Python Coding Test

1. 1. Reverse a String

Input: "hello"  
Output: "olleh"

1. 2. Check Even or Odd

Input: 5  
Output: "Odd"

1. 3. Find Factorial (without recursion)

Input: 5  
Output: 120

1. 4. Sum of digits of a number

Input: 1234  
Output: 10

1. 5. Check Palindrome (string)

Input: "madam"  
Output: True

1. 6. Count vowels in a string

Input: "Akash"  
Output: 2

1. 7. Find largest of 3 numbers

Input: 4, 9, 2  
Output: 9

1. 8. Print Fibonacci Series up to n terms

Input: 5  
Output: 0 1 1 2 3

1. 9. Swap two numbers without temp variable

Input: a = 10, b = 5  
Output: a = 5, b = 10

1. 10. Check if a number is prime

Input: 11  
Output: True

1. 11. Find second largest number in list

Input: [10, 30, 20, 50, 40]  
Output: 40

1. 12. Check if a string is anagram

Input: "listen", "silent"  
Output: True

1. 13. Print numbers divisible by both 3 and 5 from 1 to 50

Output: 15 30 45

1. 14. Count frequency of characters in string

Input: "hello"  
Output: {'h':1, 'e':1, 'l':2, 'o':1}

1. 15. Find common elements between two lists

Input: [1,2,3], [2,3,4]  
Output: [2,3]

1. 16. Flatten a nested list

Input: [[1, 2], [3, 4]]  
Output: [1, 2, 3, 4]

1. 17. Check if year is leap year

Input: 2024  
Output: True

1. 18. Check if number is Armstrong

Input: 153  
Output: True

1. 19. Remove duplicates from list

Input: [1,2,2,3,4,4,5]  
Output: [1,2,3,4,5]

1. 20. Find first non-repeating character

Input: "aabbcddfe"  
Output: "c"

1. 21. Sort a list without using sort()

Input: [5,2,9,1]  
Output: [1,2,5,9]

1. 22. Implement your own len() function

Input: "hello"  
Output: 5

1. 23. Check if list is sorted

Input: [1,2,3]  
Output: True

1. 24. Replace spaces with hyphen in string

Input: "my name is Akash"  
Output: "my-name-is-Akash"

1. 25. Merge two sorted lists

Input: [1,3,5], [2,4,6]  
Output: [1,2,3,4,5,6]

1. 26. Print all permutations of a string

Input: "abc"  
Output: ['abc', 'acb', 'bac', 'bca', 'cab', 'cba']

1. 27. Rotate list to the right by k

Input: lst=[1,2,3,4,5], k=2  
Output: [4,5,1,2,3]

1. 28. Detect loop in a linked list

Input: Custom Linked List  
Output: True/False

1. 29. Reverse only vowels in a string

Input: "hello"  
Output: "holle"

1. 30. Find pairs with given sum

Input: [1,2,3,4,5], sum=6  
Output: [(1,5), (2,4)]

1. 31. Count number of set bits in number

Input: 13  
Output: 3

1. 32. Check if two strings are rotation of each other

Input: "abcd", "cdab"  
Output: True

1. 33. Find longest word in sentence

Input: "Python is best for AI"  
Output: "Python"

1. 34. Check if string is a valid Python identifier

Input: "1var"  
Output: False

1. 35. Count words in paragraph

Input: "Python is good. It is easy."  
Output: 7

1. 36. Detect palindrome in list of strings

Input: ["madam", "hello", "racecar"]  
Output: ["madam", "racecar"]

1. 37. Find duplicate elements and count

Input: [1,2,2,3,3,3,4]  
Output: {2:2, 3:3}

1. 38. Find missing number in 1-N list

Input: [1,2,3,5]  
Output: 4

1. 39. Group words with same anagram

Input: ["bat", "tab", "cat", "act"]  
Output: [["bat","tab"], ["cat","act"]]

1. 40. Print pattern (n = 4)

Output:  
1  
1 2  
1 2 3  
1 2 3 4