Hands-on Lab: Styling your Web Page using CSS



Estimated time: 20 minutes

In this lab, you will take the role of a web developer who has been asked by a primary school to develop a web page about the solar system.

Objectives

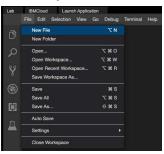
After completing this lab, you will be able to:

- Create a basic web page
 Specify the font family and font size for text
 Specify the colonge the appearance of elements
 Create borders
 Fractice Exercise: Add CSS Styling to an HTML page through links

1. Create a Web Page

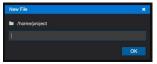
In this exercise, you will create a simple HTML web page about the solar system.

On the window to the right, click File > New File.



A New File window opens.

Enter solar system.html as the file name and click $\mathbf{OK}.$



Now we'll add some HTML to the file and then apply CSS styles.

Copy and paste the following code into the file you created and save the page:

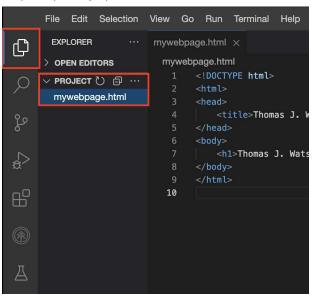
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| Catalogy | Catalogy
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Preview your HTML File

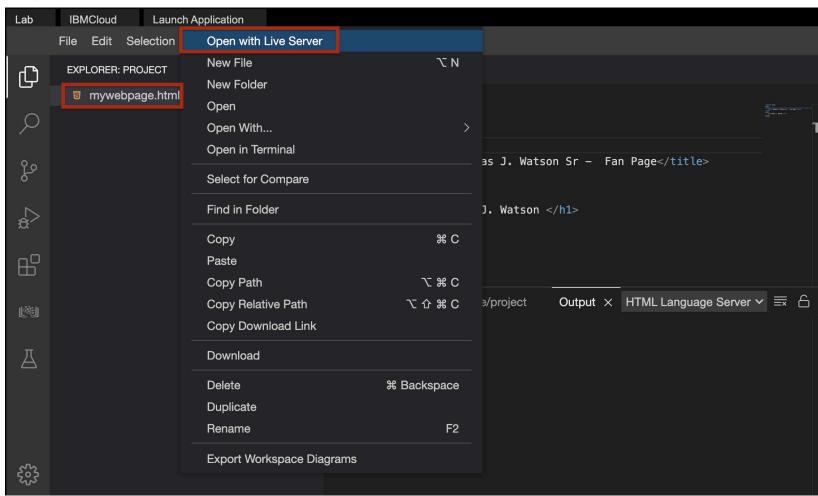
To preview your file, you can use the built-in Live Server extension by following the instructions below.

1. Open the file explorer and navigate to your file.



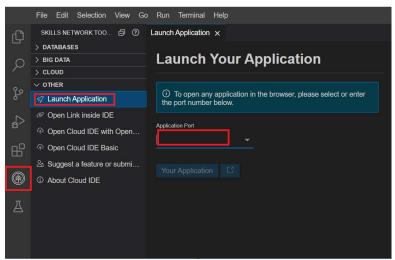
2.Right click on your file & click on 'Open with Live Server'

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3. This should show a notification mentioning that the server has started on port 5500.

4.Click on the Skills Network button on the left, it will open the "Skills Network Toolbox", Then click the Other then Launch Application. From there you enter the port no. as 5500 and launch.



5.Click on the file name to view its preview.



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Solar System



The solar system consists of the sun and everything that orbits the sun. This includes the eight planets and their moons, the dwarf planets, asteroids, comets and other small objects.

All the planets and dwarf planets, the rocky asteroids, and the icy bodies in the Kuiper belt move around the Sun in elliptical orbits in the same direction that the Sun rotates. This motion is termed prograde, or direct, motion.

Planets in the solar system:

No. Planet Name Distance from Sun (in million km)

No. Planet Name Distart
1 Mercury 57.91
2 Venus 108.2
3 Earth 149.6
4 Mars 227.9
5 Jupiter 778.5
6 Saturn 1434
7 Uranus 2873
8 Neptune 4495

2. Specify a font family and font size for text

CSS helps define style, layout, colors, and fonts for your pages. In this exercise, you will set the font family. We'll also use CSS to change the font characteristics for some elements.

