

HOF and Functional programming

Assignment Questions



1. You are building an e-commerce website. Write a function that calculates the total price of a customer's order. You're given an array of items, each with a price property. Use the `forEach` method to iterate through the array and sum up the prices to get the total order amount.

```
const ordersList = [  
  { name: "Laptop", price: 120000 },  
  { name: "Mobile", price: 70000 },  
  { name: "Mobile Charger", price: 1500 },  
  { name: "Laptop Charger", price: 10500 },  
];
```

```
// OUTPUT: The total price is Rs.202000
```

2. In this challenge, your task is to create a function that generates a random number and prints it to the console every 2 seconds. The program should keep printing new random numbers indefinitely, with a 2-second delay between each number.

3. You are given an array of expense objects representing monthly expenses. Each object has properties, amount and category. Use the `map` method to create a new array that includes the calculated tax for each expense. Assume a tax rate of 10%.

```
let expenses = [  
  { amount: 100, category: "Utilities" },  
  { amount: 200, category: "Groceries" },  
  { amount: 50, category: "Entertainment" },  
];
```

4. Using the same array of expense objects, use the `filter` method to create a new array that includes only the expenses related to the category "Groceries."

5. Using the same array of expense objects, use the `reduce` method to calculate the total amount of all expenses.

6. You have a list of expenses, each with an amount and a category. Now, create a function named `categorizeExpense` that, based on the expense amount, returns either "High Expense" if it's more than 100, or "Low Expense" otherwise. Afterward, use this function along with the `map` method to generate a new array called `categorizedExpenses`, where each element represents the category for the corresponding expense in the original list. Finally, print out the `categorizedExpenses` array.

```
let expenses = [  
  { amount: 100, category: "Utilities" },  
  { amount: 200, category: "Groceries" },  
  { amount: 50, category: "Entertainment" },  
];
```

Output:

```
Categorized Expenses: [ 'Low Expense', 'High Expense', 'Low Expense' ]
```

7. Consider an array of numbers named `originalNumbers` with the values `[2, 5, 8, 10, 3]`. Your task is to use the `forEach` method to iterate through each element in the array. During the iteration, double the value of each number. After completing the iteration, display the modified array.

```
let originalNumbers = [2, 5, 8, 10, 3];
```

8. Using the same array of numbers, use the `forEach` method to collect and store only the even numbers in a new array.

