Homework 4: Introduction to Scales and D3

Now that we've learned the basics of D3, let's see if we can put them to use. To complete each question, open up the appropriate `.js` file and edit it.

Your finished homework should look like 04-homework-completed.pdf.

There are **multiple hints** for each question inside of the `hints/` directory. Each problem has an associated text file.

When you run into trouble, be sure to check the console for error messages! And make sure you're running a server. If all else fails, ask in #storytelling on Slack.

1. A couple scales

You need to fix some scales for me. I will eventually have several people of various heights, and will use a rectangle to represent each of them.

- `widthScale`: people are between 0 and 200cm tall, and I would like my longest bar to be 400 pixels
- `colorScale`: I would like the gender of `man` to be `#BDB76B`, `woman` to be `#ADFF2F`.

Update the `domain` and `range` of the `widthScale` and `colorScale`.

```
[redacted]
```

2. Appending a fancy SVG with a margin

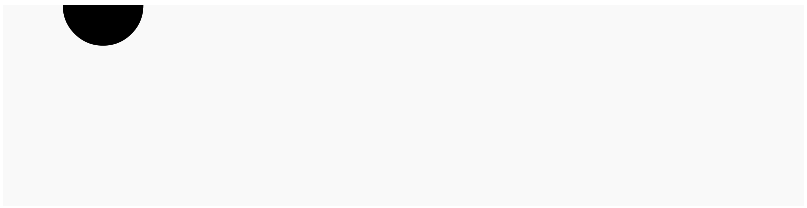
Right now I add an SVG inside of this chart in a very simple way, but it doesn't give me the margins we had in class.

Adapting the code from class, change this SVG to be 400 pixels wide, 200 pixels tall, with a 50 pixel margin the rectangle inside. *Don't copy the code from the link above, it won't work.)*

3. A circle chart

I have a few circles that I need to space out and resize. I would like...

- Every circle's `cy` to be the **vertical center of the graph**
- Each circle to be evenly spaced out on the x axis.
- Each circle's size to reflect the weight of the animal. If an animal were 1000 lb, it should have a radius of 50.



4. Reading external data

Run a server and open this file. If you do it correctly, the box below will turn green.

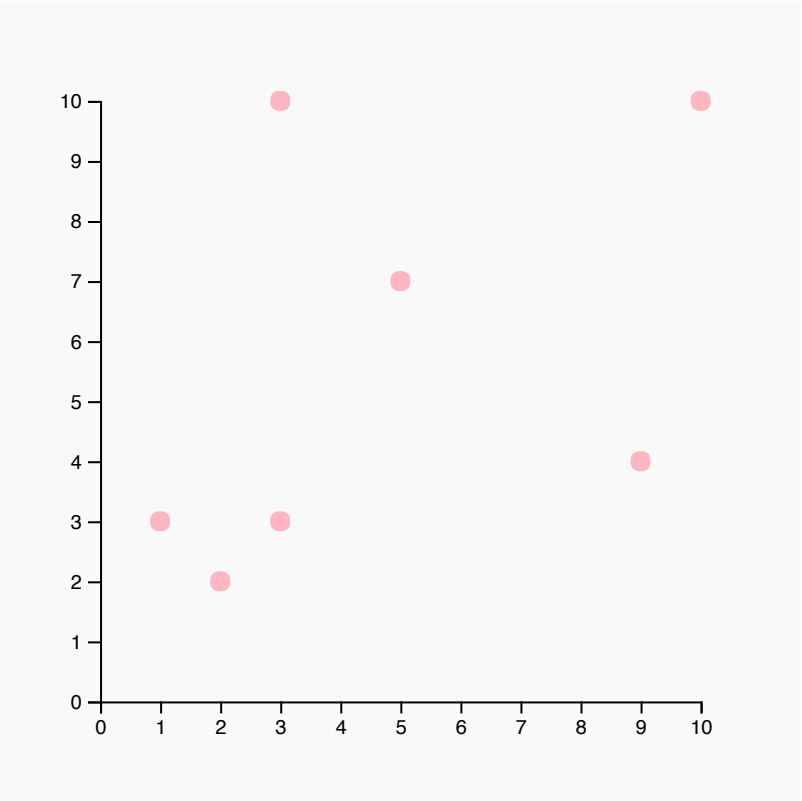
5. Scatterplots

Build me a graph...