We'll use the font-family and font-size properties to change the appearance of the heading.

Note: In this lab, you will apply styles using inline CSS format. You will add the style attribute to the element to change the style.

Change the heading font

Modify the <n1> tag so that it looks like this:

1. 1

1. <h1 style="font-family: Cursive">Solar System</h1>

Copied!

Here, Cursive is a generic font family. You could also specify a font family such as Arial or a group of font family names separated by a comma, such as font-family: Arial, serif.

When you have updated the tag, save the file and reload your web page. It should now look like this, assuming you have specified the Arial, serif font family:

Solar System



The solar system consists of the sun and everything that orbits the sun. This includes the eight planets and their moons, the dwarf planets, asteroids, comets and other small objects.

All the planets and dwarf planets, the rocky asteroids, and the icy bodies in the Kuiper belt move around the Sun in elliptical orbits in the same direction that the Sun rotates. This motion is termed prograde, or direct, motion.

Planets in the solar system:

No. Planet Name Distance from Sun (in million km)

 1
 Mercury
 57.91 m km

 2
 Venus
 108.2 m km

 3
 Earth
 149.6 m km

 4
 Mars
 227.9 m km

 5
 Jupiter
 778.5 m km

 6
 Saturn
 1.434 b km

 7
 Uranus
 2.871 b km

 8
 Nepture
 4.495 billion km

Change the font size

Add the font-size property to the <h1> style so that your code looks like this:

1. 1

1. <h1 style="font-family: Cursive; font-size: 70px"> Solar System </h1>

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Copied!

When you have made the change, save your file. Your page should now look like this:

Solar System



The solar system consists of the sun and everything that orbits the sun. This includes the eight planets and their moons, the dwarf planets, asteroids, comets and other small objects.

All the planets and dwarf planets, the rocky asteroids, and the icy bodies in the Kuiper belt move around the Sun in elliptical orbits in the same direction that the Sun rotates. This motion is termed prograde, or direct, motion.

Planets in the solar system:

No. Planet Name Distance from Sun (in million km)

1 Mercury 57.91 m km 2 Venus 108.2 m km 3 Earth 149.6 m km 4 Mars 227.9 m km 5 Jupiter 778.5 m km 6 Saturn 1.434 b km 7 Uranus 2871 b km

3. Change the color of an element

You will now set the background color of the page and update the color of an HTML element. To change the background color, you use the CSS background-color property. To change an element's color, you use the color property.

Change the background color

To change the background color of the body of the web page, update the <body> tag as in the following code:

1. 1

1. <body style="background-color:wheat">

Copied!

Change the font color

You specify a color for an element using a predefined color name, or by using RGB, HEX, HSL, RGBA, or HSLA values.

The RGB system enables you to specify a color as a combination of the primary colors red, green, and blue. RGB colors range from rgb(0,0,0), which is black, to rgb(255,255,255) which is white.

Change the color of your heading using the RGB system, as follows:

1. 1

1. <h1 style="font-family: Cursive; font-size:70px; color:rgb(139,0,0)">Solar System</h1>

Copied!

When you have updated the code, save the file. The web page should now look like this:

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The solar system consists of the sun and everything that orbits the sun. This includes the eight planets and their moons, the dwarf planets, asteroids, comets and other small objects.

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Planets in the solar system:

No. Planet Name Distance from Sun (in million km)

1	Mercury	57.91 m km
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5	Jupiter	778.5 m km
6	Saturn	1.434 b km
7	Uranus	2.871 b km
8	Neptune	4.495 billion km

4. Create borders

Tables created in HTML do not display a border by default. Using CSS, we can apply borders to tables, <div> elements, and other tags.

Add a table border

We'll add a border to the table in your web page. The border will be solid, black, and two pixels wide.

Update the tag with the following CSS code:

1 1

1.

Copied!

