

See Zhi Qian

J22037941/ 105277702

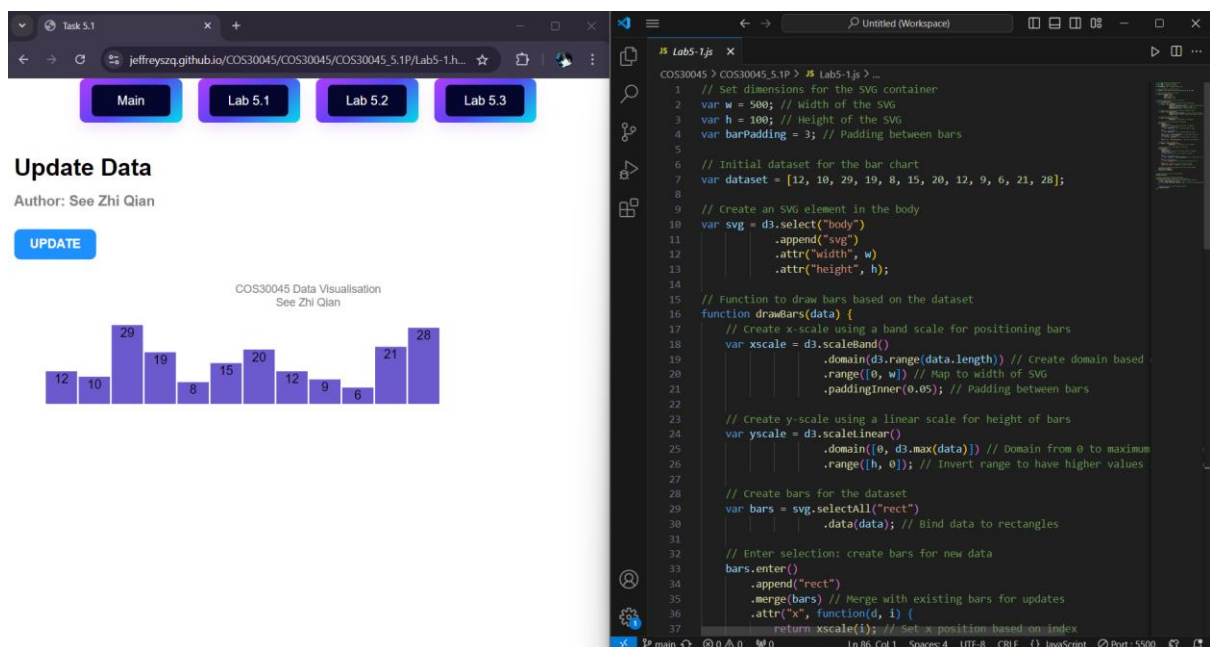
Section: C2

## Data Visualization

Use this link for Hosting: <https://jeffreyszq.github.io/COS30045/COS30045>

## Lab Exercise Demonstration 3 (Exercises 5.1-6.2)

### Lab 5.1



## Lab 5.2

Task 5.2


jeffreyszq.github.io/COS30045/COS30045\_5.2P/Lab5-2.h...

Main Lab 5.1 Lab 5.2 Lab 5.3

Update Data

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UPDATE CIRCLE EASING ELASTIC EASING



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JS Lab5-2.js

```
1 // Set up SVG dimensions and dataset
2 var w = 500; // Width of the SVG container
3 var h = 150; // Height of the SVG container
4 var barPadding = 3; // Padding between bars
5 var dataset = [14, 5, 26, 23, 9, 14, 5, 26, 23, 9]; // Initial dataset
6
7 // Create a band scale for the x-axis
8 var xScale = d3.scaleBand()
9   .domain(d3.range(dataset.length)) // Domain based on the number of data points
10   .range([0, w]) // Map to the width of the SVG
11   .paddingInner(0.05); // Padding between bars
12
13 // Create SVG container
14 var svg1 = d3.select("article.content")
15   .append("svg")
16   .attr("width", w) // Set width of SVG
17   .attr("height", h); // Set height of SVG
18
19 // Add an x-axis to the SVG using d3.axisBottom()
20 var xAxis = d3.axisBottom(xScale);
21
22 svg1.append("g")
23   .attr("transform", "translate(0, " + h + ")") // Position the x-axis at the bottom
24   .call(xAxis); // Call the x-axis to render it
25
26 // Draw bars for each data point in the dataset
27 var bars = svg1.selectAll("rect")
28   .data(dataset) // Bind data to rectangles
29   .enter() // Enter selection for new data points
30   .append("rect") // Append rectangles for each data point
31   .attr("x", function(d, i) {
32     return xScale(i); // Set x position based on index
33   })
34   .attr("y", function(d) {
35     return h - (d * 4); // Set y position based on value (scaled)
36   })
37   .attr("width", xScale.bandwidth()); // Set width of each bar
```

## Lab 5.3

Task 5.3

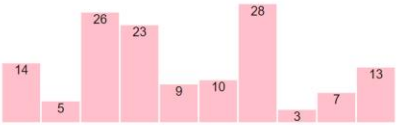
jeffreyszq.github.io/COS30045/COS30045\_5.3P/Lab5-3.h...

