Assignment 6b JavaScript

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1. Link to website:
    a. https://ningjingsun.github.io/pui-repo/homework_6b/
2. Link to GitHub repository:
    a. https://github.com/ningjingsun/pui-repo
3. Link to Figma
    a. https://www.figma.com/file/b0vOhqNzKMc1yYtXZUV4Vx/Muddy-Paws-Adventure-Gears?node-id=0%3A1
4. Issues
    a. sessionStorage
        i. At first I was having many troubles with appending each individual items into my shopping cart array, and the items wouldn't show up in my shopping cart array correctly. With console.log(), I was able to print out all the values that were successfully pushed to the array and the other values that were not pushed successfully. I was also able to differentated the values that were maintained for each session (using sessionStorage) and the values that were not maintained successfully. Then I was able to target at those values that were not treated succesfully and edit them one by one.
    b. cloneNode
        i. While I was trying to cloneNode each new item div to the shopping cart div, I was having trouble and I kept receiving a message from the console saying that "cloneNode is not a function", or "cannot read property 'clone' of 'undefined'". With console.log() I further found out that it was because my item div was undefined when the function was called. I thus first tried to make sure that the scopings of all variables were correct, and then make sure that the cloneNode function was called only after the DOM was ready. And eventually it worked.
    c. calculateTotal()
        i. For the calculateTotal() function, I encountered a bug where I cancatenated strings together instead of adding numeric values together. After using console to figure out the problem, I first converted the string to number (parseFloat), then I set the digits limit for the value (toFixed(2)), and it finally worked.
5. 5 JavaScript Programming Concepts
    a. sessionStorage
        i. sessionStorage allows user to save key/value pairs in a web browser. Different from localStorage, the sessionStorage stores data for only one session and the data will be deleted once the browser tab is closed. I chose

sessionStorage which would be more appropriate for the purpose of this assignment.

b. JSON.parse(), JSON.stringify()
    i. JSON could exchange data to/from a web server. When receiving data from a server, the data is always in the form of a string. Therefore we need to parse the data with JSON.parse() to turn the data into a JavaScript object. When pushing data to a server, we then needed to stringfy the JavaScript object with JSON.stringify() to turn the data into a string which could then be saved in the server.

c. Node
    i. Everything in a HTML is a node (It's important to keep in mind that "text" is a child node under the <p> node!). With the concept of node, I was able to create new element to an existing parent element (appendChild(node)), remove a child node (removeChild(child)), and also clone an existing node (cloneNode()).

d. element.setAttribute
    i. This property of DOM element allows users to set the value of an attribute on a specified DOM element. With this property I was able to edit the content in each item div stored in the shopping cart and adapt the content of each item to the item chosen by the user. The command included changing the color, size, and image source, etc.

e. Event propagation
    i. Event propagation defines the element order when an event occurs. There are two types of event propagation: 1) Bubbling means that the inner most element's event would be handled first; 2) Capturing means that the outer most element's event would be handled first. Even though I didn't directly used "bubbling" and "capturing" in my code, this concept is important while I was implementing my functions.

6. External sources:
    a. All images of harness and dogs are from Petco:
        i. https://www.petco.com/shop/en/petcostore
    b. All images of icons (e.g. shopping cart, search) are from Iconpark:
        i. https://iconpark.oceanengine.com/home