

# CSCE 5320 Scientific Data Visualization

## The Shapes of Data

### Tutorial

- **Input for Visualization: Data and Tasks**


Data is typically represented either as CSV or Json. Text-based representation of a data table.

**This is an example, please choose your own data for this lab. Every student should create a different CSV file.**

Example of data: CSS colors, select all value and copy it to Google sheets or Excel.

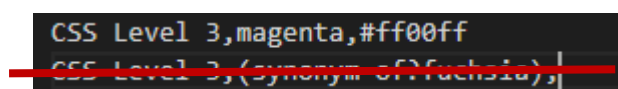
Specification	Keyword	RGB hex value	Live keyword
<a href="#">CSS Level 1</a>	black	#000000	
	silver	#c0c0c0	
	gray	#808080	
	white	#ffffff	
	maroon	#800000	
	red	#ff0000	
	purple	#800080	
	fuchsia	#ff00ff	
	green	#008000	
	lime	#00ff00	
	olive	#808000	
	yellow	#ffff00	
	navy	#000080	
	blue	#0000ff	
	teal	#008080	
	aqua	#00ffff	
<a href="#">CSS Level 2 (Revision 1)</a>	orange	#ffa500	
	aliceblue	#f0f8ff	
	antiquewhite	#faebd7	
	aquamarine	#7fffd4	
	azure	#f0ffff	
	beige	#f5f5dc	
	bisque	#ffe4c4	
	blanchedalmond	#ffe4c4	
	blueviolet	#8a2be2	
	brown	#a52a2a	

Transfer the excel doc to a csv file. Delete the column which has no text info and fill the column (Specification) for each row. Load the csv file to your code editor.



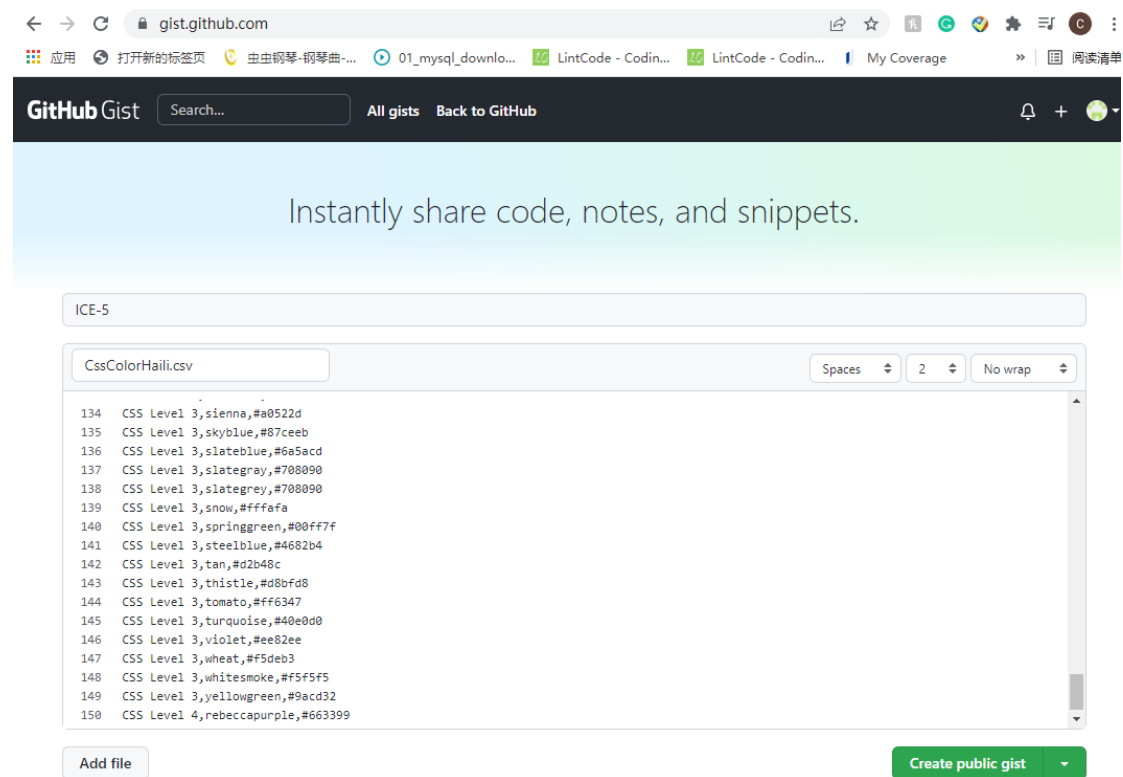
```
ICE5.html CSS Color.csv X
C: > Users > Haili > Desktop > CSS Color.csv
1 Specification,Keyword,RGB hex value
2 CSS Level 1,black,#000000
3 CSS Level 1,silver,#c0c0c0
4 CSS Level 1,gray,#808080
5 CSS Level 1,white,#ffffff
6 CSS Level 1,maroon,#800000
7 CSS Level 1,red,#ff0000
8 CSS Level 1,purple,#800080
9 CSS Level 1,fuchsia,#ff00ff
10 CSS Level 1,green,#008000
11 CSS Level 1,lime,#00ff00
12 CSS Level 1,olive,#808000
13 CSS Level 1,yellow,#ffff00
14 CSS Level 1,navy,#000080
15 CSS Level 1,blue,#0000ff
16 CSS Level 1,teal,#008080
17 CSS Level 1,aqua,#00ffff
18 CSS Level 2,orange,#ffa500
19 CSS Level 3,aliceblue,#f0f8ff
20 CSS Level 3,antiquewhite,#faebd7
21 CSS Level 3,aquamarine,#7fffd4
22 CSS Level 3,azure,#f0ffff
23 CSS Level 3,beige,#f5f5dc
24 CSS Level 3,bisque,#ffe4c4
25 CSS Level 3,blanchedalmond,#ffe4cd
26 CSS Level 3,blueviolet,#8a2be2
27 CSS Level 3,brown,#a52a2a
28 CSS Level 3,burlywood,#deb887
29 CSS Level 3,cadetblue,#5f9ea0
30 CSS Level 3,chartreuse,#7fff00
31 CSS Level 3,chocolate,#d2691e
32 CSS Level 3,coral,#ff7f50
```

