15.1 Lesson Summary - Introduction to Plotly.js

JavaScript hosts a number of powerful tools for visualizing data in your webpages. Plotly.js provides you with the functionality to visualize your data in a webpage. JavaScript provides a number of different mathematical functions to assist in data processing.

Concept: **Plotly.js** is a JavaScript library built on top of D3 that provides the ability to add charts to your webpages. To add Plotly functionality to a webpage you can add a reference to a Content Deliver Network (CDN) in the *<head>* of your webpage. For example:

*<script src="https://cdn.plot.ly/plotly-latest.min.js"></script>*

To create a basic **bar** chart using **Plotly** you could use the following code:

*Plotly.newPlot("plot", [{*

*x: ["Rating1", "Rating2", "Rating3"],*

*y: [9.1, 6.9, 8.7],*

*type: "bar"*

*}]);*

* Activity: 01-Ins\_Basic\_Plots, 02-Stu\_First\_Chart

Concept: JavaScript's **Math** library provides the functionality to manipulate numbers and perform mathematical operations. The ***random*** function will generate a random number, the ***round*** function will round the specified number, and the ***floor*** function will round the number down to the nearest integer. For example:

*console.log("Math.random()", Math.random());*

*console.log(Math.round(8.27));*

*console.log(Math.floor(6.44));*

* Activity: 05-Ins\_Math\_Random, 06-Stu\_Random\_Number\_Gen

Concept: Your trace data describes the data that will be visualized in your Plotly plot. A plot can have **multiple traces**. For example:

*var trace1 = {*

*x: [1, 2, 3, 4, 5],*

*y: [9, 7, 3, 4, 2],*

*type: "scatter"*

*};*

*var trace2 = {*

*x: [1, 2, 3, 4, 5],*

*y: [8, 4, 3, 8, 6],*

*type: "scatter"*

*};*

*var data = [trace1, trace2];*

*Plotly.newPlot("plot", data);*

* Activity: 07-Ins\_Multi\_Trace, 08-Stu\_Multi\_Trace