CS/INFO 3300 // INFO 5100
Homework 1
Due at 11:59pm Wednesday, September 8

Goals: Review visual channels, Javascript types, data structures, and JSON.

Your work should be in the form of an **HTML file called** index.html **with one <p> element per problem**. Wrap any Javascript code for each problem in a **<script>** element nested within the **<p>** element.

For example:
```
<html><body>
  <p id="p0">
    Problem 0: We use a "let" statement to...
    <script>
      let x = 100;
    </script>
  </p>
</body></html>
```
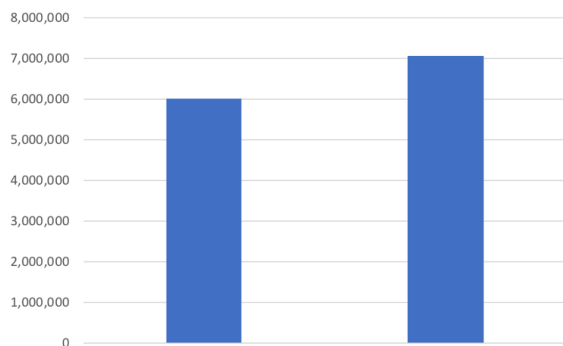
Create a zip archive containing this file and upload it to CMS before the deadline. Please check to make sure that the data uploaded are what you intend to submit.

1. For each of the following visualizations, identify the **marks** used and **visual channels** employed from the list provided. Be as exhaustive as possible. You do not need to supply the precise data attribute – you only need to write the marks and visual channels used.