- That is 400 pixels wide and 400 pixels tall, margin is up to you
- **Mark:** circle
- **Data:** hamburgers consumed, **Visual rep:** x axis
- **Data:** hot dogs consumed, **Visual rep:** y axis
- With light pink circles

- Has axis labels

The data being read is eating-data.csv

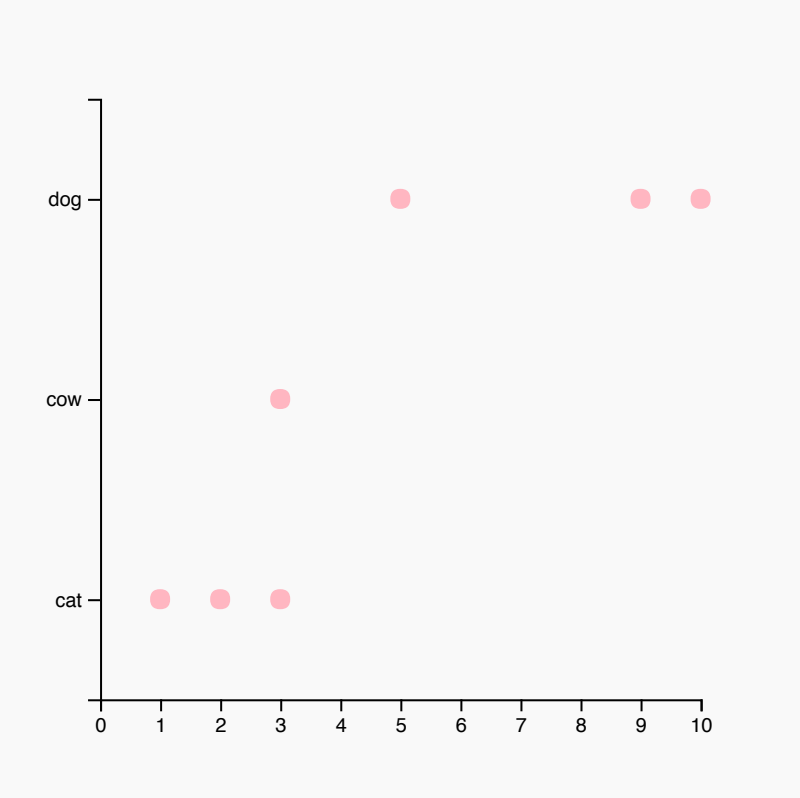


6. Categorical scatterplot

Build me a graph...

- That is 400 pixels wide and 400 pixels tall, margin is up to you
- **Mark:** circle
- **Data:** hamburgers consumed, **Visual rep:** x axis
- **Data:** kind of animal, **Visual rep:** y axis
- With light pink circles
- Has axis labels
- Has a little padding between the categories and the x axis label. Maybe 25% padding or so.

The data being read is eating-data.csv

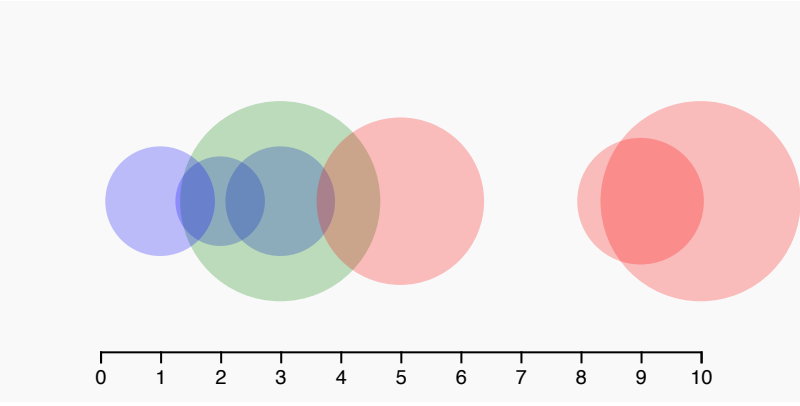


7. Weird colored bubble chart

Build me a graph...

