Challenge

Perform Common Array Operations Using JavaScript Array Methods

Challenge

- Calculate the final bill amount for the Veggie Pizza Outlet using array methods

Points to Remember

- Sort the array alphabetically after filtering the menu items by its category.
- Use array methods like filter, map, and reduce to achieve the desired output.
- Use strict equality (===) operator to compare values while filtering items.
- Use the function chaining strategy wherever required to complete the exercise.
- Use Math.round method to display the discount final amount (rounding to 2 decimal places).
- Ensure the code is adequately commented to make it more readable.
- Ensure the code is clean and well-indented.

Calculate Final Bill Amount for the Veggie Pizza Outlet Using Array Methods

Veggie Pizza is a pizza delivery outlet that became popular for its custom-made vegetarian pizzas. A customer can order pizzas and other items by calling the outlet. The outlet delivers the order to the address specified by each customer.

Write a JavaScript program to calculate the final bill amount the customer should pay for the order placed.

The menu for Veggie Pizza outlet is given in the upcoming slide.

CHALLENGE

The Veggie Pizza Menu

Category	Name	Price
Beverages	Soft Drink	$1.5
Starters	Garlic Bread	$2.8
Starters	Mozzarella Sticks	$5.5
Main Meal	Medium Size Margherita Pizza	$11
Beverages	Iced Tea	$1.25
Starters	Greek Wedge Salad	$4.5
Beverages	Milk Shake	$2.0
Main Meal	Veg Family Meal	$13.25
Main Meal	Large Size Vegan Pepperoni Pizza	$14.5

Note: Perform the tasks given in the upcoming slide.

Tasks

- The challenge can be performed by tasks given below:
  - Task1: Filter Menu Items Based on The Category
  - Task 2: Calculate the Discounted Final Bill Amount

Note: Task details are given in the upcoming slide.

Task 1: Filter Menu Items Based on Category

Whenever a customer wants to place an order and has a query related to the items in a particular category, the call executive should be able to see all the item details of that category.

- Create JS function which takes menu and category name as its parameters to return the **items in alphabetical order**.
    - Only beverages
    - Only starters
    - Only main meals
- Use array filter and sort methods.

Note: Use the menu object provided in the boilerplate to perform operations.

Task 2: Calculate the Discounted Final Bill Amount

The delivery store gives 1 soft drink free when the customer order contains 2 or more main meals. Also, a 5% discount is offered if the total bill amount >= $50.

After the customer places an order, the call executive should be able to calculate the total amount of each item ordered, the total bill amount, and the final discounted amount using the array methods.

The table shown below is provided in the boilerplate as an object called order.