Clean data, find wrong rows/information in the csv file and delete incorrect rows, for example:

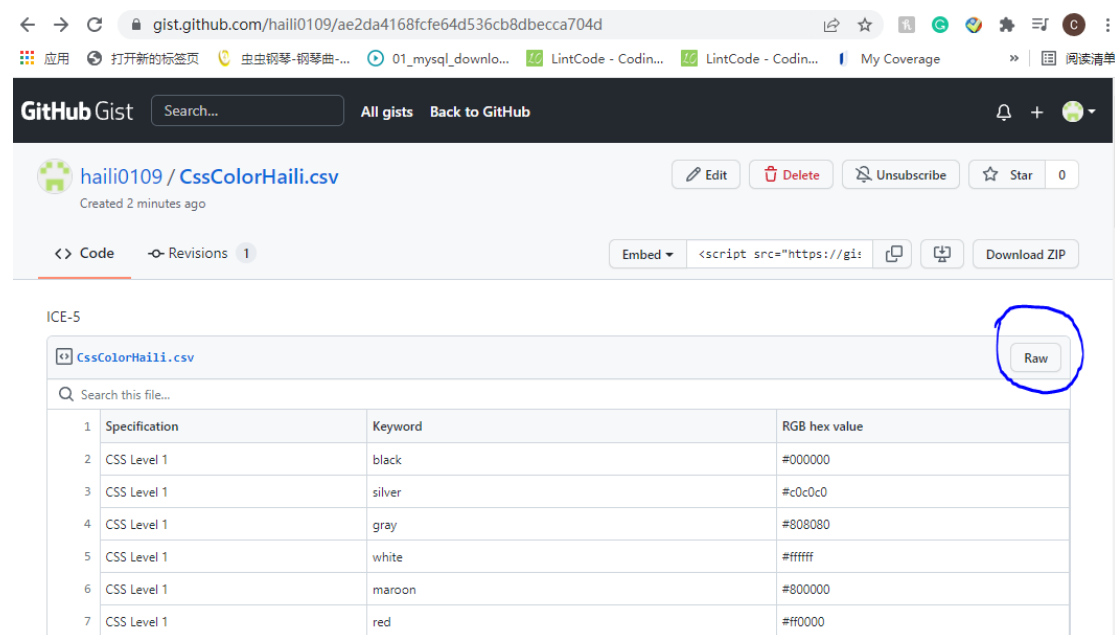


```
CSS Level 3,magenta,#ff00ff
CSS Level 3,(synonym of fuchsia);
```

