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Semester : 7th Section : B

Web Technology Assignment - 2 (JS Arrays)

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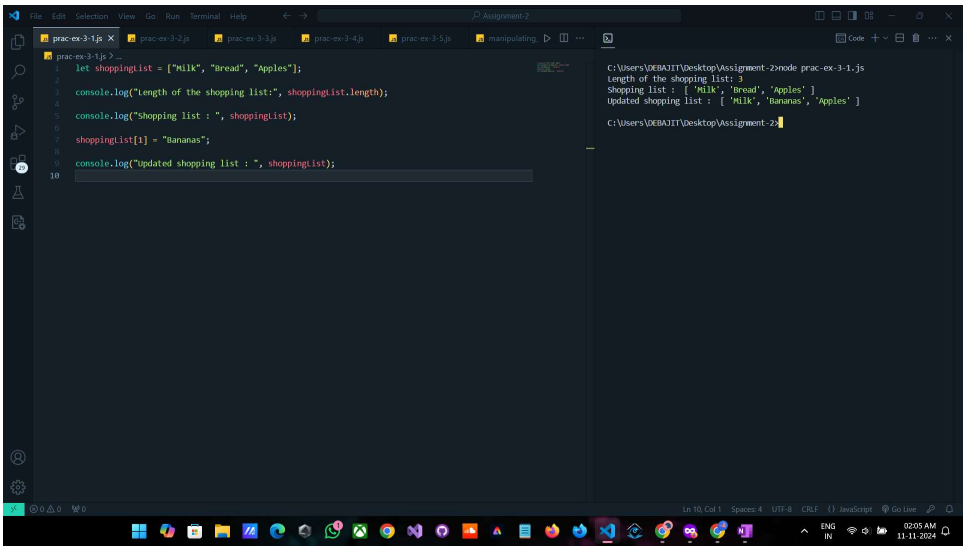
Practice exercise 3.1

1. Create an array to use as your shopping list with 3 items: "Milk," "Bread," and "Apples."
2. Check your list length in the console.
3. Update "Bread" to "Bananas."
4. Output your entire list to the console.

Code:

```
let shoppingList = ["Milk", "Bread", "Apples"];

console.log("Length of the shopping list:", shoppingList.length);
console.log("Shopping list : ", shoppingList);

shoppingList[1] = "Bananas";

console.log("Updated shopping list : ", shoppingList);
```

Output:



Practice exercise 3.2

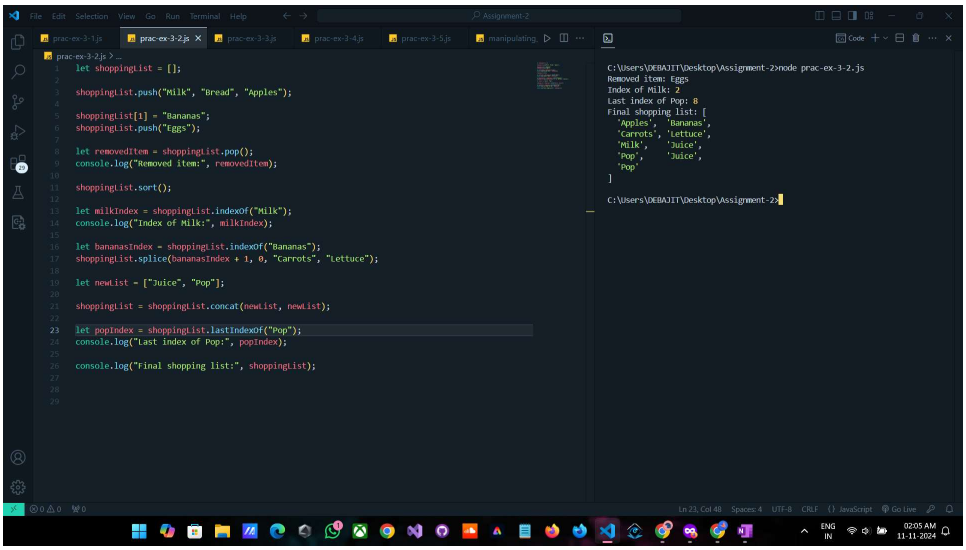
1. Create an empty array to use as a shopping list.
2. Add Milk, Bread, and Apples to your list.
3. Update "Bread" with Bananas and Eggs.
4. Remove the last item from the array and output it into the console.
5. Sort the list alphabetically.

