**Creative Coding 1 Report   
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**This project has been a progress of evaluation and reiterating my work to implement advanced functionality into the charts that I have created throughout the provided time. Whilst I was coding this project and analysing the requested deliverables, I curated functionalities into the designs of the charts which was previously discussed throughout the module. I will discuss areas of the code in which I believe demonstrated key methods and algorithms that the charts were created from.**

**Code 1 – Scale**

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Description automatically generated**

The function of the scale variable was created initially using temporary values for the variable to test its functionality. Then I iterated the variable to include a formula which divides the height of the chart by the maximum value found of the yValue variable. The maxValue variable is assigned the max method which stores the maximum value of the prescribed array. The map() method is one which iterates through the list creating a new array of the variable given as it applies a function to all the items that are iterated.

**Code 2 – Gap**

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The gap variable and its functionality were a key part of the creation of the bars in the charts as it contains a formula which spaces the bars created by a specific amount continuously increasing. The formula implements a system which increases the gap width by the number of bars. In doing so the first bar may be placed 20 widths from the origin but the 2ndbar will be placed the first bar gap plus the 2nd bar width, followed by their gap width. This format will continue until the length of the array of the data is reached.

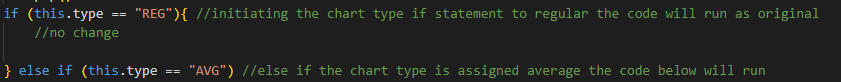
**Code 3 – Nested Loop**

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The particular lines of code which I will discuss will be the for() loops as this is a nested loop that iterates through the program to produce bars for the chart that are stacked. The formula in which this code follows is that the initial for(i) loop will iterate the length of the data array value. This will then initiate the for(j) loop which will iterate the length of the values of yValues array which further on creates the bars according to the indexes of (i) and (j) to alter the position of the bar’s height.

**Code 4 – If Statements**



The if statements formulated throughout the stacked bar chart code was created to allow for alteration of the code depending on the user’s input of the value in the sketch.js file. If the value of the variable equals the string REG it will keep the stacked chart vertically aligned and stacked plainly. The elif statement compares the value of the variable type in correlation with the string within the function, if it equals the string AVG it will proceed with the code below creating the average line along with the formula. The instances of the if statements were later used in a iterated format of altering the position of the chart to create a horizontally stacked chart or a vertically stacked chart.

Code 5 – Pushing Data

The function push() allows for variables or values to be inserted into arrays. In this instance there is an a variable named cleanData declared with a value of an empty array. The for loop is initiated which reads the amount of data rows in the csv file through iterations of the loop of (i). It specifically targets the rows objects which is accessed through the “ . ” operator. This allows for the rows of data to be inserted into an array which is easier to access for future use throughout the code.

To conclude this assignment that I was tasked with has challenged my capability of abstraction and computational thinking hugely but I have developed new skillsets from creating these varying charts.