Main Lab 5.1 Lab 5.2 Lab 5.3

Update Data

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ADD BAR REMOVE BAR

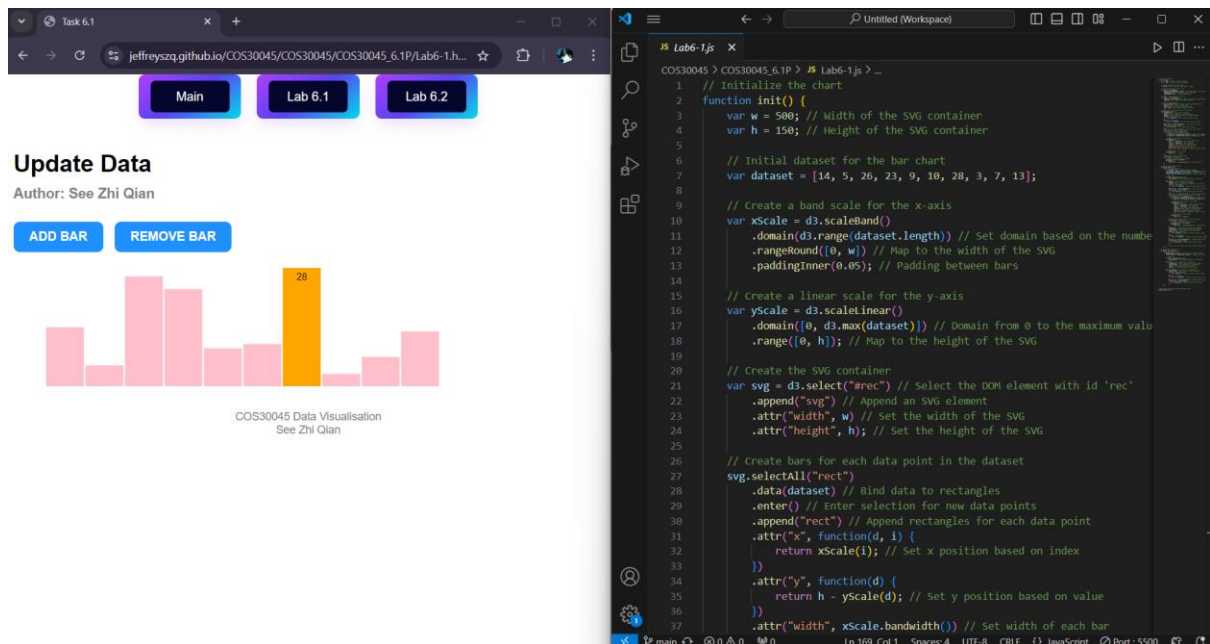


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JS Lab5-3.js

```
1 // Initialize the chart
2 function init() {
3   var w = 500; // Width of the SVG container
4   var h = 150; // Height of the SVG container
5
6   // Initial dataset for the bar chart
7   var dataset = [14, 5, 26, 23, 9, 10, 28, 3, 7, 13];
8
9   // Create a band scale for the x-axis
10  var xScale = d3.scaleBand()
11    .domain(d3.range(dataset.length)) // Set domain based on number of data points
12    .rangeRound([0, w]) // Map to the width of the SVG
13    .paddingInner(0.05); // Padding between bars
14
15  // Create a linear scale for the y-axis
16  var yScale = d3.scaleLinear()
17    .domain([0, d3.max(dataset)]) // Domain from 0 to maximum value in dataset
18    .range([0, h]); // Map to height of the SVG
19
20  // Create SVG container for the chart
21  var svg = d3.select("#rec") // Select the DOM element with id 'rec'
22    .append("svg") // Append SVG element
23    .attr("width", w) // Set width of SVG
24    .attr("height", h); // Set height of SVG
25
26  // Draw bars for each data point in the dataset
27  svg.selectAll("rect")
28    .data(dataset) // Bind data to rectangles
29    .enter() // Enter selection for new data points
30    .append("rect") // Append rectangles for each data point
31    .attr("x", function(d, i) {
32      return xScale(i); // Set x position based on index
33    })
34    .attr("y", function(d) {
35      return h - yScale(d); // Set y position based on value
36    })
37    .attr("width", xScale.bandwidth()); // Set width of each bar
```

## Lab 6.1



## Lab 6.2

