Single Recursion Call – 42 Questions with Examples

Q1. Print numbers from 1 to N
Example:
Input: N = 5
Output: 1 2 3 4 5

Q2. Print numbers from N to 1
Example:
Input: N = 5
Output: 5 4 3 2 1

Q3. Sum of first N natural numbers
Example:
Input: N = 5
Output: 15

Q4. Factorial of N
Example:
Input: N = 5
Output: 120

Q5. Sum of digits
Example:
Input: N = 123
Output: 6

Q6. Count digits
Example:
Input: N = 9876
Output: 4

Q7. Product of digits
Example:
Input: N = 234
Output: 24

Q8. Reverse a number
Example:
Input: N = 123
Output: 321

Q9. Check palindrome number
Example:

Input: N = 121
Output: True

Q10. Power a^b
Example:
Input: a = 2, b = 4
Output: 16

Q11. Maximum element in array
Example:
Input: [1, 5, 3]
Output: 5

Q12. Minimum element in array
Example:
Input: [1, 5, 3]
Output: 1

Q13. Sum of array elements
Example:
Input: [1, 2, 3]
Output: 6

Q14. Check array sorted
Example:
Input: [1, 2, 3]
Output: True

Q15. Count element occurrences
Example:
Input: [1, 2, 2, 3], key = 2
Output: 2

Q16. First occurrence in array
Example:
Input: [1, 2, 3, 2], key = 2
Output: index 1

Q17. Last occurrence in array
Example:
Input: [1, 2, 3, 2], key = 2
Output: index 3

Q18. Print array elements
Example:

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

Q19. Count even numbers
Example:
Input: [1, 2, 4]
Output: 2

Q20. Count vowels in string
Example:
Input: "coding"
Output: 2

Q21. Check prime
Example:
Input: N = 7
Output: True

Q22. GCD of two numbers
Example:
Input: a = 12, b = 18
Output: 6

Q23. LCM of two numbers
Example:
Input: a = 4, b = 6
Output: 12

Q24. Sum of even digits
Example:
Input: 1234
Output: 6

Q25. Remove zeros from number
Example:
Input: 1020
Output: 12

Q26. Count zeros in number
Example:
Input: 10020
Output: 3

Q27. Digital root
Example:

Input: 987
Output: 6

Q28. Decimal to binary
Example:
Input: 5
Output: 101

Q29. String palindrome
Example:
Input: "madam"
Output: True

Q30. Length of string
Example:
Input: "hello"
Output: 5

Q31. Replace character
Example:
Input: "cat", a → o
Output: "cot"

Q32. Remove duplicates
Example:
Input: "aabb"
Output: "ab"

Q33. Count words
Example:
Input: "I love code"
Output: 3

Q34. Print all indexes
Example:
Input: [1, 2, 2], key = 2
Output: 1 2

Q35. Check strictly increasing
Example:
Input: [1, 2, 3]
Output: True

Q36. Print array in reverse
Example:

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

Q37. Smallest digit
Example:
Input: 492
Output: 2

Q38. Largest digit
Example:
Input: 492
Output: 9

Q39. Count consonants
Example:
Input: "code"
Output: 2

Q40. Remove character x
Example:
Input: "xoxo"
Output: "oo"

Q41. Sum of alternate digits
Example:
Input: 1234
Output: 4

Q42. Check string contains only digits
Example:
Input: "1234"
Output: True