

Assignment 1 - Part A

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Due Monday by 11:59pm **Points** 8 **Submitting** a file upload **File Types** zip
Available Jan 21 at 12am - Jan 29 at 11:59pm 9 days

Assignment 1 - Part A

For the first portion of Assignment 1, you will create a simple webpage with some graphical content using HTML, CSS, and SVG. These are fundamental building blocks that we will manipulate in later projects using Javascript and D3 to create visualizations. As such, it is vital that you know how the pieces work on their own, before moving forward.

The Data

This is one of the datasets from Anscombe's quartet that we discussed in Lecture 1. You will create multiple representations for this dataset, specifically a bar chart, a line chart, an area chart, and a scatterplot, all using vanilla SVG. **You should write the SVG manually and not create it using either javascript or drawing software.**

X	Y
10.0	8.04
8.0	6.95
13.0	7.58
9.0	8.81
11.0	8.33
14.0	9.96
6.0	7.24
4.0	4.26

12.0	10.84
7.0	4.82
5.0	5.68

Design and Implementation

Implement your solution in a file called ``a1.html``, which you should store in the top-level directory of the assignment 1 folder. At the top of the file add "CSE457 Assignment 1A", your name, your e-mail address, and your uID. Use the proper HTML elements to structure this information and use headings to label your charts.

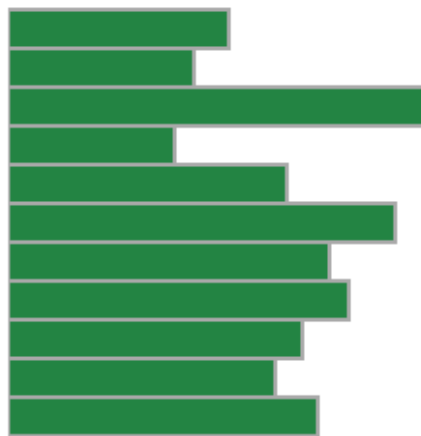
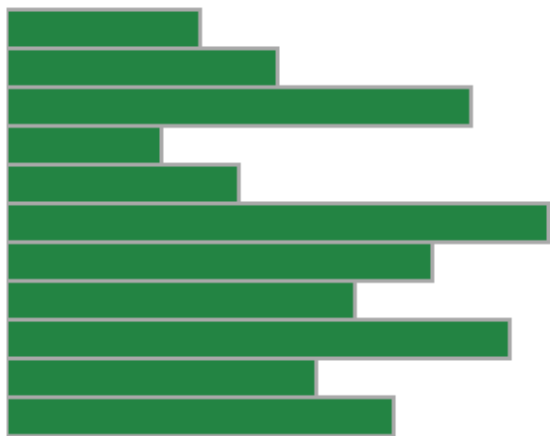
You can choose your design parameters freely, i.e., things like the color, aspect ratio and size of your charts are up to you. You need to make sure, however, that the data is clear. Note that you will probably need to make some kind of transformation to the data to achieve pleasant results.

You must use selectors to style your SVG elements, i.e., you should not use inline styling. You should also not use classes or identifiers more than necessary for each chart, i.e., one class definition per chart should be sufficient. There are good reasons to use both, CSS class selectors and element selectors in this homework.

Make sure your submission is a valid HTML5 file. Check that it is valid by uploading it to the [W3C HTML Validator](https://validator.w3.org/#validate_by_upload) [\(https://validator.w3.org/#validate_by_upload\)](https://validator.w3.org/#validate_by_upload).

Bar Charts

Create a horizontal bar chart for both the X and the Y dimensions of the data. Your bars should be aligned along the left and point right. Here is how your bars could look like:



Line Charts

Create a line chart for both, the X and the Y dimensions of the data. Your y-axis should have 0 at the bottom. Create the line chart for the X dimension out of a path element, and the line chart for the Y dimension out of SVG line elements. An example of the line charts:



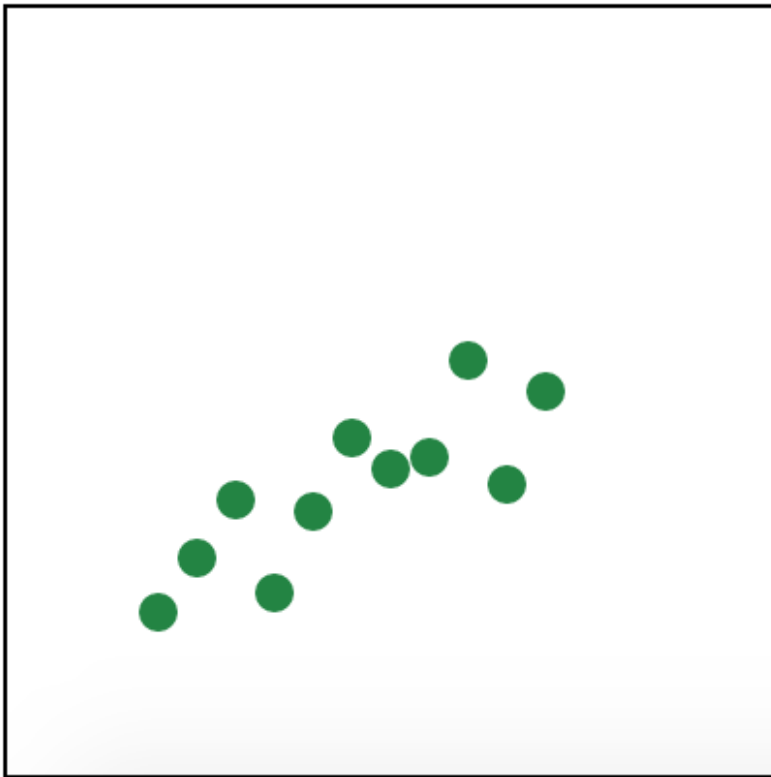
Area Charts

Next, you should draw an area chart of the same data. An area chart is very much like the line chart (hint: you can probably re-use some of the code from before), but it is filled. See this example:



Scatterplot

A scatterplot shows how two dimensions relate to each other. Plot the X dimension along the x-axis, and the Y dimension along the y-axis. Frame your scatterplot. This should be your result, approximately:



Collaboration.

As stated in the academic integrity policy, you are welcome to discuss the course's ideas, material, and homework with others to understand it better, but **the work you turn in must be your own**. You will be required to include one of the following statements in your README.txt:

- I did not use external resources.
- I used external resources. [followed by a citation list]

Submission.

Submit your work by Monday, January 28, 2019, 11:59 pm. Use the naming convention: "FirstnameLastname_a1a" (e.g., AlvittaOttley_a1a). Please rename the folder **before** compressing it.

Need Help?

If you have questions about this assignment:

1. First, check Piazza to see if others have had a similar problem.
2. If not, we encourage you to post a **public** question on Piazza. Feel free to do it anonymously if you are feeling particularly self-conscious.
3. If the question is sensitive, post a private question on Piazza.
4. Note that you are NOT allowed to post code or solutions on Piazza.
5. We hope to promote a welcoming and inclusive environment. We will monitor the forum and delete any inappropriate posts.

Grading

The charts don't have to look exactly like the ones shown, but the data must be legible. We consider HTML validity and efficient use of the SVG elements and styles in our evaluation. As stated earlier, please make sure your submission is a valid HTML5 file. Check that it is valid by uploading it to the [W3C HTML Validator \(https://validator.w3.org/#validate_by_upload\)](https://validator.w3.org/#validate_by_upload).

As you will see it can be a little tedious to get, the SVG to represent the data, in part 2 of the assignment we will no longer write this by hand but use JavaScript to generate SVG!

Assignment 1 - Part 1

Criteria	Ratings			Pts
Bar Charts	2.0 pts Full Marks	1.0 pts Some Marks	0.0 pts No Marks	2.0 pts
Line Charts	2.0 pts Full Marks	1.0 pts Some Marks	0.0 pts No Marks	2.0 pts
Area Charts	2.0 pts Full Marks	1.0 pts Some Marks	0.0 pts No Marks	2.0 pts
Scatterplot	2.0 pts Full Marks	1.0 pts Some Marks	0.0 pts No Marks	2.0 pts
				Total Points: 8.0