compatible" content="IE=edge">
           <meta name="viewport" content="width=device-width, initial-scale=1.0">
           <title>Project Heartcode</title>
           <link rel="icon" type="image/x-icon" href="../images/logo.png">
       </head>
           <h1>This is a Heading</h1>
           This is a paragraph.
       </body>
       </html>
```

sample1.html

HTML Tags

<title>Project Heartcode</title>



• link rel="icon" type="image/x-icon" href="logo.png">



HTML Tags

Tag	Examples
Header	<h1></h1> , <h2></h2>
Paragraph	,
Image	
Anchor	

HTML Tags - Header

Header

Welcome to Project Heartcode

HTML Tags - Paragraph

Paragraph

```
<body>
    Today we are learning about HTML & CSS
    Tomorrow we will learn about Bootstrap
</body>
```

Today we are learning about HTML & CSS

Tomorrow we will learn about Bootstrap

HTML Tags - Breaks

• **<hr>** - Defines a thematic break

```
<body>
     <h1>This is heading 1</h1>
     This is some text.
     <hr>
     </body>
```

This is heading 1

This is some text.

• **
 -** Defines a line break

```
<body>
     <h1>This is heading 1</h1>
     <br>
     This is some text.
</body>
```

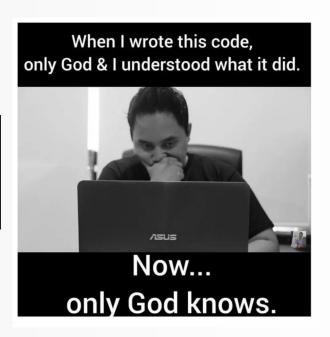
This is heading 1

This is some text.

HTML Tags - Image

Image

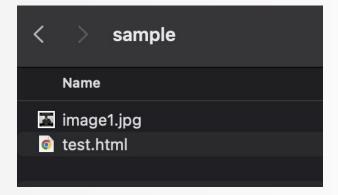
```
<body>
     <img src="image1.jpg" />
</body>
```



HTML Tags - Image

Relative Path

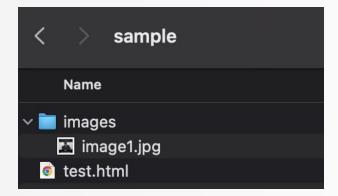
```
<br/><body>
<img src="image1.jpg" />
</body>
```



HTML Tags - Image

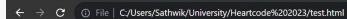
Relative Path

```
<br/><body>
<img src="images/image1.jpg" />
</body>
```



Let's make your first webpage!

Your Autobiography! Example:



This is my autobiography



My name is Sathwik

My age: 21

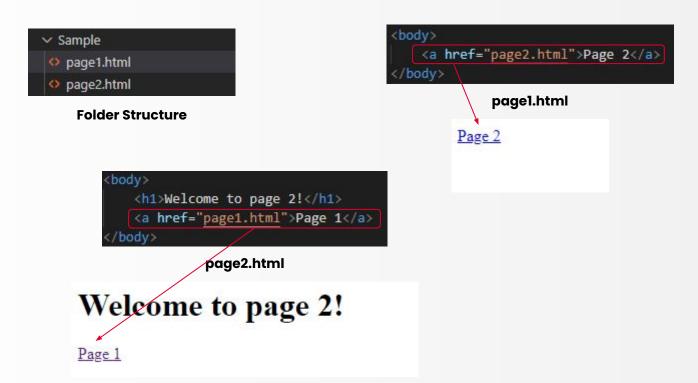
My favourite food: Mcspicy Meal

My hobby: Anything but studying

HTML Tags - Anchor & Frame

