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Assignment 6B

**Reflection (3 pts total)**

1. You should clearly demonstrate what issues / bugs you encountered, what you learnt from them and how did you resolve them. A good reflection will demonstrate a clear understanding of the issue, and how it may be mitigated in the future.

Throughout the coding process I encountered various bugs. One of the bugs occurred when I attempted to store all the items information as an array. I had stored it as an object which led to many errors and when I converted it into an array I was still running into many errors. One of the main errors I was encountering was that the system only stored the first array and when I called console.log the system was able to identify the item but couldn't add it to the array. I solved this issue using new Array to create a new array if it is the first product being added and if not, push a new product into the array. I also learned how to use push instead of appending and understood if an object wasn't currently implemented if the push function generated many errors. Through this debugging process, I learned how to work with both arrays and objects more efficiently and be able to more clearly identify different methodologies that could be implemented.

Another bug I encountered is when I add a different glaze option to my cart, the roll count doesn't start at zero and instead starts at the item that was already added. Thus when deleting, this causes the total number to go below zero. I fixed this bug by adding a nested else to only += the glaze and price when that product has already been added to the cart, but when it hasn't been added then it will automatically set the numbers that were passed through.

Another bug I encountered was having the cartNum show up on all the pages. Even after writing the onload function, the cart number would only be accurately displayed on some pages. I learned how to use async and load the script at the bottom of the file so everything renders properly.

**Programming Concepts (5 points)**

Demonstrate 5 programming concepts that you learned in Javascript and used in this assignment with an example.

1. How to initialize an array and push products into it. I learned how to pass parameters through a function to initialize an array and be able to use push to append to an array. An example of this is below when I set the properties for the product object and created if and else statements to set when to create a new array and when to push a product to the existing array.

```
function itemsArray(name, glaze, rolls, boxes, price, cartNum){
    console.log(glaze);
    product = {
        name,
        glaze,
        rolls,
        boxes,
        price,
        cartNum,
    }
    console.log(product)

    if (cartNum == 1)
    {
        var cartItems = new Array(product); //create new array if it is the first item being added
        localStorage.setItem("productsInCart", JSON.stringify(cartItems)); //store the array
    }
    else if (cartNum > 1)
    {
        var cartItems = JSON.parse(localStorage.getItem('productsInCart'))   //get the current array
        cartItems.push(product); //add product to array
        localStorage.setItem("productsInCart", JSON.stringify(cartItems)); //store the array

    }
}

function displayCart(){
```

2. I learned how to use HTML inside the Javascript file to create a template to add items into the cart. I learned how to use the different the different properties efficiently and populate the cart with information about the products added to the cart. An example of this is in my displayCart function when I added each item display in the cart page.

```
function displayCart(){
    // referenced YouTube tutorial https://www.youtube.com/watch?v=IY5UN82FZ2Q

    let cartItems = JSON.parse(localStorage.getItem('productsInCart'))|| [];
    let products = document.getElementById("products");
    if(cartItems && products){
        products.innerHTML = '';
        Object.values(cartItems).map(item => {
            if (item.cartNum > 0){
                var cartRowInfo = `
                <div class = "cartItems">
                  <h4 class = "cart-original-text">Original</h4>
                  <h4 class = "cart-glaze">${item.glaze}</h4>
                  <h4 class = "cart-rolls">${item.rolls}</h4>
                  <h4 class = "cart-boxes">${item.boxes}</h4>
                  <h4 class = "cart-price">$${item.price}.00</h4>
                  <h4 class = "cart-edit">Edit</h4>
                  <h4 class="delete-item">Delete</h4>
                </div>`
                products.innerHTML += cartRowInfo
            }
        })
    }
}
```

3. I learned how to read values given in a drop down menu and input box and be able to update the interface based on the user input. This includes the glaze and num of boxes and num of rolls attached below.

```
function updateGlazeImage() {
    var glazeOptions = document.getElementById("glaze-options"); // get all the glaze options
    var largeGlazeImage = document.getElementById("original-large"); //get the original roll image

    var selectedGlazeOptionValue = glazeOptions.options[glazeOptions.selectedIndex].value; //get the selected g
    // set a variable for each glaze's image
    var noGlaze="Assets/no-glaze.png";
    var vanillaGlaze="Assets/vanilla-roll-large.png";
    var doubleChoco="Assets/double-choco-large.png";
    var sugarMilk = "Assets/sugar-milk-large.png";

    // set the large iamge src depending on the selected glaze option
    if (selectedGlazeOptionValue=="none"){largeGlazeImage.src = noGlaze;}
    else if (selectedGlazeOptionValue=="vanilla"){largeGlazeImage.src= vanillaGlaze;}
    else if (selectedGlazeOptionValue=="chocolate"){largeGlazeImage.src=doubleChoco;}
    else if (selectedGlazeOptionValue="sugar"){largeGlazeImage.src=sugarMilk;}
}

function updateRollPrice () {
    var getRollNumOptions = document.getElementById("numOfRolls"); //get the number of roll options 1,3,6,12
    var rollNumSelected = getRollNumOptions.options[getRollNumOptions.selectedIndex].text; //get the roll selec
    var numOfRolls = parseInt(rollNumSelected) //convert num rolls options to int
    // var getRollPrice = document.getElementById("originalRollPrice")
    var getNumBoxes = document.getElementById("numOfBoxes") //get the number of boxes inputed by the user
    var numOfBoxes = parseInt(getNumBoxes.value); //covert number of boxes to int
    document.getElementById("originalRollPrice").textContent = rollPrice* numOfRolls * numOfBoxes //update the
}


function addOrderToCart ()
```

4. I learned how to implement storage across my Javascript code and learned how to use that to ensure that the same cart number would stay on all pages. I also learned about how async is always listening and how it will allow the code after the async call to be executed immediately without waiting.

```
function onLoadCartNumbers() {
    var itemTotalNumber = localStorage.getItem('cartNum')
    console.log(itemTotalNumber)
    if (itemTotalNumber) {
        document.getElementById("cartNum").innerText = itemTotalNumber

    }
}
```

5. Lastly, I learned how to read which roll glaze options were already in the cart and store that information. In addition, I learned how to update the corresponding item in the cart through using objects and arrays. I wrote functions such as subtractCost, updateCost, and removeItem to update the cart according to user actions.