

Assignment #4
Temperature Converter

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Introduction

This assignment is formulated to test our familiarity with the JavaScript that we've learned so far. The goal is to use HTML, CSS and JavaScript to create a temperature converter that functions. I will attempt to create a fully functioning page with a Celsius to Fahrenheit and Fahrenheit to Celsius conversion.

List of elements and tricks used

<!DOCTYPE> This describes the type of document.
 <lang> Attached to <html> defines the language.
 <html> This defines the root of an html document.
 <head> This expresses that the document contains metadata/information.
 <title> This is an attribute that defines some extra information about an element.
 <style> This is used to define style information for a document.
 <body> This defines the body of the document.
 <form> Defines an HTML form for user input.
 <input> Defines an input control.
 <label> This element defines a label for several form elements.
 <padding> Defines the space left around objects on the page.
 <a> This defines a hyperlink.
 <h1> This defines html headings.
 This defines an image.
 <p> This defines a paragraph.
 <div> Defines images and containers.
 {font} This was used to define the font size.
 {} Defines css code.
 {color} Defines the color.
 {text-align} Defines where the text will be placed.
 <p> Defines a paragraph.
 {id}

Script and explanation

HTML & JavaScript

I started with this code. I started with the descriptions and defined the parameters and what and scale of the objects.

```

Temperature Conversion.html
<!DOCTYPE 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">
  <link rel="stylesheet" href="styledm.css">
  <title>Temperature converter</title>
</head>

```

This part of the code defines the parameters that the temperature descriptions follow.

```

<body>
  <div class="container">
    <form id="calcTemp" onsubmit="calculateTemp(); return false">
      <label for="temp">Enter the temperature to convert</label>
      <br>
      <input type="number" name="temp" id="temp" value="0">
      <select name="temp_diff" id="temp_diff">
        <option value="cel">°Celsius</option>
        <option value="fah">°Fahrenheit</option>
      </select>
      <br>
      <input type="submit" name="temp" id="submit">
      <br>
      <span id="result"></span>
    </form>
  </div>

```

This part of the code defines the script parameters for the code. It shows where I have connected the JavaScript file to the main file. Afterwards I closed it off.

```

    <script src="scriptdm.js"></script>
  </body>
</html>

```

CSS

This part is the css file. In this part of the code, I use the elements to describe the look of the temperature converter. I also define the font-style and size and add the color description as well.

```

    styledm.css
@import url('https://fonts.googleapis.com/css2?family=Roboto:wght@500&display=swap');

* {
  padding: 0;
  margin: 0;
  box-sizing: border-box;
  font-family: 'Roboto Mono', sans-serif;
  font-family: 18px;
}

.container {
  display: flex;
  justify-content: center;
  align-items: center;
  height: 100vh;
  text-align: center;
  background-color: #fff;
}

#calcTemp {
  padding: 29px 67px;
  min-height: 290px;
  background-color: #09DFDC;
  box-shadow: 0 20px 25px rgba(0, 0, 0, 0.25);
}

```

This part of the code defines more of the font size and other aspects. The elements are used to defines what the labelling will look like and defines all the borders of the object and how much space there will be between the object and the outside border of the page.

```

label {
  font-size: 30px;
  line-height: 78px;
}

#temp {
  width: 110px;
  height: 34px;
  border-radius: 5px;
  margin: 12px;
  padding: 8px;
  font-size: 20px;
  font-weight: 500;
  border: none;
  outline: none;
}

#temp_diff {
  width: 120px;
  height: 34px;
  border-radius: 5px;
  margin: 12px;
  font-size: 18px;
  font-weight: 500;
  border: none;
  outline: none;
}

```

This defines the background color, font size for the font button and it's margins. It also defines how the button will react and it's color.

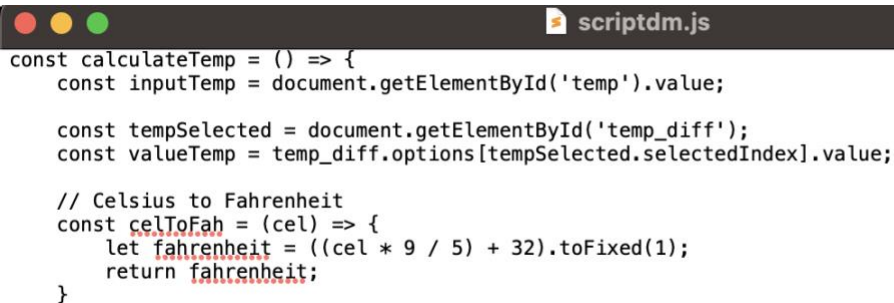
```
#submit {
  width: 100px;
  border-radius: 5px;
  margin: 30px 0 20px 0;
  font-size: 18px;
  background-color: rgb(218 229 220);
  padding: 5px;
  transition: all 0.5s ease;
}

#submit:hover{
  background-color: antiquewhite;
  cursor: pointer;
}

#result{
  font-size: 27px;
}
```

JavaScript

The JavaScript portion has elements that define how the object will be used. The equation that will allow the numbered actions in the object is defined here as well.



```
const calculateTemp = () => {
  const inputTemp = document.getElementById('temp').value;

  const tempSelected = document.getElementById('temp_diff');
  const valueTemp = temp_diff.options[tempSelected.selectedIndex].value;

  // Celsius to Fahrenheit
  const celToFah = (cel) => {
    let fahrenheit = ((cel * 9 / 5) + 32).toFixed(1);
    return fahrenheit;
  }
}
```

This part just continues in laying out the remainder of the parameters for the objects' calculations.

```
// Fahrenheit to Celsius
const fahToCel = (fah) => {
  let celsius = ((fah - 32) * 5 / 9).toFixed(1);
  return celsius;
}

if (valueTemp == 'cel') {
  document.getElementById("result").innerHTML = celToFah(inputTemp) + "&#176; Fahrenheit";
}
else {
  document.getElementById("result").innerHTML = fahToCel(inputTemp) + "&#176; Celsius";
}
}
```

Conclusion

In conclusion, I used the text we have learned so far, tutorials and research websites to build this page. I have had some difficulty with some elements of this assignment, but I am attempting to work through it. I was not able to get the small thermometer on the left, I am aware of that and acknowledge the code is simple but takes some more practice. Overall, this assignment was very good practice and a good measure of where we are all at with the language. Thank you. I appreciate your time and patience with us, and I am a bit more inspired to keep learning through the pain.

References

Abderahman, H, Dr. (2023). *Internet applications Lectures*. [Lecture notes, PowerPoint slides] Algonquin College.

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