1. Write a Python program to reverse a string without using any built-in string reversal functions.

2. Implement a function to check if a given string is a palindrome.

3. Write a program to find the largest element in a given list.

4. Implement a function to count the occurrence of each element in a list.

5. Write a Python program to find the second largest number in a list.

6. Implement a function to remove duplicate elements from a list.

7. Write a program to calculate the factorial of a given number.

8. Implement a function to check if a given number is prime.

9. Write a Python program to sort a list of integers in ascending order.

10. Implement a function to find the sum of all numbers in a list.

11. Write a program to find the common elements between two lists.

12. Implement a function to check if a given string is an anagram of another string.

13. Write a Python program to generate all permutations of a given string.

14. Implement a function to calculate the Fibonacci sequence up to a given number of terms.

15. Write a program to find the median of a list of numbers.

16. Implement a function to check if a given list is sorted in non-decreasing order.

17. Write a Python program to find the intersection of two lists.

18. Implement a function to find the maximum subarray sum in a given list.

19. Write a program to remove all vowels from a given string.

20. Implement a function to reverse the order of words in a given sentence.

21. Write a Python program to check if two strings are anagrams of each other.

22. Implement a function to find the first non-repeating character in a string.

23. Write a program to find the prime factors of a given number.

24. Implement a function to check if a given number is a power of two.

25. Write a Python program to merge two sorted lists into a single sorted list.

26. Implement a function to find the mode of a list of numbers.

27. Write a program to find the greatest common divisor (GCD) of two numbers.

28. Implement a function to calculate the square root of a given number.

29. Write a Python program to check if a given string is a valid palindrome ignoring non-alphanumeric characters.

30. Implement a function to find the minimum element in a rotated sorted list.

31. Write a program to find the sum of all even numbers in a list.

32. Implement a function to calculate the power of a number using recursion.

33. Write a Python program to remove duplicates from a list while preserving the order.

34. Implement a function to find the longest common prefix among a list of strings.

35. Write a program to check if a given number is a perfect square.

36. Implement a function to calculate the product of all elements in a list.

37. Write a Python program to reverse the order of words in a sentence while preserving the word order.

38. Implement a function to find the missing number in a given list of consecutive numbers.

39. Write a program to find the sum of digits of a given number.

40. Implement a function to check if a given string is a valid palindrome considering case sensitivity.

41. Write a Python program to find the smallest missing positive integer in a list.

42. Implement a function to find the longest palindrome substring in a given string.

43. Write a program to find the number of occurrences of a given element in a list.

44. Implement a function to check if a given number is a perfect number.

45. Write a Python program to remove all duplicates from a string.

46. Implement a function to find the first missing positive