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Task 1

```
// Scenario 1 - Buying Groceries
function buyGroceries(choice: string) {
    if (choice === 'fruits') {
        console.log('Fruits available: Apple, Banana, Orange');
        const fruitChoice = 'Apple'; // Assume user chooses Apple
        const fruitPrice = 2.5; // Assume price per unit

        const quantity = 3; // Assume quantity
        const totalFruitCost = quantity * fruitPrice;

        console.log(`You chose ${fruitChoice}, Quantity: ${quantity}, Total Cost:
$${totalFruitCost}`);
    } else if (choice === 'vegetables') {
        console.log('Vegetables available: Carrot, Tomato, Spinach');
        // Similar logic as above for vegetables
    } else {
        console.log('Invalid choice');
    }
}

// Scenario 2 - Checking Discounts
function applyDiscount(totalBill: number) {
    let discountedTotal = totalBill;

    if (totalBill > 50) {
        const discountPercentage = 10; // Assume 10% discount
        const discountAmount = (discountPercentage / 100) * totalBill;
        discountedTotal = totalBill - discountAmount;

        console.log(`Discount Applied: ${discountPercentage}%, Discounted Total:
$${discountedTotal}`);
    } else {
        console.log('No discount applied. Total: $' + totalBill);
    }

    return discountedTotal;
}
```

```
// Scenario 3 - Checkout Process
function checkout(paymentMethod: string) {
    const paymentOptions = ['Credit Card', 'Debit Card', 'Cash'];

    if (paymentOptions.includes(paymentMethod)) {
        console.log(`Thank you for shopping! Payment method: ${paymentMethod}`);
    } else {
        console.log('Invalid payment method');
    }
}

// Main simulation
const userChoice = 'fruits'; // Assume user wants to buy fruits
buyGroceries(userChoice);

const totalBillAmount = 60; // Assume total bill amount
const discountedTotalAmount = applyDiscount(totalBillAmount);

const userPaymentMethod = 'Credit Card'; // Assume user chooses Credit Card
checkout(userPaymentMethod);
```

Task 2

```
// Scenario 1: Sum numbers
function add(num1: number, num2: number): number {
    return num1 + num2;
  }

  // Scenario 2: Check Even or Odd
  function checkEvenOrOdd(num: number): string {
    return num % 2 === 0 ? 'Even' : 'Odd';
  }

  // Scenario 3: Calculate Area
  function calculateArea(width: number, height: number): number {
    return width * height;
  }
```

```
// Scenario 4: String Reversal
function reverseString(inputString: string): string {
  return inputString.split('').reverse().join('');
}

// Scenario 5: Temperature Conversion
function convertCelsiusToFahrenheit(celsius: number): number {
  return (celsius * 9/5) + 32;
}

// Testing the functions
console.log(add(5, 10)); // Output: 15
console.log(checkEvenOrOdd(7)); // Output: Odd
console.log(calculateArea(3, 4)); // Output: 12
console.log(reverseString('Hello')); // Output: olleH
console.log(convertCelsiusToFahrenheit(25)); // Output: 77
```

Task 3

```
// Scenario 1 - Modify Array with Methods
let initialArray: number[] = [1, 2, 3, 4, 5];

// push: Add new elements to the end of the array.
initialArray.push(6, 7);
console.log("After push:", initialArray); // Output: [1, 2, 3, 4, 5, 6, 7]

// pop: Remove the last element from the array.
initialArray.pop();
console.log("After pop:", initialArray); // Output: [1, 2, 3, 4, 5, 6]

// shift: Remove the first element from the array.
initialArray.shift();
console.log("After shift:", initialArray); // Output: [2, 3, 4, 5, 6]

// unshift: Add new elements to the beginning of the array.
initialArray.unshift(0, 1);
console.log("After unshift:", initialArray); // Output: [0, 1, 2, 3, 4, 5, 6]

// Scenario 2 - Subarray Creation
// splice: Create a subarray by removing elements from the original array.
let removedElements = initialArray.splice(2, 3);
```

```
console.log("Subarray created by splice:", initialArray); // Output: [0, 1, 5, 6]
console.log("Removed elements:", removedElements); // Output: [2, 3, 4]

// Reset the array for the next scenario
initialArray = [0, 1, 2, 3, 4, 5, 6];

// slice: Create a subarray without modifying the original array.
let subArray = initialArray.slice(2, 5);
console.log("Subarray created by slice:", subArray); // Output: [2, 3, 4]
console.log("Original array remains unchanged:", initialArray); // Output: [0, 1,
2, 3, 4, 5, 6]
```