

INTERACTIVE WEB DEVELOPMENT ASSIGNMENT

“INDIVIDUAL ASSIGNMENT #2”

Introduction:

This assignment is composed of 50 hands-on practical exercises for students to practice JavaScript, covering objects, arrays, strings, HTML elements, and other key elements. These exercises will provide a comprehensive introduction to various JavaScript concepts, helping students improve their coding skills.

Guidelines: All the answers will be displayed on one webpage with numbering from 1 to 50. Create a new web page, write “Individual Assignment #2 for <INSERT YOUR NAMES and REG NUMBER> on Interactive web development” in <h1> and write every question in <h2> and display its answer in the paragraph under the title.

The duration of the assignment is 10 days. Starting on 21th October 2024 to 30th October 2024.

Submission Report:

You will submit a report with the screen shot of your work plus its source codes.

Arrays

1. **Create an array of 20 numbers** and write a function to find the sum of all numbers.
2. Write a function to **find the largest number** in an array of 20 numbers.
3. Write a function to **sort an array of 20 numbers** in ascending order.
4. Write a function to **reverse an array of 20 numbers**.
5. Write a function that takes an array of 20 numbers and returns **only even numbers**.
6. Write a function that takes an array of 20 numbers and returns **only odd numbers**.
7. Write a function that takes an array of 20 numbers and returns **the average** of those numbers.
8. Write a function to **remove duplicates** from an array of 20 numbers.
9. Write a function that takes an array of 20 numbers and returns **the median** value.
10. Write a function to **multiply all elements** in an array of 20 numbers by 2.

Arrays of Strings (Names)

11. **Create an array of 20 names** and write a function to print each name on a new line.
12. Write a function to **sort an array of 20 names** alphabetically.
13. Write a function that checks if a specific name exists in an array of 20 names and returns true or false.
14. Write a function to **find the longest name** in an array of 20 names.
15. Write a function to **find names that start with a specific letter** in an array of 20 names.
16. Write a function to **convert all names to uppercase** in an array of 20 names.
17. Write a function to **remove a specific name** from an array of 20 names.
18. Write a function to **count how many names contain the letter "a"** in an array of 20 names.
19. Write a function to **concatenate all names** in an array of 20 names into a single string, separated by commas.
20. Write a function to **reverse the order** of an array of 20 names.

Objects

21. **Create a JavaScript object** that represents a person (with properties: name, age, and occupation).
22. Write a function that takes a person object and **returns a formatted string** with their information.
23. Write a function to **add a new property** to an existing object.
24. Write a function to **remove a property** from an existing object.
25. Write a function to **list all properties and values** of a JavaScript object.
26. Write a function to **merge two objects** into one.
27. Write a function to **check if a property exists** in an object.
28. Write a function to **clone an object** without referencing the original one.
29. Write a function that loops through an array of objects and prints **a specific property** of each object.
30. Write a function that updates **a specific property** of an object based on user input.

Strings

31. Write a function that takes a string and **reverses the string**.
32. Write a function to **count the number of vowels** in a given string.
33. Write a function to **convert a string to uppercase** without using built-in methods.
34. Write a function to **find the length** of a string without using .length.
35. Write a function to **replace all spaces with hyphens** in a string.

36. Write a function to **extract the first 10 characters** from a string.
37. Write a function to **find and replace a word** in a string.
38. Write a function to **split a string** into an array of words.
39. Write a function to **remove all numbers** from a string.
40. Write a function to insert another string in the existing starting at position 7.

HTML Elements and DOM Manipulation

41. Write a JavaScript function that changes the **background color** of a webpage when a button is clicked.
42. Write a JavaScript function to **hide an HTML element** when a button is clicked.
43. Write a JavaScript function to **create a new paragraph element** and append it to the body.
44. Write a JavaScript function to **remove all list items** from an unordered list.
45. Write a JavaScript function to **change the text content** of a specific HTML element.
46. Write a JavaScript function to **toggle a CSS class** on an HTML element.
47. Write a JavaScript function to **count the number of divs** on a webpage.
48. Write a JavaScript function to **get the value of a text input field** and display it in a paragraph.
49. Write a JavaScript function to **create a table** with 3 rows and 3 columns, and populate it with numbers of your choice.
50. Write a JavaScript function to **validate a form** (check if name, email, and password fields are filled).