PUI Assignment 6: Reflection
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Reflection: The issues

- Issue One: confusion about the relationship between JavaScript and HTML.
    - My confusion was not about the general relationship between the two but more about using JavaScript to create an HTML element. After I got familiar with how to use the get element by id and class functions, I was able to change the HTML elements. Nevertheless, I have trouble understanding how to create and delete HTML elements from JavaScript.
    - What I learned and how I solved them: My strategy was to Google similar problems online and understand how others solve them. Through my exploration, I get a better picture of the relationship between JavaScript and HTML. I understood that I can also insert HTML sections within JavaScript to let JavaScript control whether to call the HTML sections or not.

- Issue Two: confusion about Relative Mapping
    - After went through the first concept, I started experimenting with the remove button. Everything went smoothly until I found that there is the issue of connecting my delete button id with the cinnamon object in my local storage. When I deleted one row in my cart, I was not able to remap the delete button id with the object in my local storage.
    - What I learned and how I solved them: For this issue, I was not able to solve it on my own. Therefore, I went to office hour to ask for additional help. I think one key lesson that I learned is to understand my logic before writing the code. The mapping issue was not hard to implement but was challenging to think through. So for next time, I will distribute more time to my thinking process and understand the steps I want to do, and then implement it with the code.

- Conclusion: Both issues were not hard to write. However, the challenging part was the logic and how to think through them clearly. For future assignments, I will spend more time to understand the basic concepts before writing the code.

Programming Concepts

- localStorage
    1. I have used this concept across the website in places where I need the website to remember users' choices. The most related example is on the single product page, where I used localStorage to get user selection: 1. the type of cinnamon roll 2. the color, 3. The quantity 4. the corresponding price. In order to do this, I also accompany "getitem" and "setitem". I used "getitem" to get the value I saved in the localStorage. If there is no saved information, I used "setitem" to store the value.
    2. Example: when saving cinnamon roll

```
if ("bun" in localStorage) {
    bun = JSON.parse(localStorage.getItem("bun"));
  }
```

- JSON.parse & JSON.stringify
    1. This concept relates closely to the first localStorage concept. I used “parse” when I get value from the localStorage and “stringify” when I set the value to the localStorage.
    2. I put this as a separate programming concept because of the function they provide. They are not just an assistant tool for localStorage. Instead, JSON.stringify turns a JS object into JSON text and store it in a string. In comparison, JSON.parse turns a string of JSON text into a JS object.
    3. Example: when saving/getting delete button id

```
localStorage.setItem("id", JSON.stringify(id));
id = JSON.parse(localStorage.getItem("id"));
```

- for loop
    1. 1. I have used this concept when I need to loop through an array that is saved in my localStorage and display them in my shopping cart. What for loop essentially does is to iterate through a block of code for several times that is defined by the condition.
    2. Example: when looping through the cinnamon rolls:

```
for (i = 0; i <= globalL-1; i++){
    imgs = buns[i].img;
    title = "The Original";
    price = buns[i].price;
    qty = buns[i].quantity;
    glazing = buns[i].glazing;
    deleteid = i+1;
    addItemToCart(imgs, title, price, qty, glazing, deleteid)
  }
```

- Splice
    1. I have used this concept when I call the delete button id and then delete the corresponding roll in my object array. The usage of the array is that it changes the contents of an array by removing the existing element(s).
    2. Example:

```
if (buns[i].id == deleteid){
    console.log("deleteid:" +deleteid);
    buns.splice(i, 1);
    localStorage.setItem("bun", JSON.stringify(buns));
 }
```

- getElementById
    1. I have used this concept when I want to modify elements in the HTML file through JavaScript. By getting the element’s id, I was able to use methods such as innerHTML to change the content.

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2. Example: change cart total when adding new cinnamon roll in the cart
   document.getElementById('Subtotal').innerHTML = "$" + total.toFixed(2);