

JavaScript Part-2 - Lab Assignment Questions

1. Guess the Number Game

Write a JavaScript program that:

- Generates a random number between 1 and 100.
- Asks the user to guess the number.
- Provides hints ("too high" / "too low") until the correct number is guessed.

Bonus Challenge:

- Limit the number of attempts to 5 and display a message if the user fails.
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2. FizzBuzz Challenge

Write a JavaScript program that prints numbers from 1 to 50:

- If a number is divisible by 3, print "Fizz".
- If a number is divisible by 5, print "Buzz".
- If a number is divisible by both 3 and 5, print "FizzBuzz".

Bonus Challenge:

- Allow the user to define custom divisibility rules.
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3. Simple Calculator

Create a web-based calculator with JavaScript that:

- Accepts two numbers from the user.
- Performs addition, subtraction, multiplication, and division based on user selection.

Bonus Challenge:

- Add support for advanced operations like modulus (%) and exponentiation (**).
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4. Palindrome Checker

Write a JavaScript function that checks if a given word or sentence is a palindrome (ignoring spaces, punctuation, and case).

Bonus Challenge:

- Allow the user to enter a phrase and check if it's a palindrome in real time.
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5. Character Counter

Create a JavaScript program that:

- Takes input from the user.
- Counts and displays the number of characters (including spaces).
- Displays the number of words.

Bonus Challenge:

- Highlight repeated words.
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6. Find Duplicates in an Array

Write a JavaScript function that finds and prints duplicate values in an array.

Bonus Challenge:

- Remove duplicates and return a unique array.
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7. Find the Second Largest Number

Write a JavaScript function to find the second largest number in an array.

Bonus Challenge:

- Find the **third** largest number.
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8. Sort an Array Without Using the `sort()` Method

Write a JavaScript function to sort an array of numbers **without** using `Array.sort()`.

Bonus Challenge:

- Implement **both** ascending and descending order.
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9. Event-Driven Background Color Changer

Create a webpage with three buttons:

"Red", "Green", and "Blue".

When a user clicks on a button, **change the background** color of the page to the respective color.

Bonus Challenge:

Generate a random color when clicking an additional "Random" button.

10. Dynamic Table Generator

Create a function that takes user input for the **number of rows and columns** and generates a table dynamically.