S. No.	Topic	Description	Class
1	Temperature Converter	Converts temperature from Celsius to Fahrenheit if above a threshold, otherwise converts it to Kelvin.	if else
2	Grade Calculator	Determines a student's grade based on their score: A (90-100), B (80-89), C (70-79), D (60-69), F (below 60).	else if
3	Age Classifier	Classifies a person into age groups: infant (0-2), toddler (3-5), child (6-12), teenager (13-17), adult (18+).	else if
4	Voting Eligibility Checker	Determines if a person is eligible to vote based on their age (18 or above).	if else
5	Traffic Light Simulator	Simulates a traffic light system, displaying appropriate messages based on input ('red', 'green', 'yellow').	else if
6	Leap Year Checker	Checks if a given year is a leap year (divisible by 4 but not by 100 unless also divisible by 400).	else if
7	Number Sorter	Sorts three numbers in ascending order.	else if
8	Password Validator	Validates a password based on length weak or strong	if else
9	BMI Calculator	Calculates BMI and classifies it into categories: underweight, normal weight, overweight, obese.	else if
10	Even or Odd Number Chec	Determines if an integer is even or odd.	if else
11	Positive, Negative, or Zero	Determines if a number is positive, negative, or zero.	else if
12	Triangle Type Identifier	Identifies the type of triangle based on angles.	else if
13	Simple Interest Calculator	Calculates simple interest with a discount for short periods.	if else
14	Electricity Bill Calculator	Calculates electricity bill based on units consumed and tariff rates.	else if
15	Quadrant Identifier	Determines which quadrant coordinates belong to.	else if
16	Day of the Week Finder	Outputs the day of the week corresponding to a given number (1 for Monday, 2 for Tuesday, etc.).	else if
17	Age in Days Calculator	Calculates a person's age in days.	else if
18	Largest among Three Numb	Determines the largest among three numbers.	else if
19	Smallest among Three Nun	Determines the smallest among three numbers.	else if
20	Palindrome Checker	Checks if a given string is a palindrome (reads the same forwards and backwards).	Loop
21	Quadratic Equation Solver	Determines the nature of roots of a quadratic equation.	not understood
22	Number Guessing Game	Generates a random number and prompts the user to guess it.	Math.random
23	Factorial Calculator	Calculates the factorial of an integer.	Loop
24	Fibonacci Sequence Genera	Generates the Fibonacci sequence up to a given number of terms.	Loop
25	Prime Number Checker	Determines if an integer is a prime number.	Loop
26	Perfect Number Checker	Determines if an integer is a perfect number.	Loop
27	Amicable Numbers Finder	Determines if two integers are amicable numbers.	Loop
28	Armstrong Number Checke	Determines if an integer is an Armstrong number.	advance
29	Reverse Number Generato	Generates the reverse of an integer.	advance
30	Roman Numeral Converter	Converts a number to a Roman numeral.	advance
1		Write a for loop to print numbers from 1 to 10.	Loop
2		Write a for loop to print even numbers from 2 to 20.	#NAME?
3		Write a for loop to print numbers from 10 to 1 in reverse order.	Loop
4		Write a for loop to print the multiplication table of a given number.	Loop
5		Write a for loop to calculate the sum of numbers from 1 to 100.	Loop
6		Write a for loop to print every third number from 1 to 30.	Loop
7		Write a for loop to calculate the factorial of a given number.	Loop
8		Write a for loop to print numbers divisible by 5 from 50 to 100.	#NAME?
9		Write a for loop to print the Fibonacci series up to 10 terms.	Loop
10		Write a for loop to calculate the square of numbers from 1 to 10.	Loop

11		Write a for loop to print the powers of 2 up to 10 terms.	Loop	
12		Write a for loop to check if a given number is a prime number.	Loop	
13		Write a for loop to print numbers from 1 to 100, but replace multiples of 3 with "Fizz" and multiples of 5 with "Buzz".	Loop	
14		Write a for loop to calculate the average of numbers from 1 to 50.	Loop	
15		Write a for loop to print the multiplication table of numbers from 1 to 5.	nested	
16		Write a for loop to calculate the sum of squares of numbers from 1 to 10.	Loop	
17		Write a for loop to calculate the sum of odd numbers from 1 to 50.	Loop	
18		10 Pattern	Nested Loop	
19		Write a for loop to print the pattern of numbers in the shape of a pyramid.		
20		Write a for loop to find the largest number in an array of numbers.	array	
21		Write a for loop to find the smallest number in an array of numbers.	array	
22		Write a for loop to count the number of vowels in a given string.	array	
23		Write a for loop to print the reverse of a given string.	array	
24		Write a for loop to print the ASCII values of lowercase letters from 'a' to 'z'.	advance	
25		Write a for loop to print a pattern of stars in the shape of a triangle.	nested loop	
		Write a for loop to print the even Fibonacci numbers up to 20 terms.		
		Write a for loop to find the factorial of numbers from 1 to 5.		
		Write a for loop to find the sum of digits of a given number.	array	
		Write a for loop to print the ASCII values of uppercase letters from 'A' to 'Z'.		
		Write a for loop to check if a given string is a palindrome.		
		Write a for loop to print the first 10 natural numbers in reverse order.		
		Array		
1		Write a program to find the sum of all elements in an array.	[3, 7, 12, 5, 9]	loop
2		Write a program to find the largest element in an array.	[14, 25, 8, 19, 32]	loop
3		Write a program to find the smallest element in an array.	[5, 9, 2, 14, 7]	loop
4		Write a program to find the average of all elements in an array.	[20, 30, 40, 50, 60]	loop
5		Write a program to reverse an array.	[1, 2, 3, 4, 5]	loop,push
6		Write a program to merge two arrays into a single array.	[1, 2, 3] and [4, 5, 6]	loop,push
7		Write a program to find the union of two arrays.	[1, 2, 3] and [3, 4, 5]	loop. includes, push
8		Write a program to find the intersection of two arrays.	[1, 2, 3, 4] and [3, 4, 5, 6]	loop,push
9		Write a program to find the difference between two arrays.	[1, 2, 3, 4, 5] and [3, 4, 5, 6, 7]	loop,include,push
10		Write a program to check if two arrays are equal.	[1, 2, 3] and [1, 2, 3]	loop
11		Write a program to flatten a nested array.	[[1, 2], [3, 4], [5, 6]]	Loop, Push
12		Write a program to find the index of a specified element in an array.	[10, 20, 30, 40, 50]	loop
13		Write a program to remove a specified element from an array.	[5, 3, 8, 9, 4]	loop,push
14		Write a program to insert an element at a specified position in an array.	[1, 2, 4, 5, 6]	Loop
15		Write a program to find the sum of elements at even indices and odd indices separately in an array and make new array of sum	[1, 2, 3, 4, 5, 6, 7, 8, 9]	loop, push
16		Write a program to find the longest word in an array of strings.	["apple", "banana", "cherry", "blueberry"]	loop
17		Write a program to convert an array of strings into a single string.	["apple", "banana", "cherry"]	Nested loop