```
<body>
    <a href="www.google.com">Google</a>
    <br><br>><br>></pr>
    <iframe width="560px" height="315px" src="https://www.youtube.com/embed/DrDm7u04Fu0?rel=0"> </iframe>
</body>
                               Google
                                     The Earth rotating from space?
                                                                         Watch later
                                                                                   Share
                                 Watch on  YouTube
```

HTML Tags - Page Navigation



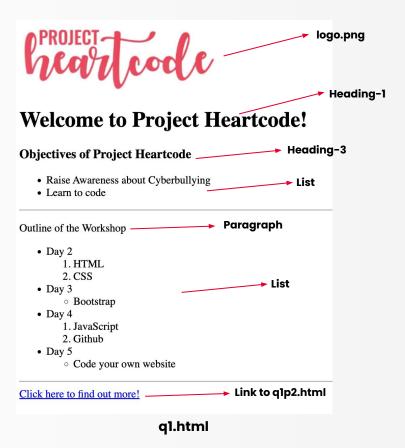
HTML Tags - Lists

```
Workshop > day2 > samplepages > ♦ sample4.html > ♦ html
     <!DOCTYPE html>
     <html lang="en">
     <head>
        <title>Example Lists</title>
     </head>
                                                              1. Content 1
     <body>
                                                             2. Content 2
                               Ordered List
        (01)
                                                              Content 3
            Content 1
            Content 2

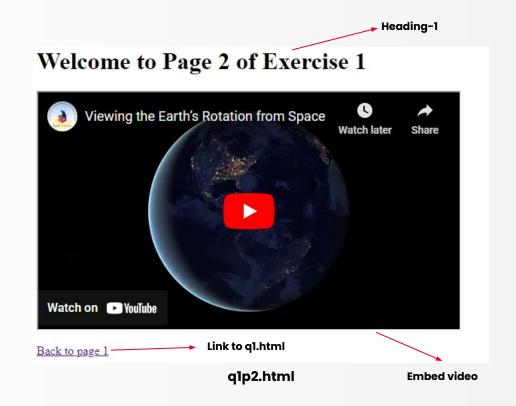
    Content 1

 11
            Content 3
 12
        Content 2
                              Unordered List
        (cul)
                                                                Content 3
            Content 1
            Content 2
            Content 3
        </body>
```

Exercise 1 - HTML Introduction



Exercise 1 - HTML Introduction



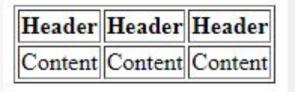
Search for "Viewing the Earth's Rotation from Space" on Youtube

HTML Tags

Tag	Examples
Tables	
Form	<pre><form action="payment.html" method="GET"></form> <form action="payment.html" method="POST"></form></pre>
Input Field	<input type="text"/>
Drop down list	<select><option></option></select>
Button	<button type="submit">Submit</button>
Comments	

HTML Tags - Tables

```
Workshop > day2 > samplepages > ◆ sample2.html > ♦ html
    <!DOCTYPE html>
    <html lang="en">
    <head>
       <title>Example Table</title>
    </head>
    <body>
       (tr)
             Header
             Header
12
             Header
13
          (tr>
             Content
             Content
             Content
          </body>
```



stands for table row
 stands for table header
 stands for table data

HTML Tags - Tables

```
Workshop > day2 > samplepages > ♦ sample3.html > ♦ html
    <!DOCTYPE html>
    <html lang="en">
      <title>Example Table</title>
    <body>
      Header
         Header
                                                           Content2 Content3
         Content1
         (tr)
                                                           Content2 Content3
           Content1
           Content2
           Content3
         Content2
           Content3
      </body>
```

Exercise 2 - My Personal Schedule

My Personal Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Morning	Eat	Eat	Eat	Eat	Eat	Eat	Eat
Afternoon	Code	Code	Code	Code	Code	Code	Code
Night	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep

q2a.html

Exercise 2 - My Personal Schedule

My Personal Schedule

			Idea	l Schedule			
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Morning	Washup,	Breakfast	& Exercise			Sleep In	
Afternoon	C- 1-	Code and	debug			D 1 C.	
Night	Code	Sleep Ear	rly			Dramas and Co	mputer Games

q2b.html

Hint: Make use of colspan and rowspan

Time Series Challenge

My Personal Schedule

			Ide	al Schedul	e			
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturd	ay	Sunday
Morning	Washup, Br	eakfast &	Exercise					lack weekend p Naturally
Afternoon	HTML CSS	Code and	debug			Computer Dota 2	Games	Dramas
Night	Bootstrap Javascript	Sleep Ear	·ly			League of I	Legends	Attorney Woo

timechallenge.html

Hint: Tables in Tables

HTML Tags - Form

