**Java script ES6 assignments**

**Assignment 1: Search in an Array**

Write a function called **searchArray** that takes an array of objects representing books and a target book title as parameters. The function should search for a book with a matching title and return the book object if found, or null otherwise.

Sample Data:

const books = [

{ title: 'The Great Gatsby', author: 'F. Scott Fitzgerald', price: 10.99 },

{ title: 'To Kill a Mockingbird', author: 'Harper Lee', price: 9.99 },

{ title: 'Pride and Prejudice', author: 'Jane Austen', price: 12.99 },

{ title: '1984', author: 'George Orwell', price: 8.99 },

];

**Assignment 2: Sort an Array**

Write a function called **sortArray** that takes an array of numbers and sorts it in ascending order using the ES6 **sort()** method.

Sample Data:

const numbers = [9, 4, 2, 7, 1, 5, 8, 3, 6];

**Assignment 3: Remove Duplicates**

Write a function called **removeDuplicates** that takes an array of strings and removes any duplicate strings. The function should return a new array with the duplicates removed.

Sample Data:

const fruits = ['apple', 'banana', 'orange', 'apple', 'grape', 'banana'];

**Assignment 4: Count Occurrences**

Write a function called **countOccurrences** that takes an array of numbers and a target number as parameters. The function should count the number of times the target number appears in the array and return the count.

Sample Data:

const numbers = [1, 3, 5, 3, 2, 1, 6, 8, 4, 1];

const target = 1;

**Assignment 5: Repeat String**

Write a function called **repeatString** that takes a string and a number as parameters. The function should return a new string that repeats the original string the specified number of times.

Sample Data:

const word = 'hello';

const repeatCount = 3;

Assignment:

You are given an array of objects representing employees' information. Each object contains the following properties: **name** (string), **age** (number), and **salary** (number). Your task is to write JavaScript functions to perform the following operations:

1. Implement a function called **searchByName** that takes the employee array and a target name as parameters. The function should search for an employee with a matching name and return the employee object if found, or null otherwise.
2. Implement a function called **sortByAge** that takes the employee array as a parameter and returns a new array of employees sorted in ascending order by age.
3. Implement a function called **sortByName** that takes the employee array as a parameter and returns a new array of employees sorted in alphabetical order by name.
4. Implement a function called **sortBysalary** that takes the employee array as a parameter and returns a new array of employees sorted in descending order by salary.
5. Implement a function called **getAverageSalary** that takes the employee array as a parameter and returns the average salary of all employees.

Sample Data:

const employees = [

{ name: 'John Doe', age: 32, salary: 5000 },

{ name: 'Jane Smith', age: 28, salary: 4500 },

{ name: 'David Johnson', age: 35, salary: 6000 },

{ name: 'Emily Davis', age: 30, salary: 5500 },

];

Now, using the provided sample data, you can create the assignment as follows:

1. Write the **searchByName** function that searches for an employee by name.
2. Implement the **sortByAge** function that sorts the employees by age.
3. Implement the **sortByName** function that sorts the employees by name.
4. Implement the **sortBysalary** function that sorts the employees by salary.
5. Write the **getAverageSalary** function that calculates and returns the average salary of all employees.

Ensure that each function is tested with appropriate test cases using the given sample data to demonstrate their correctness.

This assignment focuses on utilizing ES6 concepts such as arrow functions, the **find()** method for searching, and the **sort()** method for sorting arrays. It also incorporates basic calculations to find the average salary.