

1. Sum of List:

Write a Python function to calculate the sum of all elements in a given list.

2. List Manipulation:

Create a function that takes a list and returns a new list with only the even elements.

3. List Reversal:

Write a program to reverse a list in-place (without using built-in functions).

4. List Comprehension:

Use list comprehension to create a new list that contains squares of all elements in the given list.

5. List Filtering:

Implement a function to filter out elements from a list that are greater than a specified value.

6. List Intersection:

Write a function that returns the common elements between two lists.

7. Palindrome Check:

Implement a function to check if a given list is a palindrome.

8. List Rotation:

Rotate a list to the right by k steps. For example, `[1, 2, 3, 4, 5]` rotated by 2 becomes `[4, 5, 1, 2, 3]`.

9. Nested Lists:

Write a program to flatten a nested list.

10. Loop Patterns:

Print the following pattern using loops:

```
*  
**  
***  
****
```

11. Factorial Calculation:

Write a function to calculate the factorial of a given number using a loop.

12. Fibonacci Sequence:

Generate the Fibonacci sequence up to a specified number using a loop.

13. Prime Numbers:

Write a program to find all prime numbers up to a given limit.

14. List Concatenation:

Concatenate two lists without using the `+` operator.

15. List Uniqueness:

Write a function to remove duplicate elements from a list.

16. List Slicing:

Extract even-indexed elements from a list using list slicing.

17. List Sorting:

Sort a list of strings based on the length of each string.

18. Matrix Multiplication:

Implement matrix multiplication using nested loops.

19. List Frequency:

Write a function that returns the frequency of each element in a list.

20. List Median:

Calculate the median of a list of numbers.