6. Find and output the index value of Milk.
7. After Bananas, add Carrots and Lettuce.
8. Create a new list containing Juice and Pop.
9. Combine both lists, adding the new list twice to the end of the first list.
10. Get the last index value of Pop and output it to the console.
11. Your final list should look like this:

Code:

```
let shoppingList = [];
shoppingList.push("Milk", "Bread", "Apples");
shoppingList[1] = "Bananas";
shoppingList.push("Eggs");
let removedItem = shoppingList.pop();
console.log("Removed item:", removedItem);
shoppingList.sort();
let milkIndex = shoppingList.indexOf("Milk");
console.log("Index of Milk:", milkIndex);
let bananasIndex = shoppingList.indexOf("Bananas");
shoppingList.splice(bananasIndex + 1, 0, "Carrots", "Lettuce");
let newList = ["Juice", "Pop"];
shoppingList = shoppingList.concat(newList, newList);
let popIndex = shoppingList.lastIndexOf("Pop");
console.log("Last index of Pop:", popIndex);
console.log("Final shopping list:", shoppingList);
```

Output:



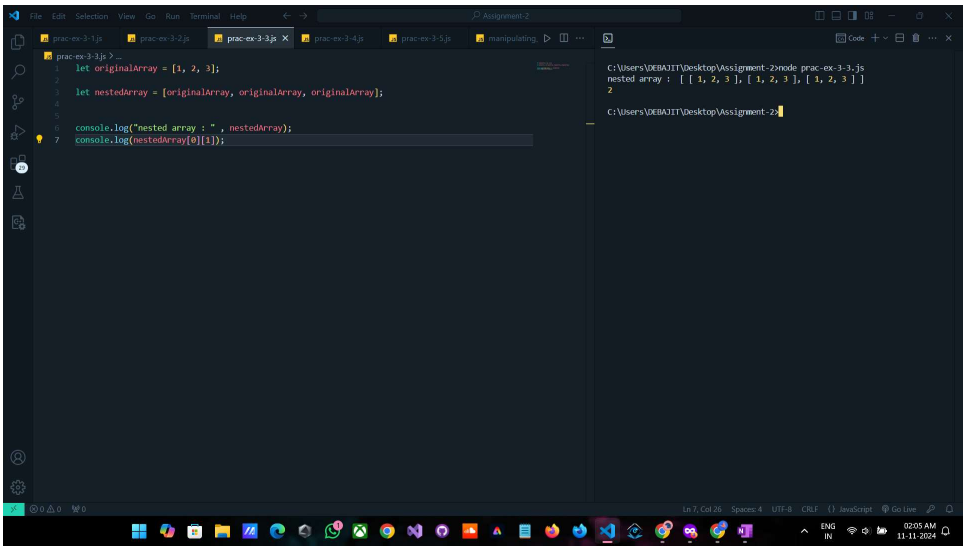
Practice exercise 3.3
1. Create an array containing three values: 1, 2, and 3.
2. Nest the original array into a new array three times.
3. Output the value 2 from one of the arrays into the console.

Code:

```
let originalArray = [1, 2, 3];
let nestedArray = [originalArray, originalArray, originalArray];
```

```
console.log("nested array : " , nestedArray);
console.log(nestedArray[0][1]);
```

Output:



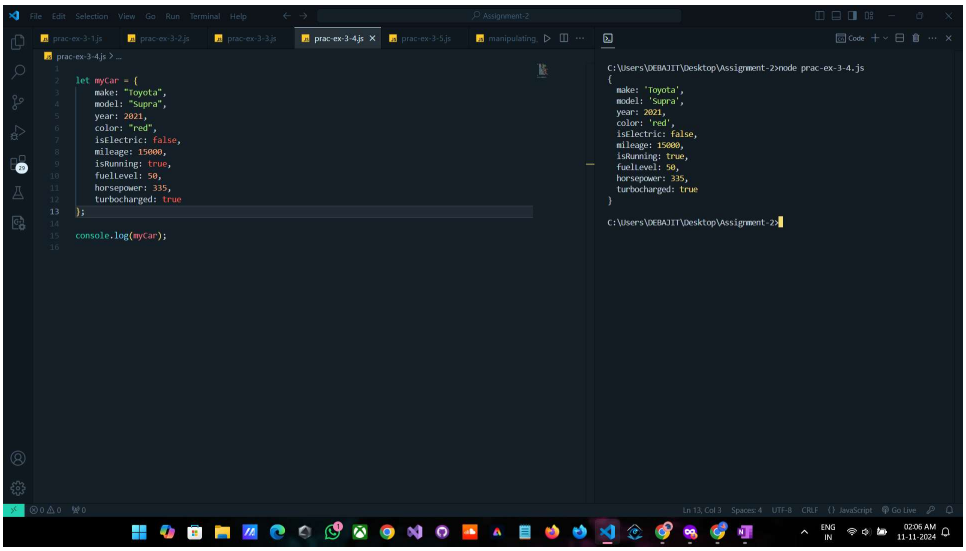
Practice exercise 3.4

1. Create a new myCar object for a car. Add some properties, including, but not limited to, make and model, and values for a typical car or your car. Feel free to use booleans, strings, or numbers.