```
<body>
    <form action="" method="GET">
       Name: <input type="text" name="name">
        <br><br>>
        Age: <input type="number" name="age">
        <br><br>><br>>
        Gender:
        <select name="gender">
            <option value="male">Male</option>
            <option value="female">Female</option>
        </select>
        <br>><br>>
        <input type="submit" value="Submit">
    </form>
</body>
```

Name:	
Age:	
Gender:	Male ~
Submit	

sample5.html

HTML Tags - Form

```
<form action="" method="">
   Gender:
   <input type="radio" id="male" name="gender" value="male">
   <label for="male">Male</label>
   <input type="radio" id="female" name="gender" value="female">
   <label for="Female">Female</label>
   What are the languages that we are going to learn?
   <input type="checkbox" id="answer1" name="answer[]" value="HTML">
   <label for="answer1"> HTML</label><br>
   <input type="checkbox" id="answer2" name="answer[]" value="CSS">
   <label for="answer2"> CSS</label><br>
   <input type="checkbox" id="answer3" name="answer[]" value="Bootstrap">
   <label for="answer3"> Bootstrap</label><br>
   <input type="checkbox" id="answer4" name="answer[]" value="JavaScript">
   <label for="answer4"> Javascript</label><br>
   <br>Tell me more<br>
   <textarea name="message" rows="5" cols="30"></textarea>
   <input type="submit" value="Submit">
   <button type="button">Submit</button>
</form>
```

sample6.html

What are	e the languages that we are going to learn?
☐ HTN	IL.
□ css	
☐ Boot	strap
☐ Java	script
Tell me	more

HTML Tags - Button

Click Me!

HTML Tags - Comments

```
<!DOCTYPE html>
     <html lang="en">
     <head>
         <title>Project Heartcode</title>
         <link rel="icon" type="image/x-icon" href="../images/logo.png">
         <!-- THIS IS A COMMENT -->
     </head>
     <body>
11
12
         <h1>This is heading 1</h1>
13
         (br)
         This is some text.
     </body>
     </html>
```

Exercise 3 - Form Creation

Watch the following Video and provide some feedback in the form below!



Name:		
Was the Video Insightful? ○ Yes ○ No Input Type: Radio		
What are some examples of the effects Cyberbullying?		
☐ Sad ☐ Lonely ☐ Lose Confidence ☐ Nervous ☐ Think badly of themselves		
General Comments Textarea		
Submit		

Input Type: Submit

Input Type: Text

Exercise 4 - Your Autobiography pt. 2

Continue your autobiography by adding

- 1. An **ordered list** of your favourite foods
- 2. An unordered list of your hobbies
 - a. Add a video of that hobby
- 3. A **form** for people to send messages to you

Styling Related Tags

Tag	Examples	Remarks
Block	<div id="div1"></div>	Add an ID/Class to a block (e.g. for styling purposes)
Inline		Similar to div but smaller
Navigation	<nav></nav>	For styling navigation links



What is CSS?

- CSS stands for Cascading Style Sheets
- Emphasis placed on "Style"
- Describes the presentation of a HTML document
 - Change colors
 - Fonts
 - o Alignments etc..





3 Ways to use CSS

Inline Style

CSS code is placed directly into an HTML element within the <body> section of the webpage



Internal Style Sheet

CSS code is placed into a separate, dedicated area within the <head> section of the webpage



External Style Sheet

CSS code is placed into a separate file and then linked to a webpage

CSS: Inline Style

- CSS code is placed directly into a HTML element within the
 <body> section of a webpage
- To define an inline CSS, add the style attribute into an HTML element with the CSS declaration as the attribute
- Inline style ONLY applies to one tag

Example

Hello Friends!

Goodbye!

CSS: Inline Style

Advantages of using Inline CSS

- Useful for viewing changes instantly
- Adding style for CSS rules that only apply to one or a few elements
- Inline Style will ALWAYS override style properties that is defined in internal or external style sheet

Example

Hello Friends!

Goodbye!

CSS: Internal Style Sheet

- A **<style> section** is added within the **<head>** of the HTML page
- All the CSS declarations will go within this section
- Styles declared in the <style> section will affect all matching elements on the page

Example

