Lab 6 (5/17)

Submit your team number

Question *Submitted May 17th 2023 at 3:19:54 pm*

Please enter your team number.

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1. Streamgraph

Stacked bar plots are great when you have few categories. What happens when there are multiple categories/primary keys? That's where streamgraphs can help.

> *"A Stream graph is a type of stacked area chart. It displays the evolution of a numeric value (Y axis) following another numeric value (X axis). This evolution is represented for several groups, all with a distinct color."*

Now let's make one which shows evolution of baby names in US

Using babynames.csv create a basic stream graph which shows the evolution of baby names across the years using lab6_streamgraph.html

Some helpful links (please read these and feel free to ask us questions after you've read them)

1) Streamgraph example

Note: you might notice the version in this example is d3 v4 and v6. Your version is v7. Please adapt your functions to v7.

2) d3.area()

3) d3.scaleTime()

4) d3.scaleOrdinal

5) Animations of different offsets in d3 streamgraphs

Question *Submitted May 17th 2023 at 4:57:42 pm*

Copy your code to which define and create the streamgraph plot

```
var keys = data.columns.slice(1);
            let maxVal = d3.max(data.map(d => d3.max([
                    d.Amanda,
                    d.Ashley,
                    d.Betty,
                    d.Deborah,
                    d.Dorothy,
                    d.Helen,
```

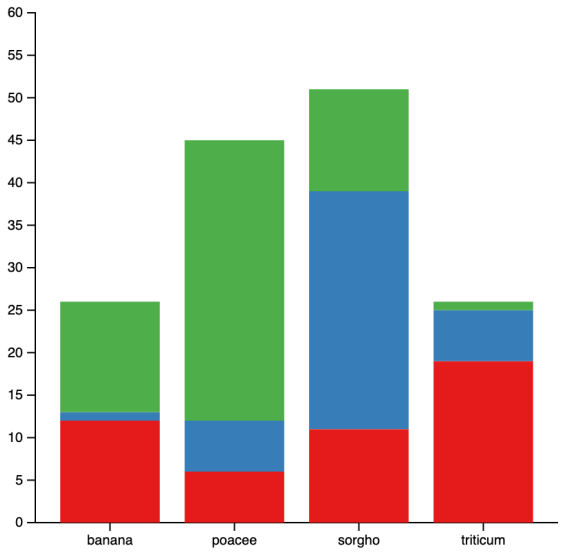
```
            d.Linda,
            d.Patricia
        ])
    ))
    console.log(maxVal)

    //define scaling
    var xScale = d3.scaleLinear()
        .domain(d3.extent(data, (d) => d.year))
        .range([0, width]);
    svg.append("g")
        .attr("transform", `translate(0, ${height - padding})`)
        .call(d3.axisBottom(xScale).ticks(5))
    var yScale = d3
        .scaleLinear()
        .domain([0, maxVal])
        .range([height - padding, padding]);
    svg.append("g").call(d3.axisLeft(yScale))

    var colors = d3
        .scaleOrdinal()
        .domain(keys)
        .range([
            "#e41a1c",
            "#377eb8",
            "#4daf4a",
            "#984ea3",
            "#ff7f00",
            "#ffff33",
            "#a65628",
            "#f781bf",
        ]);

    //Stack the data
    var stacked  = d3.stack()
        .keys(keys)(data)
        .map((d) => (d.forEach((v) => (v.key = d.key)), d));


    // Generate streamgraph
    svg.selectAll("mylayers")
        .data(stacked)
        .join("path")
        .style("fill", (d) => colors(d.key))
        .attr("d", (d) =>
        d3
            .area()
            .x((d, i) => xScale(d.data.year))
            .y0((d) => yScale(d[0]))
            .y1((d) => yScale(d[1]))(d)
        );
```

2. Stacked Bar Chart with Interactivity

Technically you are learning more about interactivity in the Thursday lecture - but just give it a try! You have been already using interactivity for previous assignments too :)

Download lab6_InteractiveStackedBarChart.html, styles.css, and stackedData.csv.

