Problem solving

1. Check if a username and password are equal.

2. Check if a person is eligible to vote based on their age.

3. Determine if a number is even or odd:

- Using the modulus operator (`%`).

- Using the floor division method.

- Using bitwise operations (`&`).

4. Check if a number is positive or negative.

5. Find the maximum of three numbers.

6. Print the multiplication table of a given number.

7. Find all even numbers within a specified range.

8. Find all odd numbers within a specified range.

9. Count even numbers in a given range.

10. Count odd numbers in a given range.

11. Swap two variables without using a temporary variable.

12. Use the ternary operator for decision-making.

13. Check if a number is a prime number.

14. Count the number of prime numbers in a specific range.

15. Find the next prime number after a given number.

16. Find the largest prime number within a specified range.

17. Determine the nearest prime number to a given value.

18. Print all the digits in a number.

19. Extract and print prime digits from a given number.

20. Reverse a number.

21. Check if a number is a palindrome.

22. Calculate the factorial of a number.

23. Determine if a number is a perfect number.

24. Check if a number is a perfect square.

25. Verify if a number is a sunny number.

26. Identify if a number is a strong number.

27. Check if a number is an Armstrong number.

28. Generate Fibonacci numbers up to a given limit.

29. Calculate the LCM (Least Common Multiple) of two numbers.

30. Calculate the GCD (Greatest Common Divisor) of two numbers.

31. Generate Non Fibonacci numbers up to a given limit.

32. Reverse an array.

33. Check if two arrays are equal.

34. Perform a linear search in an array.

35. Find the maximum and minimum values in an array.

36. Calculate the sum of the minimum and maximum values in an array.

37. Split and join elements of an array.

38. Move all zeroes in an array to the end.

39. Find the missing number in an array.

40. Use the slice method on arrays.

41. Find missing prime numbers in an array.

42. Identify unique elements in an array.

43. Find two numbers in an array that add up to 10.

44. Sort an array in ascending order.

45. Sort an array in descending order.

46. Rotate an array by a specific size.

47. Calculate the average of elements in an array.

48. Find the first and second maximum values in an array.

49. Remove duplicates from an array.

50. Find the intersection of two arrays.

51. Merge and sort two sorted arrays.

52. Split an array into subarrays (single element per subarray).

53. Split an array into chunks of a specified size.

54. Create subarrays with only even numbers (max 2 elements each).

55. Generate all subarrays of a specific size (sliding window technique).

56. Generate all possible subarrays.

57. Find all consecutive subarrays where the sum equals a target value.

58. Create a duplicate of a matrix.

59. Perform matrix addition.

60. Perform matrix subtraction.

61. Perform matrix multiplication.

62. Extract the left diagonal of a matrix.

63. Extract the right diagonal of a matrix.

64. Count uppercase letters, lowercase letters, digits, spaces, and special characters.

65. Count only uppercase letters in a string.

66. Count only lowercase letters in a string.

67. Capitalize the first letter of each word in a string.

68. Reverse a word.

69. Check if a word is a palindrome.

70. Count the number of vowels and consonants in a string.

71. Use padding (`padStart` and `padEnd`) in a string.

72. Trim leading and trailing spaces from a string.

73. Check if two strings are anagrams.

74. Check if one string is a substring of another.

75. Reverse a string.

76. Check if a string is a palindrome.

77. Count vowels and consonants in a string.

78. Find the length of the longest word in a sentence.

79. Replace a character in a string with another character.

80. Capitalize the first letter of each word in a sentence.

81. Remove duplicate characters from a string.

82. Count words in a string.

83. Compress a string by grouping repeated characters.

84. Check for balanced parentheses in a string.

85. Decode a run-length encoded string.

86. Generate all possible substrings of a string.

87. Convert Roman numerals to integers.

88. Find the longest common prefix among strings.

89. Validate a password based on specific criteria.

90. Count word frequencies in a text.