```
<head>

| <style>
| h1 {
| color: □blue;
|}
| </style>
| </head>

<body>
| <h1>Hello Friends!</h1>
| <h2>Goodbye!</h1>
| </body>
```

Hello Friends!

Goodbye!

CSS: Internal Style Sheet

Syntax of CSS

- selector { property: value; }
- Inside a selector, we can define as many properties as we wish to
- A semicolon (;) must be placed after each CSS declaration

Example

```
p { color: blue; }
h1 { font-style: italic; }

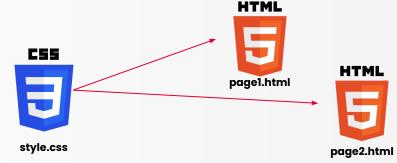
p {
      color: red;
      font-style: bold;
      text-align: center;
}
```

```
p { font-size: 1.2em; }

property value
```

CSS: External Style Sheet

- CSS declaration will be done in a separate file (e.g. style.css)
- CSS file will be imported into the current HTML page
- Multiple web pages can make use of the same style sheet
- Styles declared in an external style sheet will affect all matching elements on all web pages linked to same style sheet



CSS: External Style Sheet

style.css

This is a Heading

This is a paragraph.

```
# style.css
                 sample6.html ×
Exercises > day2 > samplepages > ⇔ sample6.html > ...
       <!DOCTYPE html>
       <html lang="en">
       <head>
           <title>Project Heartcode</title>
           <link href="style.css" type="text/css" rel="stylesheet">
       </head>
       <body>
           <h1>This is a Heading</h1>
 11
           This is a paragraph.
 12
       </body>
 13
       </html>
```

sample7.html

CSS Syntax: Selector

```
Type Selector (Element)
p {
     color: blue;
     text-align: center;
     font-style: bold;
h1, h2 {
     color: blue;
     text-align: left;
```

```
id Selector
#emphasis {
    font-style: bold;
Usage:
This is a very important sentence
```

CSS Syntax: Selector

```
Class Selector
.normal {
    color: black;
.center {
    text-align: center;
<u>Usage:</u>
 Hello everyone
 This is a
centralized hello everyone
```

```
Universal Selector (*)

* {
     font-style: bold;
}

NOTE: Universal Selector will target all elements on the page
```

Cascading

A browser processes all CSS code, including all three ways introduced earlier (inline, internal style sheet, external style sheet)

The following cascading precedence order is applied:

- 1. Inline Style has **first priority**
- 2. Internal Style Sheet has **second priority**
- 3. External Style Sheet has third priority
- 4. Web Browser default has **lowest priority**

Conflict Resolving

Inline Rule

```
<h1 style="color: □blue"
style="color: □red;">
Hello World!
```

For inline style, **first one** applies

Last Rules

```
p {
    color: □blue;
}

p {
    color: □red;
}
```

If two selectors are identical, the **latter of the two will take precedence**

Specificity

```
* {
    font-family: Arial;
}
h1 {
    font-family: 'Times New Roman';
}
```

The more specific rule will take precedence over more generic ones

Important

```
p {
    color: □blue !important;
}

p {
    color: □red;
}
```

You can **add !important**after any property that
should be considered
more important than other
rules

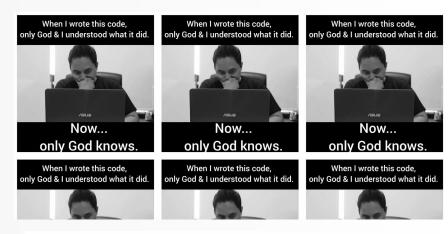
CSS: Properties

 In CSS, there are many properties to alter the style of an element

https://www.w3schools.com/cssref/