You will see that a Stacked Bar Chart has been created and looks like this:



We will try adding highlighting to the bars to make them interactive.

Finish the method chains below. For every chain, you have to set highlighting colors and strokes.

```
.on("mouseover", function (e, d) {
    // higlight the selected bar with black stroke

})
.on("mouseout", function (e, d) {
    // undo higlighting on the selected bar

});
```

You can follow this structure:

1. mouseover: Highlight the selected bar with "black" stroke of width = 2.
2. mouseout: Remove the highlighting from the selected bar.

Bonus) If you have time, you can play with the "mousemove" interactivity.

Question *Submitted May 17th 2023 at 6:36:36 pm*

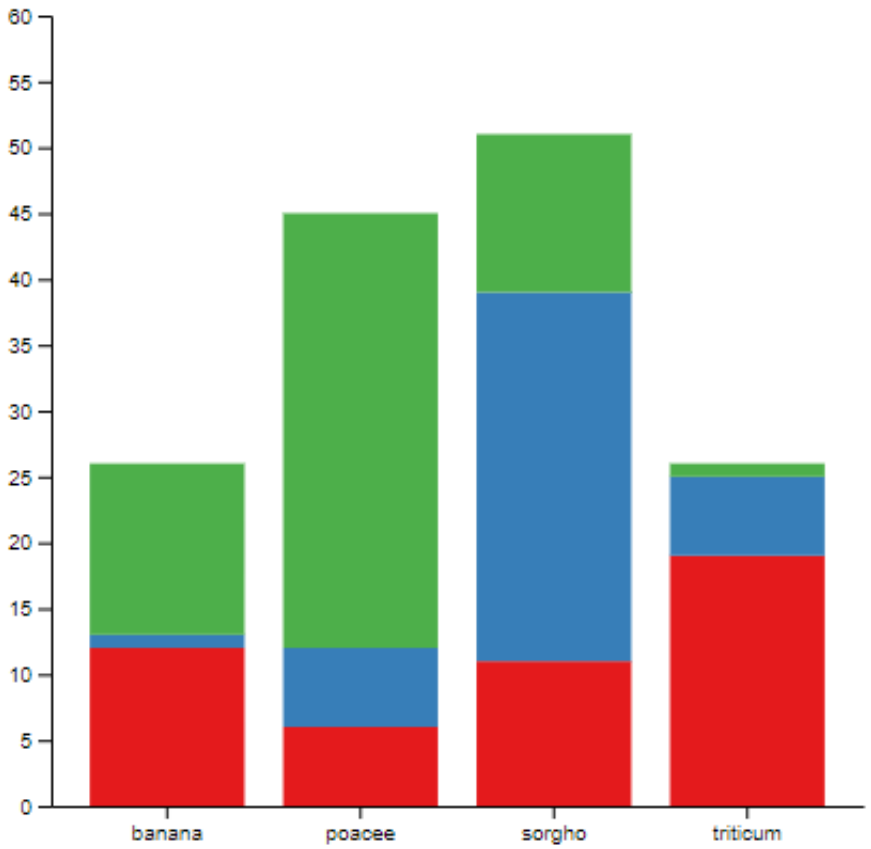
Paste your code for highlighting here:

