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