# Assignment 6B
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## 2. What challenges or bugs did you encounter? / How did you overcome these challenges?

- I had a bug to update the 'add to cart' text when users select different glazing and price options. For example, if the user clicks the 3 PK option and vanilla-milk glazing, the 'add to cart' text should be updated the total price of (3PK + glazing) such as 'add to cart - $##'. At first, it worked for some options but didn't work for the other options. I found that input data was 'undefined' not a number, and debugged the root cause. My helper function got a parameter from the other function, but it actually didn't need to get a parameter. It should have calculated the variables defined in the scope. After I fixed it, it worked well.
- I also didn't know how to add a notification badge on the cart icon in HTML and CSS. I was trying to use inline-block, float, or other position properties but it doesn't work as I expected. I searched other websites and found a solution.
- When I linked the JavaScript file in the HTML file, I added it under the <head> section. However, it didn't work well. I wasn't able to get elements by ID or query elements by class. I found that the javascript file was executed before the web page was fully loaded. So I called the JavaScript file on the last line of the <body> section, and it worked well.
- While I was working on adding product detail information to the cart, I had to use localStorage function. It took some time to get used to getItem/setItem/clear(). I experienced many error messages 'localStorage.getItem() failed to read property' when it is null. I used an if statement to check if this value is null or not and then execute the next code.
- When implementing 'Add to cart, save for later, move to cart' functionality, I was struggling to make a clear distinction between 'Model, View, Controller' in JS. I didn't know how to refresh the page to draw the new data on the page. After a few trials, I decided to separate MVC clearly and then call the View functions after the model change in controller.

## 3. What programming concepts did you learn as a part of the assignment? / Illustrate at least 5 concepts with an example.

- I learned how to 'get' elements using class, id, tag. I mainly used document.getElementsByClass and document.querySelector when I needed to get an array of a specific class. document.getElementById was very useful to get a unique element from DOM.
- I learned how to 'modify' elements using built-in methods. When I wanted to update HTML text, I used .innerHTML method and then assigned a new value. If I wanted to update CSS values, I also can use x.style. method to access CSS properties.

- I learned how to define functions in JavaScript and 'for' 'if' statements when I need to check conditions looping through the array. I used it for checking which button option is activated or not.
- 'addEventListener' was one of the most important methods for this assignment. I used it for the button interaction checking the user interaction pattern. (if click -> do something)
- I implemented 'localStorage' in the last part of the assignment to update cart information. I used it to store data and call it across the pages to maintain the same data.
- Overall, I learned how to do programming using MVC model, array, for loop, if statements, and how to debug errors using console.log().