JavaScript Assignment - 1

1. Write a function that converts an array of strings to uppercase.
   const strings = ["hello", "world"];

2. Given an array of numbers, write a function to create a new array that only contains the even numbers.
   const numbers = [1, 2, 3, 4, 5, 6];

3. Write a function that removes all the empty strings from an array of strings.
   const strings = ["hello", "", "world", "", "javascript"];

4. Write a function using the reduce method that concatenates an array of strings into a single string, with each word separated by a space.
   const words = ["hello", "world", "javascript"];

5. Given an array of mixed data types, the end user needs the sum of squared numbers in this array. Write a program for this.
   const array = [4, 'hello', 3, true, 'Uki', 5];

6. Write a function named reverseArray that takes an array as input and returns a new array with the elements in reverse order.

7. Create a function createPerson that returns an object representing a person with properties name, age, and a method greet that logs a greeting message something like **"Hello, my name is John and I am 25 years old."**

8. Write a function getHighGrades that takes an array of student objects (each with name and grade properties) and returns an array of names of students with grades higher than 80.

```
const students = [
        { name: 'Alice', grade: 90 },
        { name: 'Bob', grade: 70 },
        { name: 'Charlie', grade: 85 }
];
```

10. Write a JavaScript code to check if a variable age is greater than or equal to 18, and print "Adult" if true.

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11. Write a JavaScript code to check if a variable score is passing (>=50), and print "Pass" if true, otherwise print "Fail".

12. Write a JavaScript code to categorize a variable grade into "Excellent" (>=90), "Good" (>=75), "Average" (>=50), and "Poor" (<50).

13. Write a function addTask that takes an array of tasks and a task to add to the list. The function should return the updated array of tasks.

```
function addTask(tasks, newTask) {
        // Your code here
}
const tasks = ['Buy groceries', 'Clean the house'];
console.log(addTask(tasks, 'Pay bills'));
// ['Buy groceries', 'Clean the house', 'Pay bills']
```

14. Write a function findCommonElements that takes two arrays and returns an array containing the common elements between the two.

```
function findCommonElements(arr1, arr2) {
        // Your code here
}

console.log(findCommonElements([1, 2, 3], [3, 4, 5])); // [3]
```

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15. Write a function updateEmployeeRecord that takes an employee object and an object of updates, and returns the updated employee object.

```
function updateEmployeeRecord(employee, updates) {
    // Your code here
}

const employee = { name: 'John', position: 'Developer', salary: 50000 };
const updates = { position: 'Senior Developer', salary: 60000 };
console.log(updateEmployeeRecord(employee, updates)); // { name: 'John', position: 'Senior Developer', salary: 60000 }
```

16. Write a function inventoryValue that takes an array of product objects (each with properties name, price, and quantity) and returns the total value of the inventory.
javascript

```
function inventoryValue(products) {
    // Your code here
}

const products = [
    { name: 'Laptop', price: 1000, quantity: 5 },
    { name: 'Phone', price: 500, quantity: 10 }
];

console.log(inventoryValue(products)); // 10000
```

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17. Write a function applyDiscount that takes a price and a discount percentage, and returns the price after the discount has been applied. Use default parameters to set the discount percentage to 10% if not provided.

18. Write a recursive function factorial that takes a number n and returns the factorial of n.

19. Write a function registerUser that takes an array of user objects and a new user object, checks if the username already exists, and if not, adds the new user to the array.

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