18		Write a program to check if all elements in an array are positive.	[1, 2, 3, 4, 5]	loop
19		Given an array of numbers, remove elements from index 2 to index 4 using the splice() method.	[10, 20, 30, 40, 50]	splice
20		Given an array of strings, remove the last two elements using the splice() method.	['apple', 'banana', 'cherry', 'date', 'fig']	splice
21		Given an array of numbers, extract a portion of the array from index 1 to index 4 (inclusive) using the slice() method.	[10, 20, 30, 40, 50]	slice
22		Given an array of strings, extract the last three elements using the slice() method.	['apple', 'banana', 'cherry', 'date', 'fig']	slice
23		Given an array of numbers, create a new array containing only the elements from index 2 to the end of the array using the slice() method.	[10, 20, 30, 40, 50]	slice
24		Write a function that removes the first occurrence of a specific element from an array using splice().	[1, 2, 3, 4, 5]	splice
25		Given an array of numbers, write a function that removes all negative numbers from the array using splice().	[-3, 5, -7, -3, 2, -1, 8, 10]	splice loop
28		Given an array of strings, write a function that removes all elements that are shorter than a certain length using splice().	['apple', 'banana', 'kiwi', 'orange', 'grape']	splice loop
29				
		Create a function that removes duplicate elements from an array using splice().	[1, 2, 3, 2, 4, 5, 1, 3, 6, 7, 7]	
		Given an array of objects, write a function that removes all objects with a specific property value using splice().	[{id: 1, name: 'Alice'}, {id: 2, name: 'Bob'}, {id: 3, name: 'Alice'}, {id: 4, name: 'Alice'}]	
		Write a function that removes all elements from an array except those that satisfy a given condition using splice().	[10, 20, 30, 40, 50, 60]	
		Create a function that removes all occurrences of a specific value from an array using splice() and without using indexOf() or other built-in methods for finding the index.	[1, 2, 3, 4, 2, 5, 6, 2, 7, 8, 2]	
		Write a function that removes a range of elements from an array, specified by the starting and ending indices using splice().	[100, 200, 300, 400, 500]	
		Write a function that removes every second element from an array using splice().	[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]	
24				
25				
26				
27				
28		Given an array of numbers, insert the element 100 at index 3 using the splice() method.	[10, 20, 30, 40, 50]	splice adding
29		Given an array of strings, remove the first element and insert the string "Hello" at the beginning of the array using the splice() method.	['apple', 'banana', 'cherry', 'date', 'fig']	
		Given an array of numbers, remove the last three elements and insert the numbers 7, 8, and 9 at the end of the array using the splice() method.	[10, 20, 30, 40, 50]	
		Given an array of strings, remove the first two elements and insert the strings "Good" and "Morning" at the beginning of the array using the splice() method.	['apple', 'banana', 'cherry', 'date', 'fig']	
20		Given an array of numbers, extract a portion of the array from index 2 to index 5 (exclusive) and replace it with the numbers 100, 200, and 300 using the splice() method.	[10, 20, 30, 40, 50]	
21				
23		Write a program to check if an array is palindrome.	[1, 2, 3, 2, 1]	advance
24		Write a program to remove duplicate elements from an array.	[5, 3, 5, 8, 2, 3, 9]	
25		Write a program to find the frequency of each element in an array.	[4, 3, 5, 4, 2, 3, 4, 5, 6]	
26		Write a program to split an array into chunks of a specified size.	[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]	

27		Write a program to rotate elements of an array to the left by a given number of positions.	[1, 2, 3, 4, 5]	
28		Write a program to sort elements of an array in ascending order.	[9, 4, 7, 2, 5]	
		Write a program to sort elements of an array in descending order.	[12, 5, 9, 3, 7]	
		Write a program to find the frequency of occurrence of a specified character in an array of strings.	["apple", "banana", "cherry", "blueberry"]	
19		Write a program to check if an array contains any negative elements.	[1, 2, -3, 4, 5]	
		Write a program to find the second largest element in an array.	[10, 20, 30, 40, 50]	
		Write a program to check if an array contains any duplicate elements.	[1, 2, 3, 4, 5, 3]	
		Write a program to find the product of all elements in an array.	[1, 2, 3, 4, 5]	