Core Python WAP Questions

1. Reverse a String – Write a Python function to reverse a given string without using built-in functions like `[::-1]`.
   Example: Input: "hello" → Output: "olleh"
2. Check if a Number is Prime – Write a function to check whether a number is prime. Optimize it to stop checking after √n.
   Example: Input: 13 → Output: True
3. Sum of All Even Numbers in a List – Return the sum of all even numbers in a list.
   Example: Input: [1, 2, 3, 4, 5, 6] → Output: 12
4. Count Vowels in a String – Count the number of vowels (`a`, `e`, `i`, `o`, `u`) in a string. Ignore case.
   Example: Input: "Education" → Output: 5
5. Find the Largest Number in a List – Without using `max()`, write a function to find the largest number in a list.
   Example: Input: [10, 5, 20, 8] → Output: 20
6. Convert Celsius to Fahrenheit – Write a function using the formula `F = C * 9/5 + 32`.
   Example: Input: 0 → Output: 32.0
7. Remove Duplicates from a List – Return a new list with duplicates removed.
   Example: Input: [1, 2, 2, 3, 4, 4, 5] → Output: [1, 2, 3, 4, 5]
8. Check if Two Strings Are Anagrams – Two strings are anagrams if they contain the same characters in different orders.
   Example: Input: "listen", "silent" → Output: True
9. Factorial of a Number Using Recursion – Handle edge cases like negative input or zero.
   Example: Input: 5 → Output: 120
10. Simple Calculator Function – Takes two numbers and an operator (`+`, `-`, `*`, `/`). Handle division by zero.
    Example: Input: calculate(4, '+', 6) → Output: 10

Core JavaScript WAP Questions

11. Reverse a String – Write a function to reverse a given string.
    Example: Input: "hello" → Output: "olleh"
12. Check if a Number is Even or Odd – Return "even" or "odd".
    Example: Input: 7 → Output: "odd"
13. Sum of Array Elements – Return the sum of all elements in an array.
    Example: Input: [1, 2, 3, 4] → Output: 10
14. Filter Even Numbers from Array – Return a new array containing only even numbers.
    Example: Input: [1, 2, 3, 4, 5, 6] → Output: [2, 4, 6]
15. Capitalize First Letter of Each Word – Capitalize the first letter of each word in a sentence.
    Example: Input: "hello world" → Output: "Hello World"
16. Find Maximum Value in an Array – Without using `Math.max()`.
    Example: Input: [10, 5, 20, 8] → Output: 20
17. Count Occurrences of a Character in a String – Count how many times a specific character appears.
    Example: Input: "banana", 'a' → Output: 3
18. Remove Duplicate Values from an Array – Return a new array with duplicates removed.
    Example: Input: [1, 2, 2, 3, 4, 4] → Output: [1, 2, 3, 4]
19. FizzBuzz – For numbers from 1 to n: print "Fizz" for multiples of 3, "Buzz" for 5, and "FizzBuzz" for both.
    Example: Input: 15 → Output: 1, 2, Fizz, 4, Buzz, Fizz, 7, 8, Fizz, Buzz, 11, Fizz, 13, 14, FizzBuzz
20. Simple Calculator Function – Takes two numbers and an operator (`+`, `-`, `*`, `/`).
    Example: Input: calculate(5, '*', 3) → Output: 15