Possible visual channels:
Aligned Position (x or y); Unaligned Position (x or y); Aligned Length; Unaligned Length;
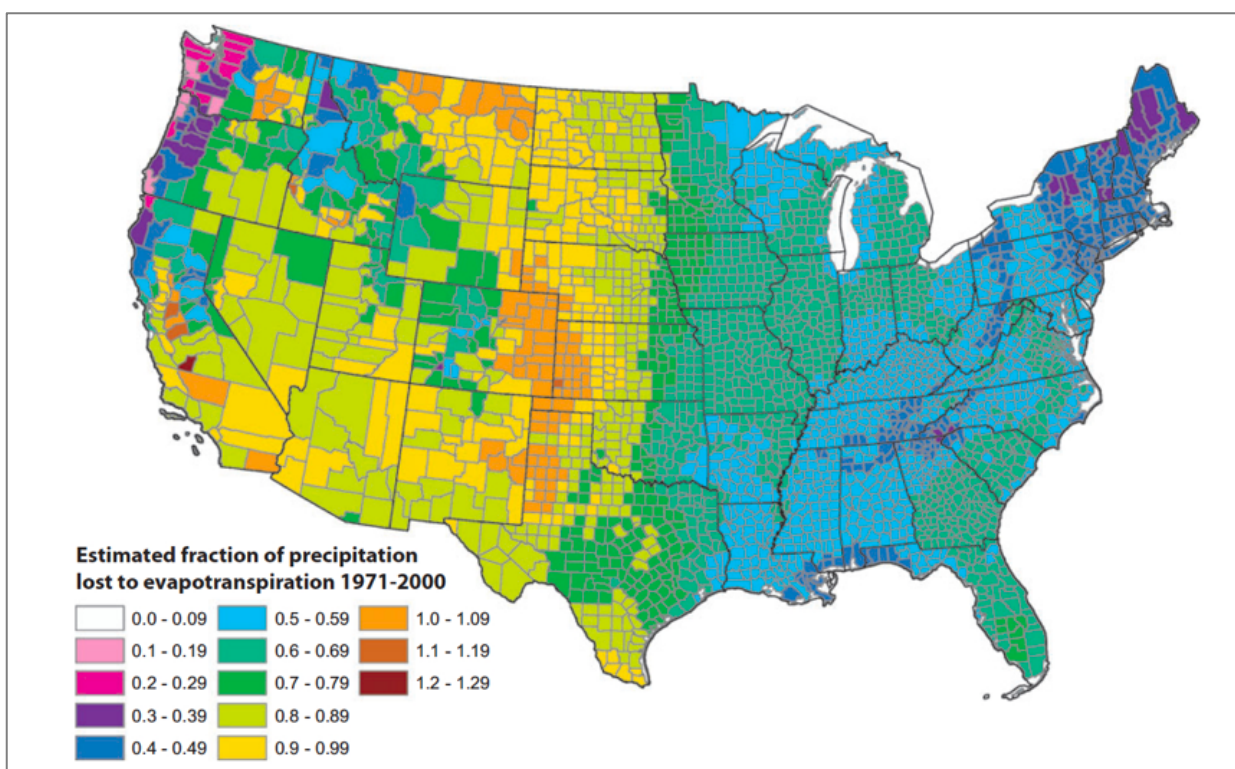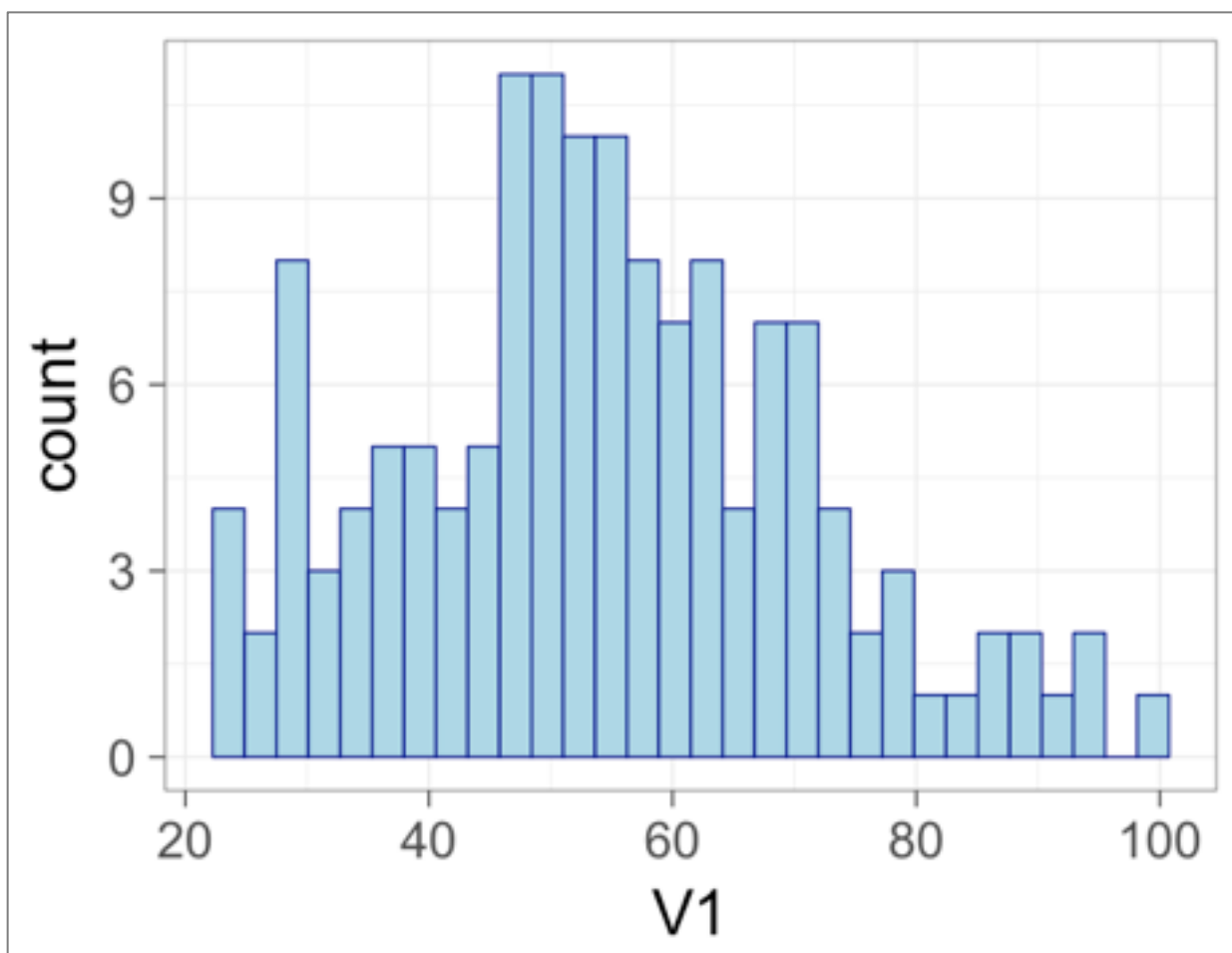 Area; Volume; Color Hue; Color luminosity;

EXAMPLE:

Marks: Blue rectangles
Channels: Varying the <u>vertical aligned length</u> and <u>horizontal aligned position </u>of rectangles

A)

Estimated fraction of precipitation
lost to evapotranspiration 1971-2000

☐ 0.0 - 0.09	☐ 0.5 - 0.59	☐ 1.0 - 1.09
☐ 0.1 - 0.19	☐ 0.6 - 0.69	☐ 1.1 - 1.19
☐ 0.2 - 0.29	☐ 0.7 - 0.79	☐ 1.2 - 1.29
☐ 0.3 - 0.39	☐ 0.8 - 0.89	
☐ 0.4 - 0.49	☐ 0.9 - 0.99	

B)

C)