Code:

```
let myCar = {
    make: "Toyota",
    model: "Supra",
    year: 2021,
    color: "red",
    isElectric: false,
    mileage: 15000,
    isRunning: true,
    fuelLevel: 50,
    horsepower: 335,
    turbocharged: true
};
console.log(myCar);
```

Output:



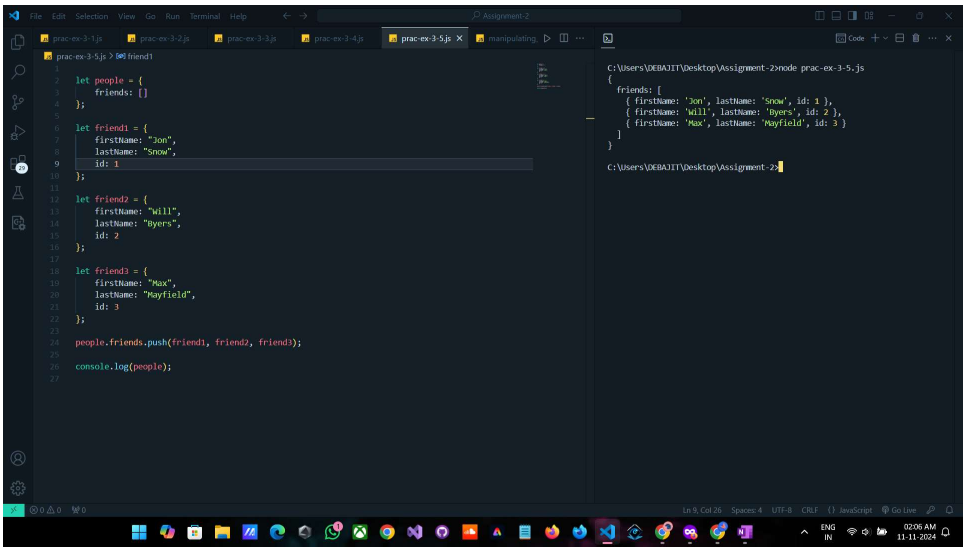
Practice exercise 3.5

1. Create an object named people that contains an empty array that is called friends.
2. Create three variables, each containing an object, that contain one of your friend's first names, last names, and an ID value.
3. Add the three friends to the friend array.
4. Output it to the console.

Code:

```
let people = {
    friends: []
};
let friend1 = {
    firstName: "Jon",
    lastName: "Snow",
    id: 1
};
let friend2 = {
    firstName: "Will",
    lastName: "Byers",
    id: 2
};
let friend3 = {
    firstName: "Max",
    lastName: "Mayfield",
    id: 3
};
people.friends.push(friend1, friend2, friend3);
console.log(people);
```

Output:



Chapter projects

(1) Manipulating an array :

Take the following array:
const theList = ['Laurence', 'Svekis', true, 35, null, undefined, {test: 'one', score: 55}, ['one', 'two']];
Manipulate your array using various methods, such as pop(), push(), shift(), and unshift(), and transform it into the following: ["FIRST", "Svekis", "MIDDLE", "hello World", "LAST"]

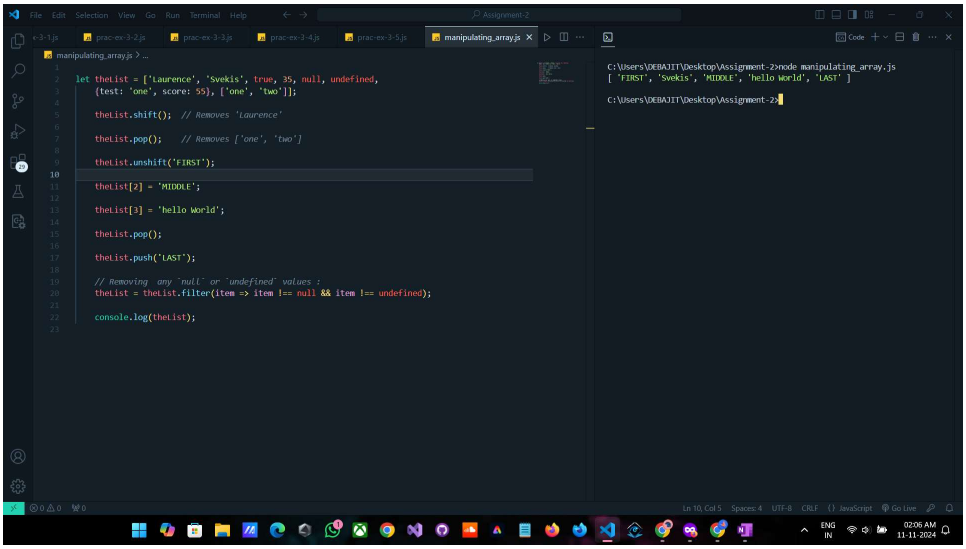
You can take the following steps, or adopt your own approach:
- Remove the first item and the last item.
- Add FIRST to the start of the array.
- Assign hello World to the fourth item value.
- Assign MIDDLE to the third index value.
- Add LAST to the last position in the array.
- Output it to the console.

