

1. Write a Python program that creates a list of integers from 1 to 10, and then prints the square of each number in the list.
2. Write a Python function that takes a list of integers as input and returns the maximum number in the list.
3. Write a Python program that takes two lists of integers as input and returns a new list containing only the common elements of both lists.
4. Write a Python program that takes a list of strings as input and returns a new list containing only the strings that start with the letter 'a'.
5. Write a Python program that takes a list of integers as input and returns a new list containing only the even numbers in the original list.
6. Write a Python function that takes a list of integers as input and returns a new list where each element is the sum of the previous two elements in the original list.
7. Write a Python program that takes a list of integers as input and returns a new list containing only the unique elements of the original list.
8. Write a Python program that takes a list of strings as input and returns a new list containing only the strings that are palindromes.
9. Write a Python function that takes two lists of integers as input and returns a new list containing the elements that are in the first list but not in the second list.
10. Write a Python program that takes a list of strings as input and returns a new list where each element is the reverse of the corresponding element in the original list.
11. Write a Python program that takes a list of integers as input and returns a new list where each element is multiplied by 2.
12. Write a Python function that takes a list of integers as input and returns the sum of all the even numbers in the list.
13. Write a Python program that takes a list of strings as input and returns a new list containing only the strings that have a length greater than 5.
14. Write a Python program that takes a list of integers as input and returns a new list containing only the numbers that are divisible by 3.

15. Write a Python function that takes a list of integers as input and returns the second largest number in the list.
16. Write a Python program that takes two lists of integers as input and returns a new list containing the elements that are in both lists.
17. Write a Python program that takes a list of strings as input and returns a new list containing only the strings that contain the substring 'ing'.
18. Write a Python function that takes a list of integers as input and returns a new list where each element is the product of the previous two elements in the original list.
19. Write a Python program that takes a list of integers as input and returns a new list containing only the prime numbers in the original list.
20. Write a Python program that takes a list of strings as input and returns a new list containing only the strings that are in all uppercase letters.
21. Write a Python program that takes a list of integers as input and returns a new list containing only the numbers that are less than 10 and odd.
22. Write a Python function that takes a list of integers as input and returns the index of the first occurrence of the number 5 in the list.
23. Write a Python program that takes a list of strings as input and returns a new list containing only the strings that are composed entirely of uppercase letters.
24. Write a Python program that takes a list of integers as input and returns a new list containing only the numbers that are divisible by both 2 and 3.
25. Write a Python function that takes a list of integers as input and returns a new list containing the unique elements in the list, sorted in descending order.
26. Write a Python program that takes two lists of integers as input and returns a new list containing the elements that are in the first list and the second list, but not in both.
27. Write a Python program that takes a list of strings as input and returns a new list containing only the strings that have a length of 3 or more and end with the letter 'y'.

28. Write a Python function that takes a list of integers as input and returns a new list where each element is the product of the current element and the index of the current element in the original list.
29. Write a Python program that takes a list of integers as input and returns a new list containing only the numbers that are prime and odd.
30. Write a Python program that takes a list of strings as input and returns a new list containing only the strings that are composed entirely of lowercase letters and have a length of 4 or more.
31. Write a Python program that takes a list of integers as input and returns a new list containing only the numbers that are perfect cubes.
32. Write a Python function that takes a list of integers as input and returns the sum of all the numbers that are divisible by either 3 or 5 in the list.
33. Write a Python program that takes a list of strings as input and returns a new list containing only the strings that are anagrams of each other.
34. Write a Python program that takes a list of integers as input and returns a new list containing only the numbers that are even or multiples of 3.
35. Write a Python function that takes a list of integers as input and returns a new list containing the unique elements in the list, sorted in ascending order.
36. Write a Python program that takes two lists of integers as input and returns a new list containing the elements that are in the first list and not in the second list.
37. Write a Python program that takes a list of strings as input and returns a new list containing only the strings that start with the letter 'A' or 'a'.
38. Write a Python function that takes a list of integers as input and returns a new list where each element is the difference between the current element and the previous element in the original list.
39. Write a Python program that takes a list of integers as input and returns a new list containing only the numbers that are prime and greater than 10.
40. Write a Python program that takes a list of strings as input and returns a new list containing only the strings that contain both uppercase and lowercase letters.

41. Write a Python program that takes a list of integers as input and returns a new list containing only the numbers that are perfect squares and even.
42. Write a Python function that takes a list of integers as input and returns the number of times the number 7 appears in the list.
43. Write a Python program that takes a list of strings as input and returns a new list containing only the strings that have at least two consecutive vowels.
44. Write a Python program that takes a list of integers as input and returns a new list containing only the numbers that are odd and greater than 5.
45. Write a Python function that takes a list of integers as input and returns the largest element in the list that is less than 10.
46. Write a Python program that takes two lists of integers as input and returns a new list containing the elements that are in both lists.
47. Write a Python program that takes a list of strings as input and returns a new list containing only the strings that contain at least one exclamation mark.
48. Write a Python function that takes a list of integers as input and returns a new list where each element is the sum of the current element and the previous element in the original list.
49. Write a Python program that takes a list of integers as input and returns a new list containing only the numbers that are prime and less than 20.
50. Write a Python program that takes a list of strings as input and returns a new list containing only the strings that are composed entirely of alphabetic characters and have a length of 5 or more.