The Spells of Harry Potter
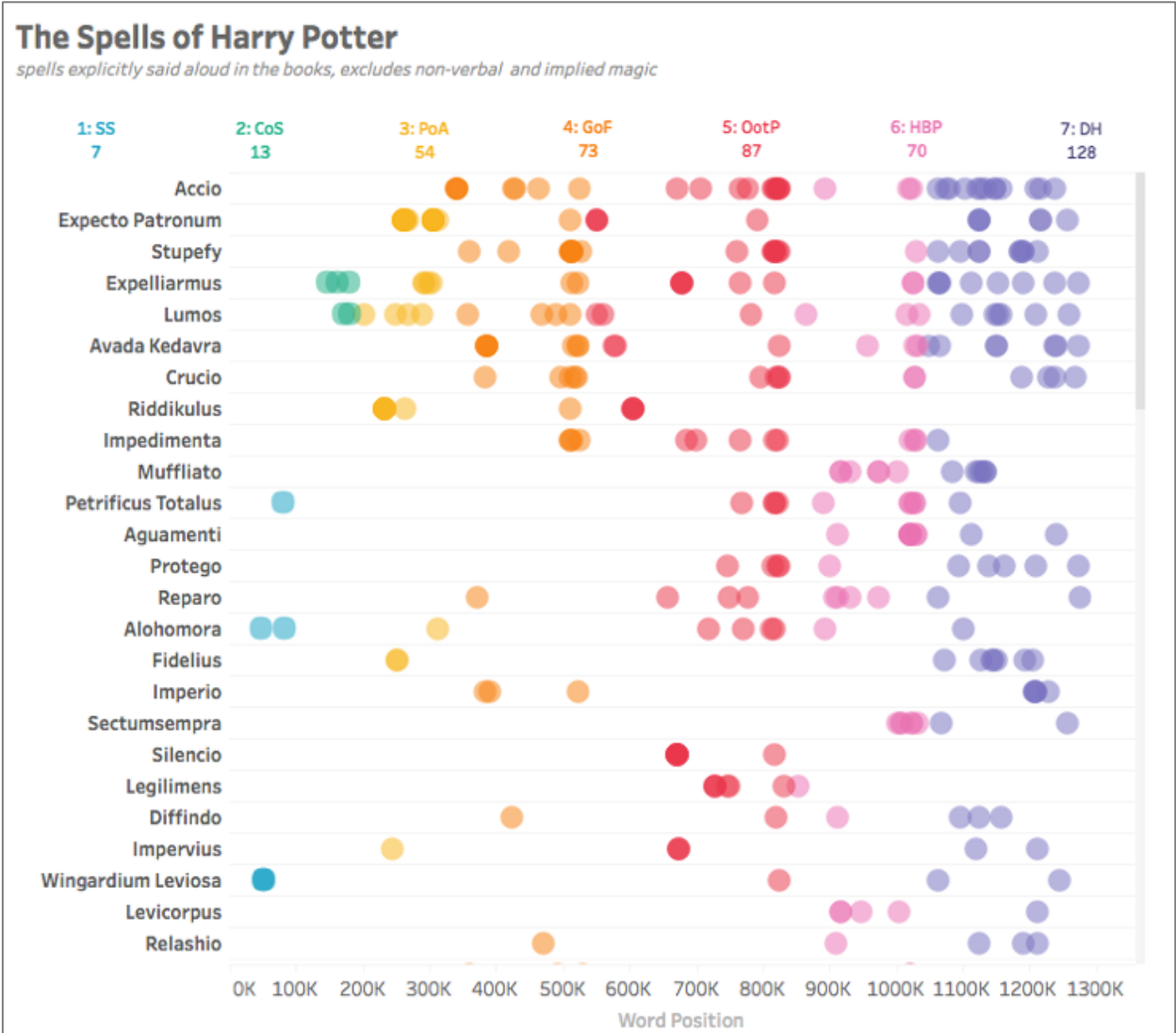*spells explicitly said aloud in the books, excludes non-verbal and implied magic*

(Note: The row of numbered items at the top (1.SS, 2.CoS, etc.) are individual books in the series. Word position continues through the entire series of books from start to end)

2. For each of the following items in the list, please:
   - A: Identify whether it is a **canonical Javascript type**
   - B: If the type is a canonical Javascript type, please **provide an example** in your `<script>` section using `console.log(typeof( ... ))`.
   - C: If applicable, identify any unusual or unexpected `typeof()` behavior for the type.

   a) number;   b) int;   c) unicode;   d) array;   e) char;   f) class;
   g) regex;   h) string;   i) boolean;   j) object;   k) null;   l) function

3. First, in 1-2 sentences, please **define type coercion**. Then, in your `<p>` tag please provide two examples where type coercion **produces an answer that is unusual or unexpected** (i.e. different from Python output or a case where Python would throw an exception). For each sample, briefly explain why it is unexpected. Then, in the `<script>` section put both of your code examples into of a `console.log()` statement so we can see the result (e.g. `console.log("apple" + "orange")`)

4. Describe, in your own words, the course policy on late and unreadable work outlined in the syllabus, which is linked from the course website.