When you have made the changes, save the file. The table in the page should now look like this:

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Planets in the solar system:

No	. Planet Name	Distance from Sun (in million km)
1	Mercury	57.91 m km
2	Venus	108.2 m km
3	Earth	149.6 m km
4	Mars	227.9 m km
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Add a border to table headings and table cells

CSS gives you the flexibility to add a style to multiple instances of the same HTML tag. For example, instead of specifying the style for each individual <a href="https://distribute/changed-ctab-lag-with-add-ct

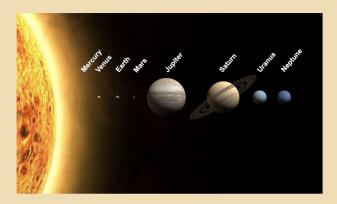
```
1. 1
2. 2
3. 3
4. 4
4. 5
5. 5
6. 6
7. 7
8. 8
2. ctitle>Solar System</title>
3. ctyle>
4. table_th_td {
5. border: 2px solid black;
6. }
7. </style>
8. </sec
```

Copied!

When you have made the changes, save the file. The page should now look like this:

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Solar System

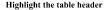


The solar system consists of the sun and everything that orbits the sun. This includes the eight planets and their moons, the dwarf planets, asteroids, comets and other small objects.

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6	Saturn	1.434 b km
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8	Neptune	4.495 billion km



Finally, let's make the table header stand out by specifying a background color for the entire table row. By adding the style to the row, you do not need to update each individual tab tag within the row.

Add a style to the first $\mbox{\scriptsize }\mbox{\scriptsize >}$ tag in the table (the header row), as follows:

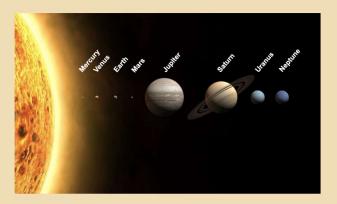
1. 1
2. 2
3. 3
5. 5
5. 5
1. ctr style="background-color:yellow">
ctb:Mo.
2. ctb:Mo.
4. ctb:Mo.
4. ctb:Distance from Sun
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5. ctb:Distance from Sun
6. cth:Distance from Su

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When you have made the changes, save the file. The page should now look like this:

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Solar System



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8	Neptune	4.495 billion km

Practice Exercise: Add CSS Styling to an HTML page through links

You should have completed this lab on using HTML5 struttural elements for untis conversion. If not, you can do it now.

In this lab, you will add CSS styling to improve its UI.

1. Click on the button below to open index.html. If you don't have the file in the lab environment, you will get a prompt asking if you want to create a new one. You can choose to do that and paste the following code in it and save the file.

Open index.html in IDE

- ► Click to see the content of index.html
- 2. Click on the button below to create a new file named style.css.

Open style.css in IDE

- 3. Set the margin of all the elements to 10px on all sides and the background-color to black.
- 4. Style the $\mbox{\scriptsize Home}$ section (having the app name & the nav bar) to have:
- A margin of -1 to the top.left & right.

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· Bottom padding of 1 or 2 cm

Background color to be a lighter shade of blue magenta

5. Style the Header section as follows:

Font-size as 30 pixels
 Colour to be light purple

Floating to the left
 Padding of 2 cms to the left

6. The Navigation Bar Container as:

· Floating to the right

· Padding of 1 cm to the right

7. The Navigation Bar Buttons can have static styling as :

A light gray color

Background color as dark purple.
 Margin & padding of 10 pixels each. A border radius of 1mm.
 Font size as 20 pixels

Optional text decoration

8. The Navigation Bar Buttons can have the below on-hover style:

· Color as white

Bolder font weight
 Background colour as purple

Optional text decoration

9. The 3 conversion sections of the calculator will now be styled:

a. All the sections should have the below styling:

Items are aligned vertically and positioned at the center.
 Grid-based layout

b. The figure tag can be styled as follows:

· Float to the left

Alignment (justification) can be automatic
 Width as 200 pixels

c. The image tag can have a width of 200 pixels.

d. The figcaption tag should:

· Have a black color

Font size as 17 pixels
 Text aligned to the centre

e. The conversion buttons can have static styling as:

Font size of 20px

A transparent border with border-radius as 40px and the content fitting the page width

Background-color as light green
 Left and right padding as 15px each

f. The conversion button should have on-hover styling of changing the mouse appearance from an arrow to a **pointer**

► Click to see the content of style.css

10. The calculator panel will now be styled:

a. The elements in bold b class will have:

Border top style as solid & border top width as 20px, border radius as 10px
 Background-color as white, Width as 600px, height as 400px

Top and bottom margins as 25 pixels

b. The temparature class can have the top border color as green.

c. The weight class can have top border colour as coral.

d. The distance class can have top border colour as eyan.

e. The legend tag can have font-size as 30px with a bolder font-weight.

f. The panel can have an overall left margin of 50px.

