Week 4 – Anxiety may still be climbing but it gets better

* Looking for Tutoring
* Arrays and array functions
* What you should submit
* How are you doing?
* Answers to questions from your peers
  + Finding fun APIs?
  + What is going on with Problem 8?
  + What are template literals?
  + Can you put functions in functions?

# Looking for Tutoring?

<https://courses.byui.edu/AcademicSupport/tutoring-center/online-tutoring/online-courses-tutoring-guide.pdf>

# Student Showcase

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| --- | --- | --- | --- |
| Amy Baker | <https://shakerbaker78.github.io/amy_baker_portfolio/> | | |
| Evan Harrison | <https://harrevan.github.io/wdd330/> | | |
| Jared Kelley | <https://j-a-r-e-d.github.io/wdd330/index.html> | | |
| Kate Lewis | <https://lewis-kate.github.io/WDD330/> | | |
| Kimi Weldon | <https://kiadawel.github.io/WDD330KW/> | | |
| Kyle Brazelton | https://kylebrazelton.github.io/wdd330/ | | |
| Nanci Newell | <https://nancinewell.github.io/wdd330/w3_exercises.html> | | |
| Sunday O. Onwuchekwa | <https://onwuchekwa.github.io/onwuchekwa_wdd330.github.io/> | | |
| Giacomo Draghi | <https://giacomo-draghi.github.io/Giacomo_Draghi_WDD330/index.html> | | |
| Cassie James | <https://cassiejones9.github.io/WDD330/> | | |
| Eve Awe | <https://awe19001.github.io/WDD330/> | | |
| TJ Checketts | <https://tjchecketts12.github.io/WDD330.Portfolio/> | | |
| Scott Robison | <https://casaderobison.github.io/wdd330/> | | |
| Brenda Wicker | <https://wicker-brenda.github.io/WDD330/> | | |
| Nathan Web | <https://nwrocketman64.github.io/WDD330/> | | |
| Jandy Kiger | <https://jandyrae.github.io/WDD330/> | | |
| Erendira Can Calderon | [https://erendiracan.github.io//WDD330/index.html](https://erendiracan.github.io/WDD330/index.html) | | |
| David Hendricks | | <https://dave-git-user.github.io/port/> |
| Perry Raleigh | | <https://perryraleigh.github.io/WDD-330-Portfolio/> |
| Tristin Parker | | <https://gidgidonihah147.github.io/WDD-330/index.html> |
| Megan Shaw | | <https://meganlynn012.github.io/pretzel-milk/week2.html> |
| John Sudds | | <https://jsuddsjr.github.io/WDD330/index.html> |
| Shane Artman | | <https://artman-shane.github.io/WDD_330_Portfolio/index.html> |

The above examples are from this and previous semesters. In the weeks to come I may ask your permission to share your examples with the class.

# In week 3 you experimented with arrays and the array functions

How did you experimenting with arrays go? JSON has become a common data format to use to pass between servers. Most AJAX APIs use JSON for their data format. Inevitably that data includes arrays. So, these exercises were great for developing familiarity with them.

## Volcanoes

Did you get enough or would you like some more to play with?

If you would like some more practice I have a link here for about 800 volcanoes.

<https://github.com/gtjames/justJS/blob/master/volcanoes.json>

It includes the year, country, elevation and number of deaths.

Here is a link to some starter code to play with the data

<https://github.com/gtjames/justJS/blob/master/volcanoes.js>

I use a node package ‘fs’ to read in the volcanoes.json file.

## People on the Titanic

I love this one. This is a GitHub gist set. I have three files here

<https://gist.github.com/gtjames/717c21399cb8198348b7fcc138bc2057>

Titanic.js

Titanic.json these two files contain the same info. Name, age, passenger/crew class,

Titanic.csv survivor status, job on the ship

The code is set up to read the json file. If you want to see how to use the fs package from node, you can uncomment the opening lines and read the file and convert it to a JS object. I have provided numerous examples using filter, map and reduce.

## Boulevards de Paris

Did you find all of the boulevards in Paris which include ‘de’

*const category = document.querySelector('.mw-category');  
const links = Array.from(category.querySelectorAll('a'));  
links.filter(a => a.title.indexOf("de") >= 0)*

Your solution could have been as simple as the above. Of maybe you made yours a little smarter to only look for “ de “. That way boulevards with des would be excluded.

I believe some of you may have been ‘fooled’ by the browser in to thinking the querySelctor and querySelctorAll did not work because they returned ‘undefined’. That is an oddity of the console window. It simply means that this is the first time that the object **category** or **links** was created and the initial value was **undefined**. But then it immediately was assigned a value. I do not know why the console does that. If you enter category or links after the query you will see that they do contain an array of information.

While we are on the topic of the category and links arrays. What kind of data do they contain? It is DOM information. Therefore, we will treat them like DOM objects. You can see that I use **a.title**, in the predicate of my filter operation. **a** is the anchor tag from the **querySelectorAll** and **.title** is the title of the **anchor** tag. There are other ways to accomplish this. My example is just one of many.

