

General Questions

1. Take 2 input (2 numbers) from prompt and display the result in alert box.
2. Do the same thing, but take input from two text boxes, get their values using document.getElementById and display the result in document window.
3. Print the below shape on a browser window [10 rows right-angled left justified numbers]
1
12
123
1234
12345
123456
1234567
12345678
123456789
12345678910

Conditional Statements

4. Demonstrate simple calculator using conditional constructs.
5. Write a program to accept a number N and print whether the number is EVEN or ODD.

Looping Statements

6. Take input from prompt and till that limit display the number and the squares of the numbers till that limit.
7. Write a program to print numbers backwards from 100 to 1 by skipping 2 numbers i.e. 100 97 94 91 88 85 82 79. . . 22 19 16 13 10 7 4 1.

Functions

8. Write a JavaScript function.
 - a. to capitalize the first letter of each word in a string.
 - b. to insert a string within a string at a particular position
 - c. to check whether an `input` is a string or not
 - d. to split a string and convert it into an array of words.

Strings

9. Write JavaScript code to encrypt the text using Caesar Cipher technique. Display the encrypted text. Prompt the user for input and the shift pattern.
10. Write a JavaScript code to process the name as the sample below.

Sample Input: Rama Krishna Narayan

Sample Output: R. K. Narayan

Arrays

11. Write a JavaScript method that splits an array into parts of determined size.
12. Write a JavaScript program to find the leap years in a given range of years.
13. Write a JavaScript Program to add elements to the existing array at specific positions.

Arrow Functions

14. Write an arrow function that accepts an array of numbers as input and returns the average of those numbers.
15. Write an arrow function that accepts an array of numbers as input and returns the sum of the even numbers in the array.
16. Write an arrow function, check_palindrome() to check whether the given string is a palindrome or not. The function should return true if it is a palindrome else it should return false.
Assume that all the letters in the given string are all of the same case.
Example: MAN, civic, WOW etc.
17. Write an arrow function that accepts an array of strings as input and prompt the message which shows "Enter the Length of the String:" Output: Function should return the entered length strings.

Regular Expressions

18. Write a JavaScript program to search a date within a string.
Sample Input: "Albert Einstein was born in Ulm, on 14/03/1879."
Sample Output:14/03/1879.
19. Write a pattern that matches e-mail addresses. Syntax:
localpart@domain
Note: The local part (The text before @ symbol) contains the following ASCII characters.
Uppercase (A-Z) and lowercase (a-z) English letters.
Digits (0-9).
Characters ! # \$ % & ' * + - / = ? ^ _ ` { | } ~
Character . (dot) provided that it is not the first or last character and it will not come one after the other.

Sample Input	Sample Output
JohnDoe.12#4@gmail.com	"Matches the pattern"
John..Doe12#4@gmail.com	"Not matching"

Objects

20. Write a JavaScript program to list the properties of a JavaScript object.
Sample object:

```
var student = {
  name : "David Rayy",
  sclass : "VI",
  rollno : 12 };

```

Sample Output: David Rayy, VI, 12
21. Write a JavaScript function to convert an object into a list of `[key, value]` pairs.
22. Create an object that represents a cat. It should have properties for tiredness, hunger, loneliness and happiness. Next, write methods that increase and decrease those properties (there's an example in the slides). Call them something that actually represents what would increase or decrease these things, like "feed", "sleep", or "pet".
Last, write a method that prints out the cat's status in each area.
Bonus: Make the functions take arguments that increase or decrease arbitrary amounts
Bonus: Make the functions as arbitrary as cats are - sometimes make it so the cat doesn't want to be petted.

Promises

23. Write a Javascript program where user passes the location and a function is called which returns a promise, if the location passed is Paris. Below is the output expected:
"Let's take a trip to Paris"
If the location is other than Paris, show the error message "Invalid Location".
24. Write a JavaScript program to book a hotel only after booking a flight.
[Hint: To achieve this, the promise returned from the bookHotel function is resolved only after resolving the promise from bookFlight function.
If the promise gets rejected from bookflight then it won't execute the second function.]

25. Write a function numTest that takes a number as an argument and returns a Promise that tests if the value is less than or greater than the value 20.
26. Implement a JavaScript promise to perform arithmetic operations. Display result for each operation synchronously using await () method. (Give delay in each promise object using setTimeout() method)

Application based Questions

27. Create a HTML page with a drop down containing all string methods and select of any method perform suitable operations and display result on HTML page
Input: select one option (ex: toLowerCase())
Output: String should be converted to Lowercase
28. Create a HTML page with a drop down containing 8 Array methods and select of any method perform suitable operations and display result on HTML page
Input: select one option (ex: push]
Output: Element should be added to array
29. A teacher is in the process of generating a few reports based on the marks scored by the students of her class in a project-based assessment.

- 1: Assume that the marks of her 10 students are available in an array.
- 2: The marks are out of 25.

Write a JavaScript program to implement the following functions:
 find_more_than_average(): Find and return the percentage of students who have scored more than the average mark of the class.
 generate_frequency(): Find how many students have scored the same marks. For example, how many have scored 0, how many have scored 1, how many have scored 3.... how many have scored 25. The result should be populated in a list and returned.

Sample Input:

list_of_marks = [12,18,25,24,2,5,18,20,20,21]

Sample Output:

more than average: 70.0

frequency: [0, 0, 1, 0, 0, 1, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 2, 0, 2, 1, 0, 0, 1, 1]