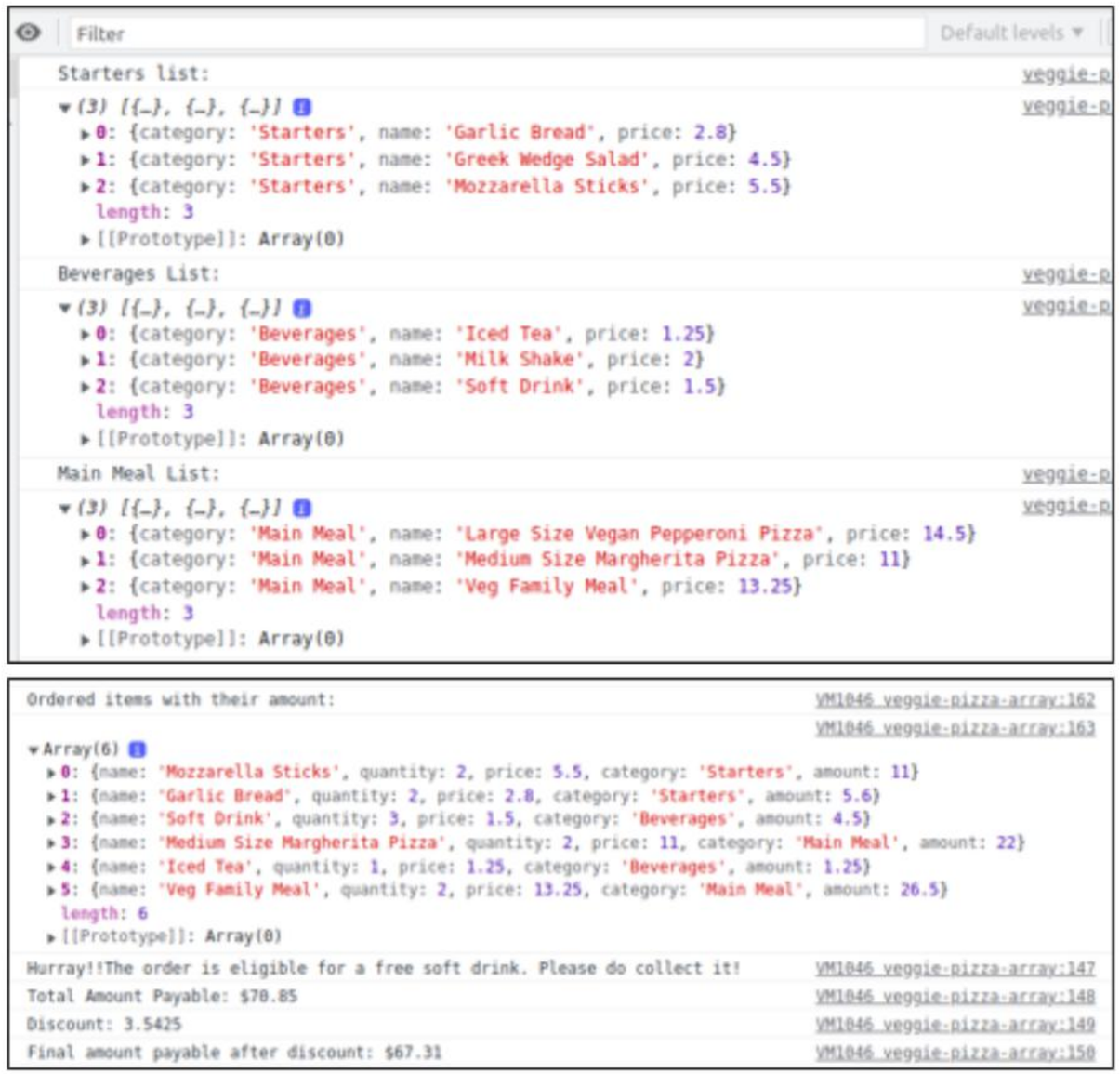
Name	Price(USD)	Quantity
Mozzarella Sticks	5.5	2
Garlic Bread	2.8	2
Soft Drink	1.5	3
Medium size Margherita Pizza	11	2
Iced Tea	1.25	1
Veg Family meal	13.25	2

Steps to Calculate the Discounted Final Bill Amount

- Step 1: Calculate and return the total amount of each item ordered.
- Step 2: Count the number of main meals ordered to provide free soft drink for the order and return the same.
- Step 3: Calculate and return the total bill amount.
- Step 4: Calculate and return the final bill amount after discount.
- Step 5: Return a message if the order is eligible for free soft drink.

Note: Just for reference, the sample expected output when executed in JavaScript Debugging panel is given in the upcoming slide.

Sample Expected Output For Reference



Step 1: Calculate the Amount for Each Item Ordered

- Table-1 (as shown below) is provided in the boilerplate as an object called order.
- Define a function to calculate the amount for each item ordered. It should return an array of objects where each object has name, quantity, price, category, and amount as its properties.
- Use Array's map() method to transform each order item.

Name	Price(USD)	Quantity
Mozzarella Sticks	5.5	2
Garlic Bread	2.8	2
Soft Drink	1.5	3
Medium size Margherita Pizza	11	2
Iced Tea	1.25	1
Veg Family meal	13.25	2

Table1: Order object before transformation

Name	Quantity	Price	Category	Amount
Mozzarella Sticks	2	5.5	Starters	11
Garlic Bread	2	2.8	Starters	5.6
Soft Drink	3	1.5	Beverages	4.5
Medium size Margherita Pizza	2	11	Main Meal	22
Iced Tea	1	1.25	Beverages	2.5
Veg Family meal	2	13.25	Main Meal	26.50

Table 2: Order object after transformation

Step 2: Count the Number of Main Meals Ordered

- One soft drink is given free when the order contains 2 or more main meals.
- Define a function to count the number of main meals ordered and return the result.
  - Use Array's filter() and reduce() methods with the transformed order object.
  - Function chaining should be used when multiple methods are called on the same array consecutively.

Step 3: Calculate the Total Bill Amount

- Define a function to find the total amount of the order.
    - Use Array's reduce() method with the transformed order object to calculate the total amount and return the result.

Step 4: Calculate the Final Bill Amount After Discount

- A discount of 5% is applied if the bill amount is >= $50.
- Define a function to calculate the final amount based on the customer order.
  - Calculate the discount (if applicable)
  - Subtract the discount from the total amount to get the final amount.
  - Return the final amount after rounding it to 2 decimals.

Step 5: Return a Message if the Order is Eligible for Free Drink

- Define a function that returns a message if the order is eligible for free soft drink otherwise should return null.
    - The message should be `"Hurray!!The order is eligible for a free soft drink. Please do collect it!"`