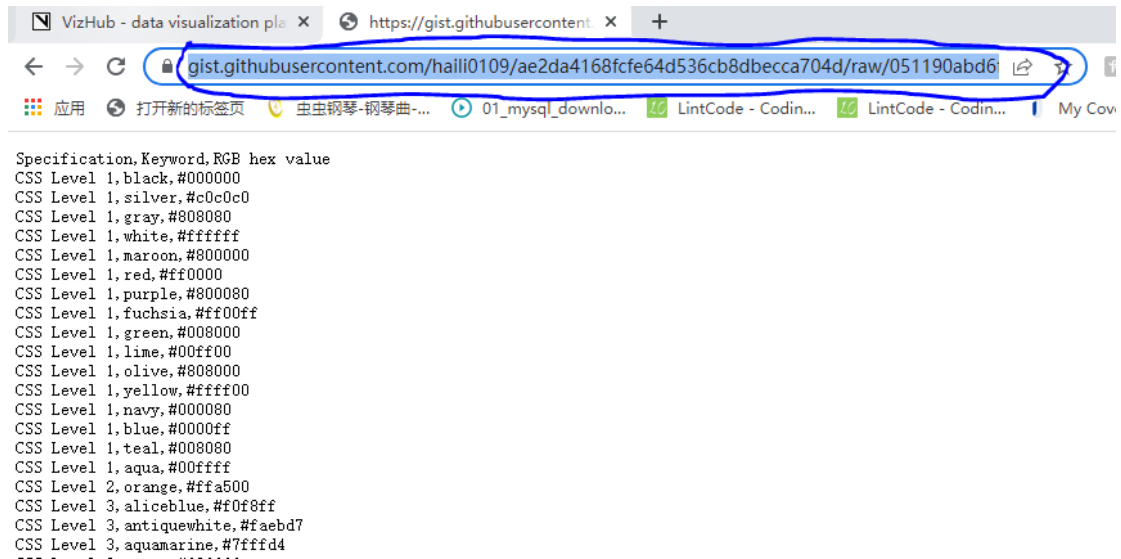
Create a URL link for this csv data, so you can download the data and put it in your future code. Go to <https://gist.github.com/>. Upload/copy your csv file and create public gist:



After you create your gist, click Raw on the right top corner,



Then you can get the URL of your data and use it for your coding.



Example of my data link:

<https://gist.githubusercontent.com/haili0109/ae2da4168fcfe64d536cb8dbecca704d/raw/CssColorHaili.csv>

**Please create your own data link with different csv file and submit it for Q1.**

## ● Loading and Parsing Data with D3.js

Resource link: [https://developer.mozilla.org/en-US/docs/Web/API/Fetch\\_API](https://developer.mozilla.org/en-US/docs/Web/API/Fetch_API)

Source for d3: <https://unpkg.com/d3@7.3.0/dist/d3.min.js>

Create a html code and load the data, use your own VizHub account.

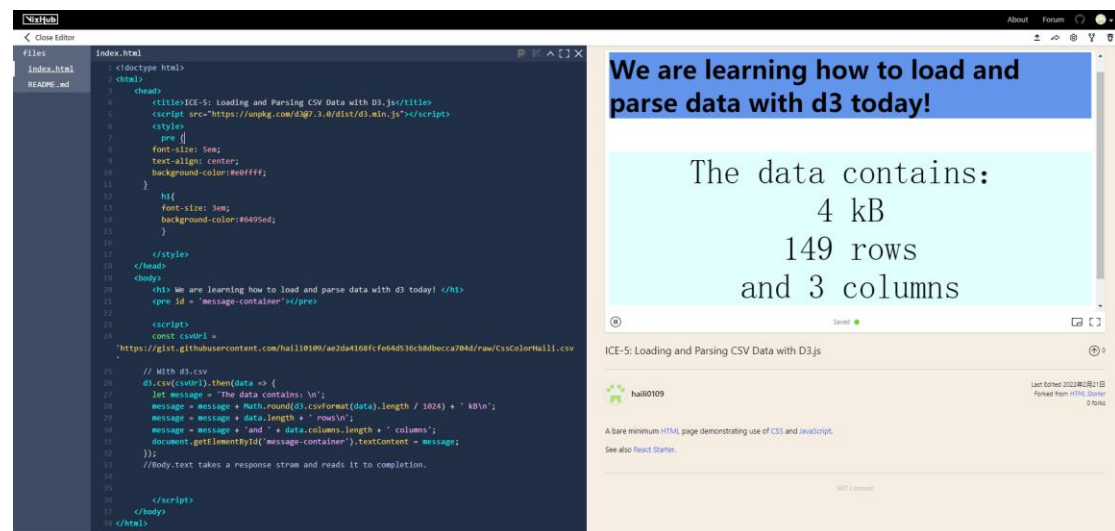
you can summarize the data on your console like this:

```
14     const csvUrl = 'https://gist.githubusercontent.com/haili0109/ae2da4168fcfe4...';
15
16     fetchText(csvUrl).then(text => {
17         const data = d3.csvParse(text);
18         console.log(Math.round(text.length / 1024) + ' kb');
19         console.log(data.length + ' rows');
20         console.log(data.columns.length + ' columns');
21     });
22
23     //Body.text takes a response stream and reads it to completion.
24
25
26 </script>
27 </body>
28 </html>
```

PROBLEMS OUTPUT **DEBUG CONSOLE** TERMINAL Filter (e.g. text, !exclude)

4 kb  
149 rows  
3 columns

Show the data summary on the webpage. For example:



Adding css style and svg pictures into your webpage!

Copy your link like we did last time and submit it for Q2:



## Share

### SHARE WITH

Link Embed Snippet Collaborators

Sharing this link on social media will automatically create a preview.

<https://vizhub.com/haili0109/d4df269ccaed4e0cbd1be12e9e613b3d>

Copy

Done