- That is 400 pixels wide and 200 pixels tall, margin is up to you
- **Mark:** circle
- **Data:** hamburgers consumed, **Visual rep:** x axis
- **Data:** kind of animal, **Visual rep:** color *(colors are your choice)*
- **Data:** hot dogs consumed, **Visual rep:** radius *(max size is your choice)*
- With an opacity of `0.25`
- Has the x axis labeled

The data being read is eating-data.csv

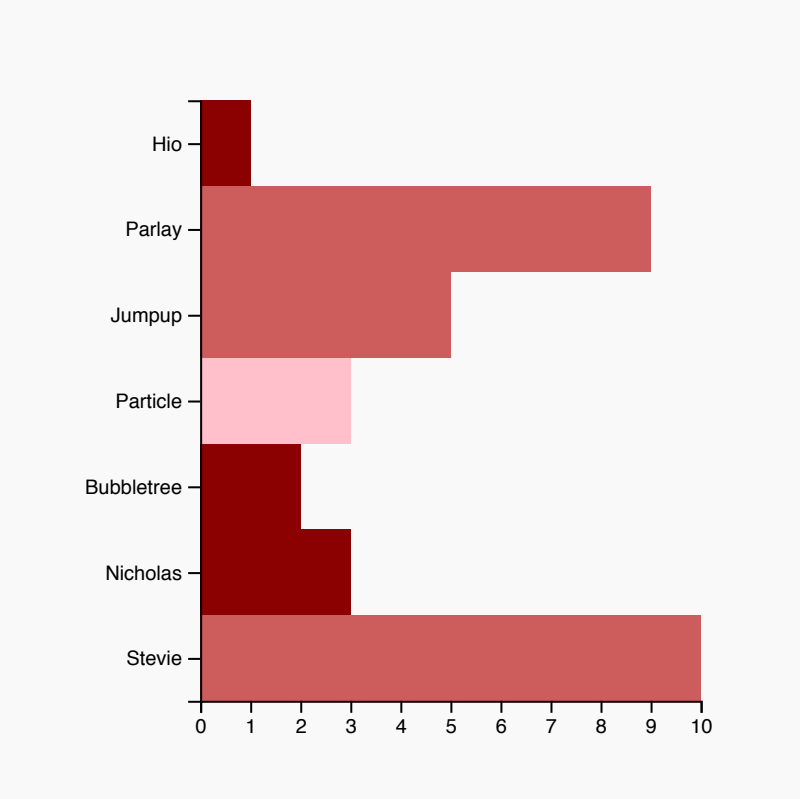


8. Bar graph

Build me a graph...

- That is 400 pixels wide and 400 pixels tall, margin is up to you
- **Mark:** rectangles
- **Data:** hamburgers consumed, **Visual rep:** height
- **Data:** kind of animal, **Visual rep:** color
- Has a axis labels on the y axis
- Adjust your margins so I can see the full names on the left

!!! Read the hints for how to do the y axis !!! The data being read is eating-data.csv



9. Bar graph

Build me a graph...

- That is 400 pixels wide and 400 pixels tall, margin is up to you
- **Mark:** rectangles
- **Data:** hamburgers consumed, **Visual rep:** height
- **Data:** kind of animal, **Visual rep:** color
- Has the bars lined up at the bottom
- Has a axis labels on the y axis

The data being read is eating-data.csv