► Click to see the content of style.css

11. The floating home button will now be styled.

a. The button icon can:

· Have width and height as 40px each

. Items aligned and justified to the center

Border radius as 100% and background colour as cyan

The icon should be fixed and not move with scrolling. It can be at the extreme left and 40 pixels from the bottom of the page

b. The image for the icon button can have a width of 30 px.

12. The footer tag can have:

The background colour as light pink & top margin as 20px.

13. Save the changes made so far.

▼ Click to see the completed code for style.css

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```
1. /* sets the margin of all the element to 10px on all sides*/ 2. {
                                                   margin: 10px;
          5. 5. body(
7. background-color: black;
8. }
9.
10. /* Home section which has the app name and nav bar. The styling is applied by id */
11.
22. shome {
                                           thome {
    background-color: #483355;
    padding-bottom: lcm;
    margin-left:-lcm;
    margin-left:-lcm;
    margin-rcp:-lcm;
    padding-top:-lcm;
    padding-bottom: 2cm;
}

        21. * Application name inside the I
23. * Application name inside the I
24. header {
25. font-size: 30px;
26. color: rgb(240, 234, 245);
27. float: left;
28. padding-left: 2cm;
29. 30.
                                     /st Application name inside the home section. The styling is applied by tag name st/
              30.
31. /* Navigation Bar Container*/
                                         .topdiv {
  float: right;
                                         padding-right: 1cm;
              38. /* Navigation Bar Buttons */
                                       /* Navigation Bar Buttons */
.topmenu {
    color: lightgray;
    background-color: #483355;
    margin: 10px;
    padding: 10px;
    font-size: 20px;
    text-decoration:none;
    border-radius: 1mm;
    }
}
                                       .topmenu:hover {
  color: white;
  font-weight: bolder;
  background-color: #382742;
  text-decoration: underline;
}
        55.

' Container for all the three conversion calculator sections */
57. #all-conversion-sections(
58. display: grid;
59. justify-content: center;
68. }
02. figure {
03. float:left;
04. justify-self: suto;
05. width:200px
06. justify-self: suto;
06. justify-self: suto;
07. del. img {
07. del. img {
07. del. img {
07. del. img {
07. color:black;
07. fort-size: 17px;
07. justify-center;
07. justify-self: del. img {
07. del. img
```

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```
133. bottom:dBpx;
134. left:0;
155. }
135. ]
136. |
137. |
138. width:38px
139. ]
140. |
141. footer {
142. bockground-color:rgb(248, 234, 245);
144. }
```

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14. Now that you have the html file and the style sheet, link style.css to index.html.

- Click here for a hint
 Click here for the solution
- . Now that you have linked the style sheet, you can start applying the styles to the html page. Before you proceed take a look at all the styles defined in the style.css.

15. Set the values in index.html as below:

a. Set the value of the class attribute of the div inside inside the nav tag to topdiv .

b. Set the value of the class attribute of the buttons inside the nav bar to topmenu.

c. Set the value of the class attribute of the section with id temperature to b temperature. You are setting one generic style b and a specific style temperature.

 $d. \ Set the \ value \ of the \ class \ attribute \ of the section \ with \ id \ weight. \ You \ are setting \ one \ generic \ style \ b \ and \ a \ specific \ style \ weight.$

e. Set the value of the class attribute of the section with id distance to b distance. You are setting one generic style b and a specific style distance.

f. Set the value of the class attribute of the div with id go-home to iconbutton.