Code:

```
let theList = ['Laurence', 'Svekis', true, 35, null, undefined,
    {test: 'one', score: 55}, ['one', 'two']];

    theList.shift();  // Removes 'Laurence'

    theList.pop();    // Removes ['one', 'two']

    theList.unshift('FIRST');

    theList[2] = 'MIDDLE';

    theList[3] = 'hello World';

    theList.pop();

    theList.push('LAST');
```

```
// Removing  any `null` or `undefined` values :
theList = theList.filter(item => item !== null && item !== undefined);

console.log(theList);
```

Output:



(2) Company product catalog:

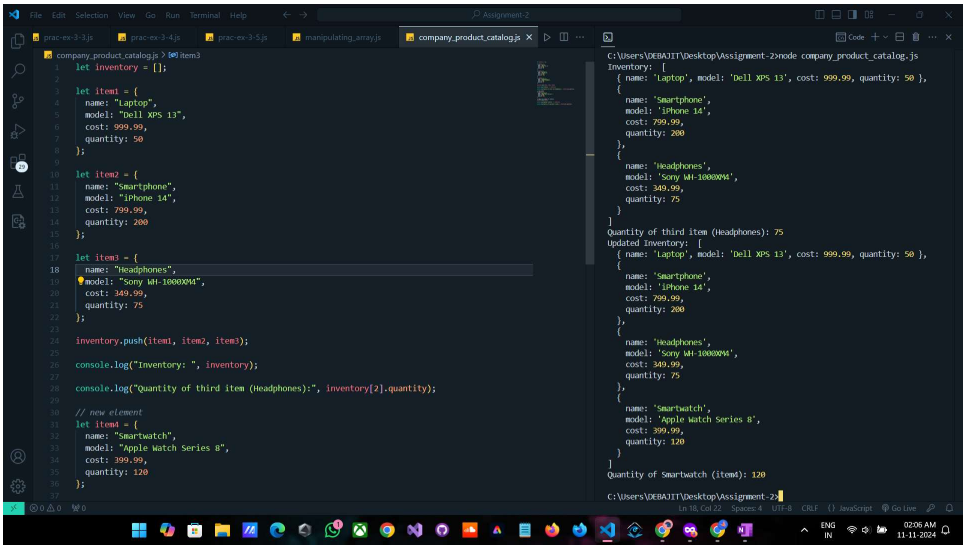
1. Create an array to hold an inventory of store items.
2. Create three items, each having the properties of name, model, cost, and quantity.
3. Add all three objects to the main array using an array method, and then log the inventory array to the console.
4. Access the quantity element of your third item, and log it to the console. Experiment by adding and accessing more elements within your data structure.

Code:

```
let inventory = [];
let item1 = {
  name: "Laptop",
  model: "Dell XPS 13",
  cost: 999.99,
  quantity: 50
};
let item2 = {
  name: "Smartphone",
  model: "iPhone 14",
  cost: 799.99,
  quantity: 200
};
let item3 = {
  name: "Headphones",
  model: "Sony WH-1000XM4",
  cost: 349.99,
  quantity: 75
```

```
};

inventory.push(item1, item2, item3);
console.log("Inventory: ", inventory);
console.log("Quantity of third item (Headphones):", inventory[2].quantity);
// new element
let item4 = {
  name: "Smartwatch",
  model: "Apple Watch Series 8",
  cost: 399.99,
  quantity: 120
};

// adding new element to inventory
inventory.push(item4);
console.log("Updated Inventory: ", inventory);
console.log("Quantity of Smartwatch (item4):", inventory[3].quantity);
```

Output:



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