Programming Concepts

1. Different use cases of local and global variables
    a. Through this assignment, I learned that I can use local variables when I only need the information within the function, and I can use global variables if I need the information for multiple functions. An example of a use case for local variables is when I need to initialize a variable for the for-loop counter because I only need the counter for that specific function. An example of a use case for global variables is to store elements for different glazes because I need to use that information for three different functions so it's redundant to call the same method three times.
2. Use constructors to create similar objects
    a. In the assignment, I created a CinnamonRoll constructor to create CinnamonRoll objects to store item information. I found it really helpful because it helps me set an organized standard for how I should store the information in the system. Moreover, when other people review my code, the constructor helps them understand what fields do the object has and helps them identify similar objects.
3. Use loops when appropriate
    a. I learned to use loops for repetitive tasks to save time, space, and minimize errors in my code. An example of this would be when I wanted to style three elements in the same way in JavaScript, I decided to store those three elements in an array, and then constructed a for-loop to iterate through the array, and then wrote out codes for style in the body of my for-loop. This helps me make code more efficient, manageable, and organized.
4. Data structure
    a. A problem that I encountered during the project was how to store my cinnamon roll objects in web storage. Since web storage has a dictionary structure (key-value pair), if I want to store those objects individually, I would need to come out with a unique key for each object. This makes the storage process extremely tedious and error-prone since I need to write an algorithm for generating a unique key, and it would also be difficult to retrieve objects since you need to know which key maps to which object. I solved this problem by utilizing data structures. Specifically, I decided to create an array called "ItemSelected" and store all objects in the array, and then store that array in web storage. I chose to do this because to keep track of the objects in web storage (simply loop through the array), easily add objects in web storage (push the object to the array), and remove a

particular object from the web storage (find the index corresponding to the object you wish to remove and slice at that index).

5. Use helper functions when appropriate
    a. I learned to use helper functions in my code to make my program easier to read and reuse. For example, on my shopping cart page, I want to update the subtotal every time users change item quantity, remove an item, or add an item. Instead of writing the code for calculating subtotal three times, I constructed a helper function called calculateSubtotal (), and then call the function whenever users change item quantity, remove an item, or add an item. This makes my life easier because if I want to change something in my calculate subtotal function, I only need to make the change in one place rather than find and make the change in three different places.