# Web Development and Databases

# Practical 4 – CSS -Basics, Layout and Formatting

## Practical Aim

- To learn CSS and apply simple style rules
- To practice Div, IDs and Classes
- To practice different layouts
- To learn CSS3 features and apply them e.g., animations which can be used without needing external plug-ins e.g., flash

## Pre-requisite:

- CSS is applied on HTML elements. You already learned HTML (week 1 to 3) and now we need to use HTML tags more frequently. For quick revision either go through HTML lecture slides or visit HTML 5 tutorial <a href="http://www.w3schools.com/html/default.asp">http://www.w3schools.com/html/default.asp</a> to get familiar with new HTML5 tags.
- You have a web browser to load/render your web pages.
- You have VS Code or any other suitable editor to write CSS and HTML script.
- You have already created a workspace directory on your computer where you can save all your scripts.
- You have gone through lecture slides / recording.
- You have reviewed, tried and understood lecture examples uploaded with Week 3 and Week 4 lectures. Check Week 3 and Week 4 lecture foldesr on Blackboard.

If you need help - ask. If you are curious - ask. If you want to know - ask. You may work in groups but this is not compulsory.

Post-requisite: Make sure you take backup of your code.

## A quick guide:

A good guide to follow is accessible from https://www.w3schools.com/css/default.asp.

Exercise 1: You're given few .html files. Your tutor will demonstrate i)

CSS\_div\_example\_inline.html, ii) CSSinternalDiv.html and iii)

CSSexternal\_example\_demo.html with CSSexternal-example\_demo.css to show you how inline, internal and external CSS style rules can be applied on <div> and element selectors.

# Perform the following tasks.

Task 1: **classCenter.html** file has a and <h1> elements. Create internal style to create a class with style rule to centre align the text. Use this class with and <h1>. Hint: text-align property

Task 2: CSSexternal\_Div\_example.html file has several <div> tags. Create an external stylesheet and introduce IDs to convert CSSexternal\_Div\_example.html to something like in Figure 1:

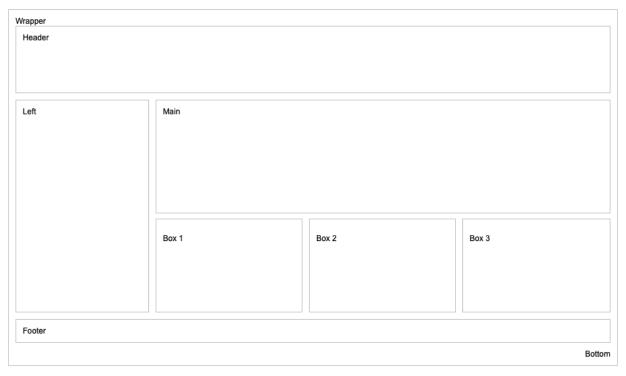


Figure 1: CSSexternal\_Div\_example expected layout.

Hint 1: To keep it simple you may use values of width and height properties in px.

Hint 2: You may also need to use <u>float</u> property.

https://www.w3schools.com/cssref/pr class float.asp

Exercise 2: Load myHTMLwithCSS\_demo.html (which uses myCSS\_demo.css) in a web browser, see the output and understand the html and css script. Now perform the following tasks:

- Task 1: Make page heading center-aligned. Hint: check H1 element style rule
- Task 2: Make all paragraphs left-aligned. Hint: check p element style rules
- Task 3: Remove the border lines from H2. Hint: check H2 element style rules
- Task 4: Remove the dotted border from navigation elements. Hint: check element style rules
- Task 5: Change/use appropriate background and text colour combinations for myHTMLwithCSS\_demo.html. Hint: be creative here for background and text colour contrast e.g., dark blue background and black text colour is not a good combination!!
- Task 6: If you carefully check, the UWEcrest.jpg image is starting slightly below the header line. Change .html and/or .css file to horizontally align header and image. Hint: check h1 tag in .html file.
- Task 7: Add a red colour border around the web page. Hint: check how borders are added to H2.

Exercise 3: Discuss with your tutor(s) how is CSS relevant to your Website Project? What would be your approach to apply CSS on your Website and Why? Hint: Don't forget the 'Separation of Concern' design principle.

## Exercise 4: You are given UWEhtml4.html. Perform following tasks.

Task 1: Change the layout/presentation of the UWEhtml4.html file contents as shown in the following figure 2. You should save the updated file as UWEhtml4\_V1.html. You can use internal style for css style rules.