# What you should submit

Yes, you can send in your notes and I have seen some great notes. You can also submit code. I do want to see both now and then. The notes are very important but being able to apply them to a coding situation is the ultimate proof that you are comfortable with the topics. So, make sure I see your working code now and then.

Don’t have a web site? Try using a GitHub pages. Some of you are just submitting your GitHub repo link and that is not gradable. (is that a word?). I need to see your work in action. It can be as simple as renaming your repo to be yourName.github.io. Create an index.html page with links to your pages and you’ll be in good shape. After this week I will not accept your files or github links. I need to test your code.

# How are you doing?

Ok, we are now settling into a routine (I hope) in the class. What are your anxieties?

1. **What should my submissions look like?** Please see the student showcase for sample web sites. You will see a number of good examples. I need to see your work progressing. And these samples do a good job of that.
2. **I don’t know as much as my team members.** Don’t be discouraged. Everyone is not at the same level in the class. Ask questions. Most concepts we are working on in this class can be demonstrated in less than 5 lines of code. Your team members can no doubt show you some simple examples.
3. **I don’t have enough time!** We all understand this one. I don’t have a magic spell to resolve it. I find that I need to carve out a time and a space to work on programming. Little interruptions break my concentration. Eliminate distractions as best as you can. Try headphones if you have them. I know your next response is ‘that is not possible in my world’. Then do not try and absorb all of the reading at once. Take bite sized pieces of time. Do your best in 15- or 20-minute intervals. Do not cause your own distractions. Remove your phone from your study space!! Close tabs you don’t need. Bing is my home page. It has a list of news and interest items on the bottom that I might find interesting. Guess what? It turns out Bing is a genius at distracting me. So, I removed ‘News and Interests’ from my home page. It is sad that I have so little self-control ☺. Guess what? It turns out I don’t need to know what happened on this day in 1869!
4. **Am I going to make it?** Still have doubts? Listen to an Elder Holland talk. He’s been where you are. If you have 5 minutes watch this video ‘Things will get better’ <https://www.youtube.com/watch?v=_pJU7SRisRA>. You have a team to work with you. Be a team. Support each other. Ask me questions if you get stuck. Use the tutors available to you. There are many resources out there for you. You do not have to do this on your own. Elder Clark (Then Pres. Clark) said ‘we have to learn for ourselves but not by ourselves’. Finally, there is always prayer. If you grouped all of my prayers by topic, surely in the top ~~ten~~ five would be prayers about my career. Right now, schooling is your career. I think your Father in Heaven has a pretty good idea about programming. He did an amazing job with DNA. Let Him give you a hand. I have had numerous answers to programming prayers over the years.

# Questions from your peers

Where do I find fun APIs?

I just Bing search fun APIs. Programmers have really latched on to APIs for providing data to their apps. There are some fun ones to play with, out there. Definitely check out RapidAPI.com. They have curated hundreds of APIs for about anything your care to investigate. Many of free for the level of use you would make out of them.

Problem 8 – What is going on there?  
Here the answer. Let’s tear it apart.

const transportation = data.reduce(function(obj, item) {  
 if (!obj[item]) {  
 obj[item] = 0;  
 }  
 obj[item]++;  
 return obj;  
}, {});

Notice the last line has, {}. That is the initializer for the reduce. It is just an empty JSON object.   
This line if (!obj[item]) {  
is testing to see if the JSON object contains an entry for the item (car, truck, walk....). If it does NOT then the then statement obj[item] = 0;  
will create a new element in the JSON object for car, truck, walk....  
then the next line will add 1 to the count for the item  
 obj[item]++

Another Question

## What are template literals?

It is a way to insert variables into your strings without the trouble of the quotes and plus signs.

// a list for Crew members that survived  
let crewMembers = passengers.filter(p => !p.passenger && p.survivor );  
***console***.log(`Titanic Crew count: ${crewMembers.length} that survived` );

See the console.log? I could have printed the crew count like so

***console***.log(“Titanic Crew: “ + crewMembers.length + “ that survived”);

I like the first example best. There is a lot less noise in the code. Fewer opening and closing quotes and plus signs between everything.

The text is enclosed in back tics ( ` ), not single ‘ or double “ quotes. The variables are wrapped in a dollar sign and curly braces – ${hereIsMyVariable}. The two examples do the same thing. It is just programmer choice on which one to use.

## Question – Can I put functions inside of functions?

You sure can. This is an example of how you might do it.

function func1() {  
 let func2 = (opt1) => {***console***.log(`this is option1 ${opt1}`) };  
 function func3 (opt2) { ***console***.log(`this is option 2 ${opt2}`)}  
  
 func2('hello WDD-330 -- this is func2')  
 func3('hello WDD-330 -- this is func3')  
}  
  
func1();

## Questions

Questions in general. Sometimes I see questions that can be resolved with a 10 second Bing search. (I don’t like Google). Using the search engines will be a part of your professional life. Don’t hesitate to use them frequently. If you are not familiar with W3Schools or StackOverflow yet you have not been searching for help enough. There are great resources out there make use of them.