Lab Task

Task 1:

Create a program that collects and analyzes daily sales data for a retail store over a week. The program should provide insights such as the highest, lowest, and average sales figures. Use an array to store daily sales amounts (e.g., [200, 300, 250, 400, 350, 450, 500]).

Functions to Implement:

- **addSales(amount):** Adds the sales amount for the day.
- **getHighestSales():** Returns the highest sales amount of the week.
- **getLowestSales():** Returns the lowest sales amount of the week.
- **getAverageSales():** Calculates and returns the average sales amount.

Task 2:

Build a system to manage participant registrations for an event, including adding participants, checking availability, and listing all registered participants. Use an array of participant objects (e.g., [{name: 'Alice', email: 'alice@example.com', ticketType: 'VIP'}]).

Functions to Implement:

- addParticipant(name, email, ticketType): Adds a new participant.
- checkAvailability(): Checks if the maximum capacity is reached.
- listParticipants(): Lists all registered participants.

Task 3:

Create a leaderboard for a movie review application that allows users to be added, their ratings to be updated, and the top reviewers to be displayed. Use an array of reviewer objects (e.g., [{name: 'Alice', rating: 4.5}]).

Functions to Implement:

- addReviewer(name): Adds a new reviewer to the leaderboard.
- updateRating(name, rating): Updates a reviewer's rating for their reviews.
- getTopReviewers(): Returns the top reviewers sorted by their average rating.

Task 4:

Create a library management system that allows users to add and search for books by author or name. Use an array of book objects (e.g., [{title: 'Web', Author: ['A', 'B'], Language: 'English'}]).

Functions to Implement:

- addBook(title, authors, language): Adds a new book.
- listBooks(): Lists all books.
- searchBookByAuthor(Author): Searches for books written by specific author.

Task 5:

Correct the following code

1.	function capitalizeWords = (str) {
	return str.toLowerCase().split(' ').map(word => word[0].toUpperCase() + word.slice(1));}
	console.log(capitalizeWords("hello world")); // Expected: "Hello World"

2.	function isEvenOrOdd(num) {
	  if (num / 2) {
	  return
	  "Even";
	  } else {
	  return
	  "Odd";
	  }
	}
	console.log(isEvenOrOdd(4)); // Expected: "Even"
	console.log(isEvenOrOdd(3)); // Expected: "Odd"

3.	const findCharacterIndex = (str, char) => {
	  for (let i = 0; i < str.length; i++) {
	  if (str[i] = char) {
	  return i;
	  }
	  }
	  return -1;
	}
	console.log(findCharacterIndex("hello", "e")); // Expected: 1

4.	const person = {
	name: "John",
	age: 30
	};
	const printAge = function (person) => {
	console.log(person[age]);
	}
	printAge(person); // Expected: 30

Task 6:

Explain the functionality of following functions

1.includes()
2.every()
3.filter()
4.join()
5.some()
6.splice()