Hint: border property.

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Figure 2: Target UWEhtml4 v1 layout and presentation

Task 2: Change the layout/presentation of the UWEhtml4.html file contents as shown in the following figure 3. You should save the updated file as UWEhtml4\_V2.html. You can use internal style for css style rules.

Hint: background-color and color properties.

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Figure 3: Target UWEhtml4\_v2 layout and presentation

## Exercise 5:

For this exercise, you may reuse HTML5\_tags.html OR you may create a web page that you planned for your Website project.

Try to structure your webpage presentation by putting the visual layout into four parts as shown below:

Header (100% width)			
Left navigation menu (25% width)	Web Contents (75% width)		
	Footer (100% width)		

Hint 1: Remember <u>CSS box model</u> and how padding, margin and border can affect width of an element. <a href="https://www.w3schools.com/css/css">https://www.w3schools.com/css/css</a> boxmodel.asp

Hint 2: Check layouts <a href="https://www.w3schools.com/css/css">https://www.w3schools.com/css/css</a> website layout.asp. You may need to use <a href="https://www.w3schools.com/css/css">Div</a> tags, IDs/Classes. You should be able to create above layout by using <a href="mailto:float">float</a> property. With float property the sequence of HTML elements in .html file is important. If you use <a href="mailto:float">float</a> then check box-sizing property. <a href="https://www.w3schools.com/css/css">https://www.w3schools.com/css/css</a> float.asp

Hint 3: for left navigation you may need <u>display</u> property. Think creatively. https://www.w3schools.com/cssref/pr class display.asp

Hint 4: For advance use you can try <u>flexbox</u> - https://www.w3schools.com/css/css3 flexbox.asp

Exercise 6: Try to convert the structure of your webpage presentation (Exercise 5) by putting the visual layout into five parts:

	Header with a logo/image (100% width)			
Left navigation menu (20% width)	Web Contents (60% width)	Right aside - highlights/notifications (20% width)		
Footer (100% width)				

Hint 1: if you used flow property then keep <aside> after <section>.

Exercise 7: Use an existing webpage and extend it with new code to perform a continuous animation of an object (e.g., image or div box) by using CSS3 features.

Hint: Check CSS3 Animation. https://www.w3schools.com/css/css3 animations.asp

### Homework

Exercise 8: CSStable\_example.html presents output as shown in figure 4. Perform the following tasks.

Task 1: change the html file and add NOx sensor reading column (next to PM2.5 column). Hint: add column to table 2.

Task 2: Think and discuss with tutor what problems you may face when you have to extend and fill the table with data for all 12 months.

Hint: here we are thinking how can we automate this data filling process and show in tabular form....

Task 3: Think creatively – what different CSS style rules you can apply on CSStable example.html? Create table.css and link with CSStable example.html.

Hint 1: font-family, font-size, text-alignment, background-color, color, border, width, etc.

Hint 2: An indicative/sample output could be something like in Figure 5:

## **Annual Environmental Sensor Data**

The following is an example of nexted HTML table

Month	Weekly Sensor recordings			Analysis		
January	Week #		PM2.5 Sensor			
	Week 1					
	Week 2			Time de la 1902 e 1910 f		
	Week 3			This month overall CO2 and PM2.5 conentration was relatively high. This resulted in higher number of GP appointments for respiratory diseases.		
	Week 4					
	Week 5					
February			PM2.5			
	# Week	Sensor	Sensor			
	1					
	Week 2			This is second consecutive month where CO2 and PM2.5 conentration was significantly increased from last year. This again resulted in higher number of GP appointments for respiratory diseases.		
	Week 3					
	Week 4					
	Week 5					

Figure 4: Simple output of Table example (without formatting)

### **Annual Environmental Sensor Data**

The following is an example of nexted HTML table

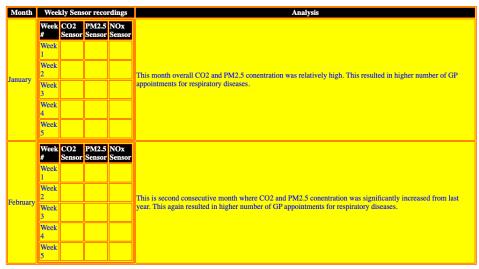


Figure 5: Sample output for Table example (with formatting)