Lab 4 (2/10)

Submit your team number

Question *Submitted Feb 10th 2023 at 7:06:44 pm*

Please enter your team number.

50

1. Analyze the data using D3 library methods

Download lab4.html. The starter code loads cereals.csv, the same dataset you used in Lecture Exercise 5; and generates a <svg>

This time, draw a barplot with the number of cereals per Manufacturers.

> ℹ **d3.rollup()** will help you calculate the number of cereals per Manufacturers.

> ℹ Remember **d3.rollup() returns an `InternMap` object,** not an `array` like `data` . When defining anonymous functions (i.e. `function(d) {...}`) for the attributes of `<rect>` , checking what `d` looks like by using `console.log(d)` will help you correctly define those anonymous functions.

Your output should look similar to this below:

Question *Submitted Feb 10th 2023 at 7:14:46 pm*

Copy paste the code you added.

```
<script type="text/javascript">

    // Load cereal.csv to a const variable cereals
    let rowConverter = function (d) {
        return {
            Name: d.Name,
            Manufacturer: d.Manufacturer,
            Calories: parseFloat(d.Calories),
            Carbo: parseFloat(d.Carbo),
            Year: +d.Year
        };
    }

    const cereals = d3.csv("cereal.csv", rowConverter);
```

```
cereals.then(function (data) {
    console.log(data);

    let svgwidth = 300;
    let svgheight = 300;

    var svg = d3.select("#activity1").append("svg")
        .attr("width", svgwidth)
        .attr("height", svgheight)


    // calculate the number of cereals for each manufacturer
    r = d3.rollup(data, v => v.length, d => d.Manufacturer)
    // drawing the barplot, without dynamic scaling for now (slide 1)
    // we will integrate dynamic scaling in slide 2

    svg.selectAll('.bara1')
    .data(r)
    .enter()
    .append('rect')
    .attr('x', (d,i)=> i*35)
    .attr('y', d => svgheight - d[1]*10)
    .attr('width', 30)
    .attr('height', d => d[1]*10);



})

</script>
```

2. Dynamic Scaling

Now let's add dynamic scaling.

The number of cereals is a quantitative attribute so d3.scaleLinear() works. For categorical/ordinal attributes, [d3.scaleBand()](#) is a better choice. With bandwidth() you can also set the width each bar dynamically; with paddingInner() you can set some padding between bars too (how cool!).

Take a look at the hyperlink above and integrate dynamic scaling for both x- and y-axis on the barplot.

Question 1 *Submitted Feb 10th 2023 at 7:11:59 pm*

Copy paste your xScale and yScale

```
xScale = d3.scaleBand().domain(r.keys()).range([0, svgwidth]).paddingInner(0.1)

yScale = d3.scaleLinear().domain([0, d3.max(r.values())]).range([svgheight - padding, padding])
```

Question 2 *Submitted Feb 10th 2023 at 7:12:00 pm*

Copy and paste your modified code to generate the barplot with dynamic scaling.

```
// calculate the number of cereals for each manufacturer

r = d3.rollup(data, v => v.length, d => d.Manufacturer)

// drawing the barplot, without dynamic scaling for now (slide 1)

// we will integrate dynamic scaling in slide 2

padding = 3

xScale = d3.scaleBand().domain(r.keys()).range([0, svgwidth]).paddingInner(0.1)

yScale = d3.scaleLinear().domain([0, d3.max(r.values())]).range([svgheight - padding, padding])


svg.selectAll('.bara1')

.data(r)

.enter()
```

```
.append('rect')

.attr("class", "bar")

.attr('x', (d,i)=> xScale(d[0]))

.attr('y', d => yScale(d[1]))

.attr('width', d => xScale.bandwidth())

.attr('height', d => svgheight - yScale(d[1]));
```

Upload Your Files

Question 1 *Submitted Feb 10th 2023 at 11:52:49 pm*

Upload the screenshot of your resulting webpage. You will need to click the "clip" button to upload a file into the Answer box.
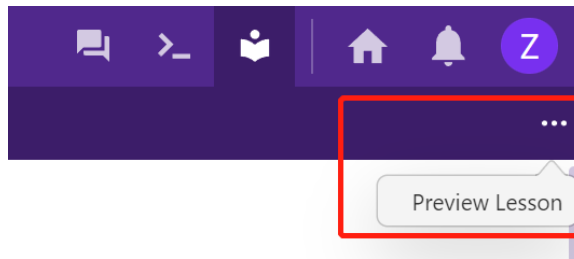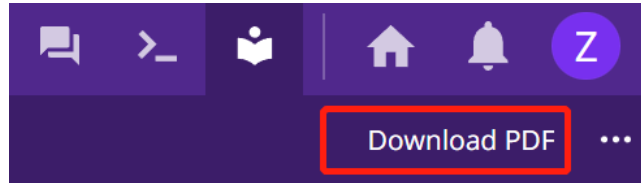

Question 2

You need to download the PDF of lecture exercise 3 and upload it with other files to the Gradescope. Follow the instructions on how to download PDF file:

1. Click on the ellipsis button and the Preview Lesson.

2. After that, click on the Download PDF button.

○ PDF downloaded!

○ Haven't done yet!

Question 3

Upload the following files to Gradescope. You need to make **a group submission,adding all present members in your team**, so that the present members get the participation credit.

Files to upload:

- lab4.html
- PDF you downloaded as Q2

○ Our team uploaded the the files on gradescope!

○ Oops, our team did not upload the files on gradescope!

Feedback

Question

Was the activity today clear? If not, please share how the course can improve it. Your comments will help us design future lab content (and also future students).

No response