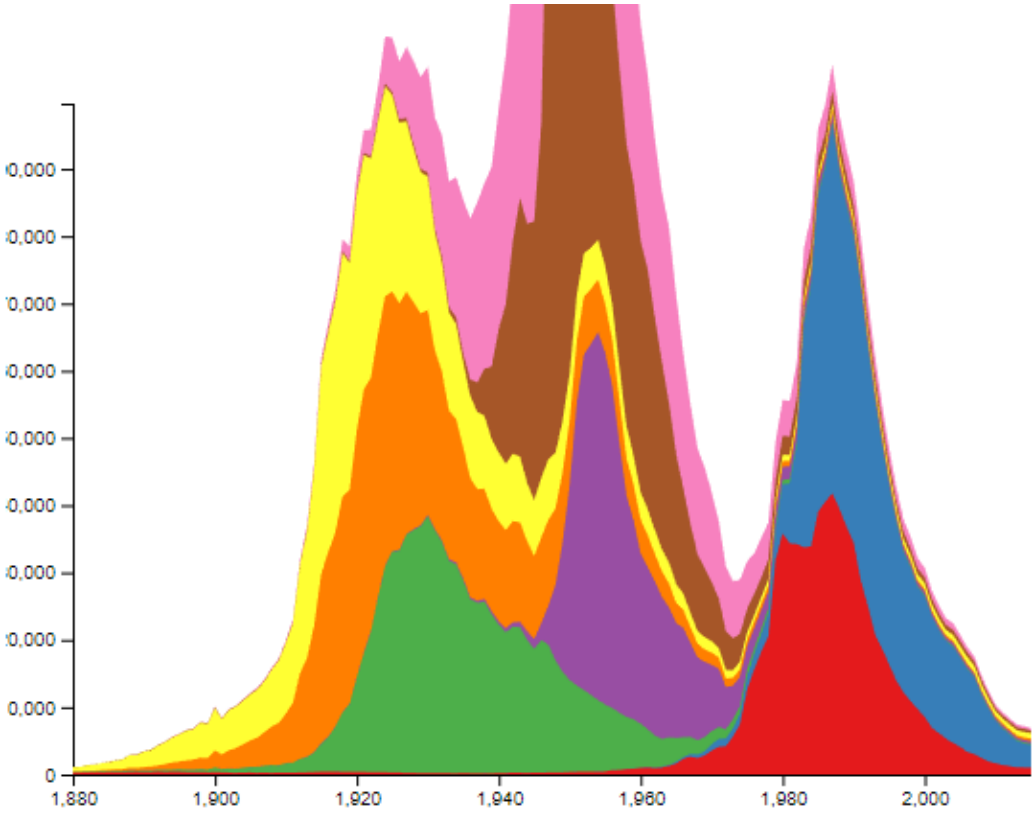
```
.on("mouseover", function (e, d) {
                    // higlight the selected bar with black stroke
                    d3.select(this).style("stroke", "black").style("stroke-width", 2);
                })
                .on("mouseout", function (e, d) {
                    // undo higlighting on the selectebar
                    d3.select(this).style("stroke", "none");
                });
```

Upload Your Files

Question 1 *Submitted May 17th 2023 at 6:37:29 pm*

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

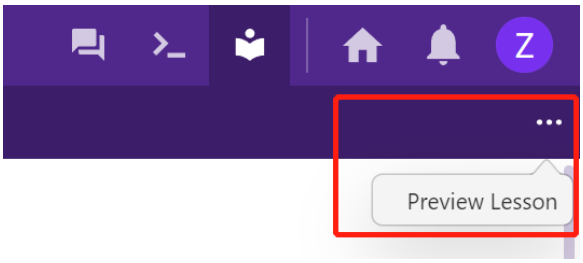




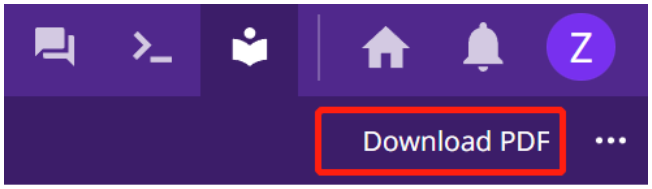
Question 2 *Submitted May 17th 2023 at 6:37:41 pm*

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 *Submitted May 17th 2023 at 6:37:33 pm*

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:

- lab5.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 *Submitted May 17th 2023 at 6:37:37 pm*

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).

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