

TCS NQT CODING QUESTIONS

2024 – 2025 Complete Question Bank

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PART 1: TCS NQT 2024 — Shift-wise Asked Questions

The following questions were asked in TCS NQT 2024 across various examination shifts. These have been compiled from verified candidate experiences.

26 April 2024 Shift 1

1. Count of Positive, Negative, and Zero numbers in an array
2. Print the pattern of stars in a specific shape
3. Find the largest sum of consecutive integers in an array

26 April 2024 Shift 2

1. Reverse the digits of a given number
2. Check whether a given string is a palindrome
3. Find the second maximum element in an array

29 April 2024 Shift 1

1. Move all zeros to the end of an array while maintaining relative order
2. Toggle all bits after the most significant bit (Binary Representation)
3. Find common elements between two arrays

29 April 2024 Shift 2

1. Find the number of occurrences of a digit in a given number
2. Check if a number is an Armstrong number
3. Sort an array of 0s, 1s and 2s

30 April 2024 Shift 1

1. Find the minimum and maximum element in an array
2. Calculate the sum of digits of a given number
3. Print all prime numbers in a given range

3 May 2024 Shift 1

1. Check if a number is a perfect number
2. Print Fibonacci series up to N terms
3. Find the GCD and LCM of two numbers

3 May 2024 Shift 2

1. Find all duplicates in an array
2. Convert a decimal number to binary
3. Check if a string contains only digits

6 May 2024 Shift 1

1. Check if an array is sorted in ascending order
2. Find the most frequent element in an array
3. Rotate an array by K positions

6 May 2024 Shift 2

1. Find the equilibrium index of an array
2. Count vowels and consonants in a string
3. Check if a number is a strong number

8 May 2024 Shift 1

1. Replace each element of the array with the product of other elements
2. Find the first non-repeating character in a string
3. Check if two strings are anagrams

8 May 2024 Shift 2

1. Merge two sorted arrays without extra space
2. Find the longest common prefix among an array of strings
3. Convert binary to decimal

9 May 2024 Shift 1

1. Find all pairs in an array that sum to a target value
2. Count the number of words in a string
3. Print the diamond pattern

9 May 2024 Shift 2

1. Check if a given number is a Harshad (Niven) number
2. Find the median of two sorted arrays
3. Reverse words in a sentence

14 May 2024 Shift 1

1. Find the maximum subarray sum (Kadane's Algorithm)
2. Remove all duplicate characters from a string
3. Check if an integer is a power of two

14 May 2024 Shift 2

1. Find the sum of all elements in a matrix
2. Find the missing number in an array of 1 to N
3. Print Pascal's Triangle up to N rows

PART 2: Previously Asked TCS NQT Coding Questions

These problems have been repeatedly asked in TCS NQT examinations and are sourced from candidate experiences over multiple years.

◇ Chocolate Factory — Empty Packets Problem

A chocolate factory is packing chocolates into packets. The chocolate packets represent an array of N integer values. The task is to find the empty packets (0) and push them to the end of the conveyor belt (array).

Example:

Input: N=8, arr = [4,5,0,1,9,0,5,0]

Output: 4 5 1 9 5 0 0 0

Input: N=6, arr = [6,0,1,8,0,2]

Output: 6 1 8 2 0 0

◇ Binary Toggle After MSB

Joseph is learning digital logic. Given a positive integer, convert it to binary. Toggle all bits after the most significant bit (MSB), including the MSB itself. Print the resulting integer.

Constraints: $1 \leq N \leq 100$ **Example:**

Input: 10

Output: 5

Explanation: Binary of 10 = 1010. Toggled = 0101 = 5

PART 3: Problems on Arrays

Array manipulation problems are a core part of TCS NQT. Master these to score well.