16. Once you have added all the styling to the index.html, save your changes.

▼ Click here to see the completed code for index.html

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```
1. <IDOCTYPE html>
2. <ntml lang="en">
3. <head>
4. <title>Document</title>
5. <lank rel="stylesheet" href="style.css">
                           </head>
<body>
<section id="home">
                                                   <header>
Unit Conversions
                                                    </header>

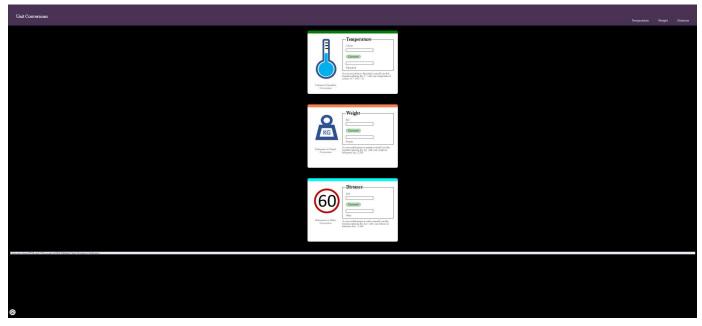
div class="topdiy"

                                              </nav>
</section>
<div style="clear:both;"></div>
                                              <div id="all-conversion-sections">
                                                   csetion id='temperature' class="b temperature')
cdiv id='tmp">
cfly id='tmp"
cfly id='tmp">
cfly id='tmp"
cfly
                                                                      </figure>
                                                                           <fieldset>
<legend>Temperature</legend>
<label for="Temperature">Celsius</label> <br/> <br/>
                        <input type="number" id="c"> <br/>
                                                                                 <button id="temperature"> Convert </button> <br/>
                                                                                   <input type="number" id="f"> <br/>
                      <div style="clear:both;"></div>
                                                    <section id="weight" class="b weight">
                                                                   cds/ jar- wgt - (cds/ j
                                                                                    <legend>Weight</legend>
  <label for="Weight">KG</label> <br/><br/>
                                                                                    <button id="weight"> Convert </button> <br/>
                                                                                   <input type="number"> <br/>
                           <label for="Weight">Pounds</label>
  </fieldset>
                                                                           (aside)
To convert kilograms to pounds yourself, use this formula replacing the 'kg' with your weight in kilograms: kg x 2.285 
                                                                        c/article>
                                                   </div>
                                                    <div style="clear:both:"></div>
                                                 csection id="distance" class="b distance">
cds/ id="distance" class="b distance">
cds/ id="distance" class="b distance">
cds/ id="distance" class="b distance">
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cds/ id="distance">
cds/ id="distance">
class="b distance">
class=
                        <input type="number"> <br/>
                                                                                              <button id="distance"> Convert </button> <br/> <br/>
                                                                                            <input type="number"> <br/>
    98.
99. <label for="Distance">Miles</label>
```

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```
(/fieldset)
casideo
To convert kilometers to miles yourself, use this formula replacing the 'km' with your distance in kilmeters: km ÷ 1.689
//dsideo
                                                               </article>
</div>
</section>
<div style="clear:both;"></div>
                                                      </div>
                                        <div id="go-home" class="iconbutton">
ca herf="#home">
class="iconbutton">
ca herf="#home">
class="iconbutton">
ca herf="#home">
class="iconbutton">
ca herf="#home">
class="iconbutton">
class="iconbutt
                                             <footer>Learn more about HTML and CSS as a part of IBM Fullstack Cloud Developer Certification//footer>
   Copied!
```

17. Save index.html file and then view it with Live Server. The page would render as given below.



Summary

Congratulations!!! You have now learned how to update the styles for a web page using both inline and internal CSS. You have also done a Practice exercise wherein you have applied CSS styling to the Hands-on Lab: Unit Conversion using HTML5 Structural Elements and beautified it. Don't stop there - we encourage you to create a web page lab about your country and try applying and updating styles using CSS.

Tutorial details

Author: Ramesh Sannareddy

Change log

Date	Version	Changed by	Change Description
2020-08-13	1.0	Ramesh Sannareddy	Initial version created
2022-10-13	1.1	Michelle Saltoun	Image updates
2022-11-11	1.2	K Sundararajan	Updated instructions based on SME review
2023-03-17	1.3	Sneha R Baddi	Instructions updated for clarity
2023-04-25	1.4	Sneha R Baddi	Images Updated

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