```
.card {
 font-size: 18px;
 width: 250px;
 background: #fff;
 position: relative;
 letter-spacing: 1px;
 height: 350px;
 border: 1px solid #eee;
 font-weight: 500;
 padding: 10px;
 color: #111;
 margin: 5px 10px;
 line-height: 20px;
 border-radius: 5px;
 transition: transform(5px);
 text-align: left;
 box-shadow: 5px 10px 18px #888888;
 font-family: 'Roboto', sans-serif;
 display: flex;
```

CSS: Background Image



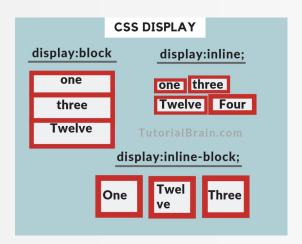


When I wrote this code, only God & I understood what it did.

CSS: Properties

CSS Display Properties

Specifies how an element is displayed with respect to other elements. Every HTML element has a default display value.



block: displayed on a new line

inline: displayed inline with the previous element

none: hidden (used with JavaScript to hide/show elements depending on logic)

CSS: Properties

CSS Font Properties

Font-family - dictates which font to use (e.g. Arial, Times New Roman)

Font-style - dictates which style to use (e.g. bold, italic)

Font-size - dictates which size the font is displayed (e.g. 16px)



CSS Background Properties

Background-color - color of background

Background-image - insert image as background

Background-attachment - sets whether the background is fixed or scrolls with the page

Background-repeat - how many times you want the background to repeat

CSS: Design

- Pixels px (font and images)
- Unit relative to its parent element em (fonts)
- Unit relative to HTML document rem (fonts)

```
     style="font-size: 16px;">Pixels
     style="font-size: 2em;">em
     style="font-size: 2rem;">rem
```

1. Pixels

2. em

3. rem

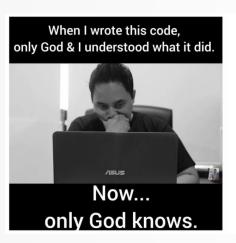
CSS: Design

- Viewport HEIGHT vh (images)
- Viewport WIDTH vw (images)
- Percentage (relative to parent) % (images)



CSS: Design

- Viewport HEIGHT vh (images)
- Viewport WIDTH vw (images)
- Percentage (relative to parent) % (images)



Exercise 1 - CSS Introduction



Welcome to Project Heartcode!

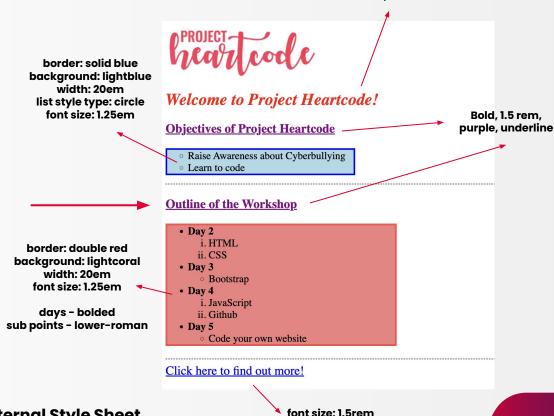
Objectives of Project Heartcode

- Raise Awareness about Cyberbullying
- · Learn to code

Outline of the Workshop

- Day 2 1. HTML
 - 2. CSS
- Day 3
 Bootstrap
- Day 4 1. JavaScript
- 2. Github
 Day 5
 - o Code your own website

Click here to find out more!



on hover: purple

red, italics

Using either Internal Style Sheet / External Style Sheet

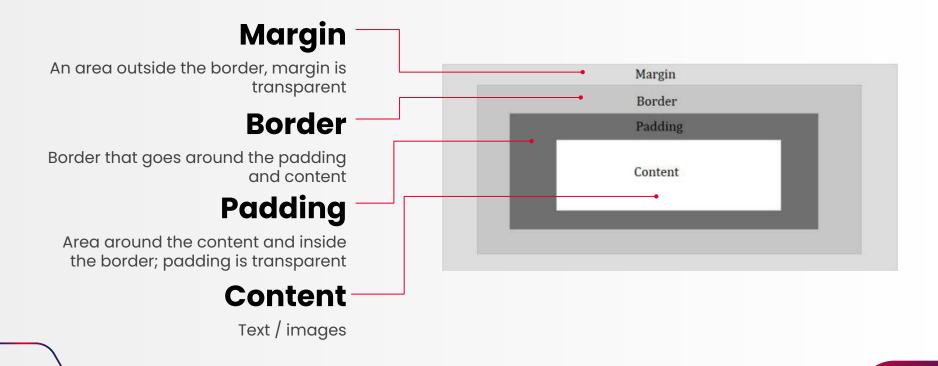


The Box Model

- In CSS, every HTML element is a box
- A box consist of: the content, the padding, the border, and the margin
- Every part of the box can be decorated through CSS



The Box Model



Decorating Border

Make use of the following properties to specifically style the left, right, top or bottom of a border separately:

- border-left
- border-right
- border-top
- border-bottom