1. Find the smallest number in an array
2. Find the largest number in an array
3. Find the Second Smallest and Second Largest element in an array
4. Reverse a given array
5. Count frequency of each element in an array
6. Rearrange array in increasing-decreasing order
7. Calculate sum of all elements of the array
8. Rotate array by K elements – Block Swap Algorithm
9. Find the average of all elements in an array
10. Find the median of a given array
11. Remove duplicates from a sorted array
12. Remove duplicates from an unsorted array
13. Add an element to an array at a specific position
14. Find all repeating elements in an array
15. Find all non-repeating elements in an array
16. Find all symmetric pairs in an array
17. Find the maximum product subarray in an array
18. Replace each element of the array by its rank
19. Sort elements of an array by frequency
20. Perform left and right rotation of array elements
21. Find the equilibrium index of an array

22. Find the circular rotation of an array by K positions
23. Sort an array according to the order defined by another array
24. Search for an element in an array
25. Check if an array is a subset of another array

PART 4: Problems on Numbers

Number-based problems test your mathematical and logical thinking.

1. Check if a number is palindrome or not
2. Find all palindrome numbers in a given range
3. Check if a number is prime or not
4. Find all prime numbers in a given range
5. Check if a number is an Armstrong number or not
6. Check if a number is a perfect number
7. Check if a number is even or odd
8. Check whether a given number is positive or negative
9. Find the sum of first N natural numbers
10. Find the sum of an AP (Arithmetic Progression) Series
11. Find the sum of a GP (Geometric Progression) Series
12. Find the greatest of two numbers
13. Find the greatest of three numbers
14. Check if a given year is a leap year or not
15. Reverse the digits of a number
16. Find the maximum and minimum digit in a number
17. Print Fibonacci series up to the Nth term
18. Find the factorial of a number
19. Find the power of a number
20. Find all factors of a given number
21. Print all prime factors of a given number
22. Check if a number is a strong number or not
23. Check if a number is automorphic
24. Find the GCD (Greatest Common Divisor) of two numbers
25. Find the LCM (Least Common Multiple) of two numbers
26. Check if a number is a Harshad (Niven) number
27. Check if a number is an abundant number or not
28. Find the sum of digits of a number
29. Find the sum of numbers in a given range
30. Calculate permutations: N people occupying R seats in a classroom
31. Write a program to add two fractions

32. Replace all 0s with 1s in a given integer
33. Check if a number can be expressed as a sum of two prime numbers
34. Calculate the area of a circle given its radius
35. Find the roots of a Quadratic Equation

PART 5: Problems on Number System

Conversion between number systems is a frequently tested topic in TCS NQT.

1. Convert Binary to Decimal
2. Convert Binary to Octal
3. Convert Decimal to Binary
4. Convert Decimal to Octal
5. Convert Octal to Binary
6. Convert Octal to Decimal
7. Convert digits/numbers to words (e.g., 123 → One Hundred Twenty Three)

PART 6: Problems on Sorting Algorithms

Understanding and implementing sorting algorithms is essential for TCS NQT.

1. Implement Bubble Sort Algorithm
2. Implement Selection Sort Algorithm
3. Implement Insertion Sort Algorithm
4. Implement Quick Sort Algorithm
5. Implement Merge Sort Algorithm

PART 7: Problems on Strings

String manipulation is one of the most common topics in TCS NQT coding rounds.

1. Check if a given string is a palindrome or not
2. Count the number of vowels, consonants, and spaces in a string
3. Find the ASCII value of a character
4. Remove all vowels from a string
5. Remove all spaces from a string
6. Remove characters from a string except alphabets
7. Reverse a given string
8. Remove brackets from an algebraic expression

9. Find the sum of all numbers present in a string
10. Capitalize the first and last character of each word in a string
11. Calculate the frequency of each character in a string
12. Find all non-repeating characters of a string
13. Check if two strings are anagrams of each other
14. Count common sub-sequences in two strings
15. Check if two strings match where one string contains wildcard characters
16. Return the maximum occurring character in the input string
17. Remove all duplicate characters from a string
18. Print all duplicate characters in a string
19. Remove characters from the first string that are present in the second string
20. Change every letter to the next lexicographic alphabet in the string
21. Find the largest word in a given string
22. Sort all characters in a string alphabetically
23. Count the number of words in a given string
24. Find the word with the highest number of repeated letters in a string
25. Toggle the case of each character in a string (uppercase to lowercase and vice versa)
26. Concatenate one string to another without using built-in functions
27. Find a substring within a string and display its starting position
28. Reverse all words in a given string

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