**List-Based Interview Questions – Logic & Practice**

### 1. Add an Element to a List

**Problem:** Write a function to add an element to a list. **Explanation:** Use append() to add the element to the end. **Input:** [1, 2, 3], add 4 **Output:** [1, 2, 3, 4]

### 2. Remove an Element from a List

**Problem:** Write a function to remove a specific element from a list. **Explanation:** Use remove() or pop() if index is known. **Input:** [1, 2, 3, 4], remove 3 **Output:** [1, 2, 4]

### 3. Find Maximum in List

**Problem:** Find the maximum value in a list. **Explanation:** Use max() or iterate manually. **Input:** [4, 7, 1, 9] **Output:** 9

### 4. Find Minimum in List

**Problem:** Find the minimum value in a list. **Explanation:** Use min() or iterate manually. **Input:** [4, 7, 1, 9] **Output:** 1

### 5. Sum of All Elements in List

**Problem:** Write a function to find the sum of all list elements. **Explanation:** Use sum() or loop to add all items. **Input:** [1, 2, 3] **Output:** 6

### 6. Count Occurrence of an Element

**Problem:** Count how many times a value appears in a list. **Explanation:** Use count() method. **Input:** [1, 2, 2, 3, 2], value 2 **Output:** 3

### 7. Reverse a List

**Problem:** Write a function to reverse the order of list elements. **Explanation:** Use slicing or reverse() method. **Input:** [1, 2, 3] **Output:** [3, 2, 1]

### 8. Sort a List

**Problem:** Write a function to sort a list in ascending order. **Explanation:** Use sort() or sorted(). **Input:** [4, 1, 3, 2] **Output:** [1, 2, 3, 4]

### 9. Remove Duplicates from a List

**Problem:** Eliminate duplicate values. **Explanation:** Use set() or manual loop. **Input:** [1, 2, 2, 3] **Output:** [1, 2, 3]

### 10. Merge Two Lists

**Problem:** Merge two lists into one. **Explanation:** Use + operator or extend(). **Input:** [1, 2], [3, 4] **Output:** [1, 2, 3, 4]

### 11. Find Common Elements in Two Lists

**Problem:** Return common elements between two lists. **Explanation:** Use set() and & or loops. **Input:** [1, 2, 3], [2, 3, 4] **Output:** [2, 3]

### 12. Print Even Numbers in a List

**Problem:** Print only even numbers from a list. **Explanation:** Use modulo condition in a loop. **Input:** [1, 2, 3, 4] **Output:** [2, 4]

### 13. Print Odd Numbers in a List

**Problem:** Print only odd numbers from a list. **Input:** [1, 2, 3, 4] **Output:** [1, 3]

### 14. Check if List is Palindrome

**Problem:** Check if the list reads the same forwards and backwards. **Input:** [1, 2, 1] **Output:** True

### 15. Count Positive, Negative, Zero

**Problem:** Count the number of positive, negative and zero values in a list. **Input:** [0, -1, 2, -3, 4] **Output:** Positive: 2, Negative: 2, Zero: 1

### 16. Find Second Largest Number in List

**Problem:** Find the second highest value. **Input:** [1, 3, 4, 5, 0] **Output:** 4

### 17. Find Second Smallest Number in List

**Problem:** Find the second lowest value. **Input:** [5, 1, 4, 2, 3] **Output:** 2

### 18. Copy List to Another List

**Problem:** Copy the contents of one list to another. **Explanation:** Use slicing or copy(). **Input:** [1, 2, 3] **Output:** [1, 2, 3]

### 19. Print All Prime Numbers in List

**Problem:** Print all prime numbers from a list. **Input:** [1, 2, 3, 4, 5] **Output:** [2, 3, 5]

### 20. Replace All Zeroes with a Given Number

**Problem:** Replace every zero with a specific value (e.g., -1). **Input:** [0, 2, 0, 4], replace with -1 **Output:** [-1, 2, -1, 4]

### 21. Check if All Elements Are Same

**Problem:** Check whether all elements in the list are identical. **Input:** [5, 5, 5, 5] **Output:** True

### 22. Find Frequency of All Elements

**Problem:** Return a dictionary with the frequency of each element. **Input:** [1, 2, 2, 3, 1] **Output:** {1: 2, 2: 2, 3: 1}

### 23. Flatten a Nested List

**Problem:** Convert a nested list into a single list. **Input:** [[1, 2], [3, 4]] **Output:** [1, 2, 3, 4]

### 24. Split a List into Even and Odd Lists

**Problem:** Separate even and odd numbers into different lists. **Input:** [1, 2, 3, 4, 5] **Output:** Even: [2, 4], Odd: [1, 3, 5]

### 25. Find Pair of Elements with Given Sum

**Problem:** Find all pairs in the list whose sum equals a given value. **Input:** [1, 2, 3, 4], sum = 5 **Output:** [(1, 4), (2, 3)]

### 26. Remove All Odd Numbers

**Problem:** Remove all odd numbers from the list. **Input:** [1, 2, 3, 4, 5] **Output:** [2, 4]

### 27. Remove All Even Numbers

**Problem:** Remove all even numbers from the list. **Input:** [1, 2, 3, 4, 5] **Output:** [1, 3, 5]

### 28. Multiply All Elements by a Number

**Problem:** Multiply every element in the list by a fixed number. **Input:** [1, 2, 3], multiply by 2 **Output:** [2, 4, 6]

### 29. Find Difference Between Max and Min

**Problem:** Return the difference between the largest and smallest element. **Input:** [4, 2, 7, 1] **Output:** 6

### 30. Check if a List is Empty

**Problem:** Write a function that returns True if the list is empty, else False. **Input:** [] **Output:** True

### 31. Insert Element at Specific Index

**Problem:** Insert a value at a specific position. **Input:** [1, 2, 4], insert 3 at index 2 **Output:** [1, 2, 3, 4]

### 32. Remove All Instances of a Value

**Problem:** Remove all occurrences of a specific value. **Input:** [1, 2, 2, 3], remove 2 **Output:** [1, 3]

### 33. Get Index of an Element

**Problem:** Return the index of a given value. **Input:** [10, 20, 30], find index of 20 **Output:** 1

### 34. Square All Elements in a List

**Problem:** Return a list with each element squared. **Input:** [1, 2, 3] **Output:** [1, 4, 9]

### 35. Filter Out Negative Numbers

**Problem:** Remove all negative values from the list. **Input:** [-1, 2, -3, 4] **Output:** [2, 4]

### 36. Get Elements Greater Than a Value

**Problem:** Return elements greater than a specified number. **Input:** [1, 5, 8, 3], greater than 4 **Output:** [5, 8]

### 37. Find Duplicates in List

**Problem:** Return a list of duplicated values. **Input:** [1, 2, 2, 3, 3, 4] **Output:** [2, 3]

### 38. Rotate List Elements Right

**Problem:** Rotate list by k positions to the right. **Input:** [1, 2, 3, 4], k = 2 **Output:** [3, 4, 1, 2]

### 39. Check If List Contains a Value

**Problem:** Return True if list contains a specific value. **Input:** [1, 2, 3], check 2 **Output:** True

### 40. Chunk List into Smaller Lists

**Problem:** Break a list into chunks of given size. **Input:** [1, 2, 3, 4, 5, 6], chunk size 2 **Output:** [[1, 2], [3, 4], [5, 6]]

Would you like to: - 🐍 Add Python code for each question? - 📥 Export this as a PDF? - ➕ Add nested lists or matrix-based problems?