```
.centerdiv3 {
    width: 400px;
    margin: auto;
    border: 3px solid black;
    border-left: 3px dotted red;
}
```

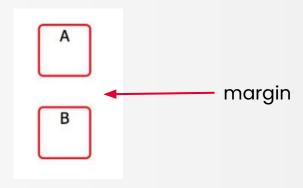
Decorating Margin

Make use of the following properties to create space around an element's content, outside of its border

- margin-left
- margin-right
- margin-top
- margin-bottom

```
.box {

text-align: center;
width: 150px;
height: 150px;
border-radius: 10%
border: 2px solid red;
margin-top: 30px;
margin-bottom: 30px;
margin-left: 50px;
```



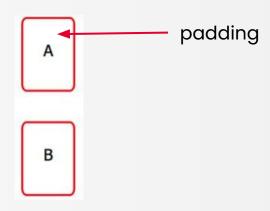
Decorating Padding

Use the following properties to generate space around an element's content, inside the border (padding)

```
    padding-top
```

- padding-right
- padding-bottom
- padding-left

```
.box {
    text-align: center;
    width: 150px;
    height: 150px;
    border-radius: 10%
    border: 2px solid red;
    padding-top: 22px;
```



Decorating

Additionally, property values can be specified using the following:

- **auto** horizontally center the element within its container
- length specifies a margin in px, pt, cm, etc.
- % specifies a margin in % of the width of the containing element
- **inherit** specifies that the margin should be inherited from the parent element

```
.box {
	text-align: center;
	width: 150px;
	height: 150px;
	border-radius: 10%
	border: 2px solid red;
	/* top right bottom left */
	margin: 30px 50px 30px 50px;
}
```

Exercise 2 - Border, Margin, Padding

Modify the internal style sheet of ex4.html so that it looks something like the image at the right

Images are given in the file

HINT: Make use of margin & padding



Exercise 3 - Decorate a Page



HINTS: Font: Arial Alignments: center Table: dashed

I love Project Heartcode

Project HeartCode is a community service project organised by Singapore Management University, School of Computing and Information Systems.

What did i learn from today's workshop?

- 1. HTML HTML Guide from W3Schools
- 2. CSS CSS Guide from W3Schools

Our Workshop Timetable for Today



Woodlap



https://tinyurl.com mentorheartcodev orkshopday2

Key Takeaways

- 1. **HTML** for content; **CSS** for style
- 2. 3 Types of CSS Inline CSS, Internal Style Sheet, External Style Sheet
- 3. Internal Style Sheet applies to one page; External Style Sheet applies to all linked pages
- A style sheet is a set of rules of the form:
 selector { property: value; }



