

50 NUMBER-CRUNCHING PROGRAMS PRACTICE SHEET

LEVEL 1 — BASICS (Warm-up)

1. Find sum of first **n** natural numbers
 2. Find sum of **even** numbers up to n
 3. Find sum of **odd** numbers up to n
 4. Check if a number is **even or odd**
 5. Reverse a number
 6. Count digits in a number
 7. Find sum of digits
 8. Find product of digits
 9. Find largest digit in a number
 10. Find smallest digit in a number
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LEVEL 2 — DIGIT LOGIC (Very Important)

11. Check **palindrome number**
 12. Check **Armstrong number**
 13. Check **Strong number**
 14. Check **Neon number**
 15. Check **Harshad (Niven) number**
 16. Check **Automorphic number**
 17. Check **Spy number** (sum = product of digits)
 18. Check **Duck number**
 19. Print digits of a number in reverse order
 20. Replace all 0 with 1 in a number
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LEVEL 3 — MATHEMATICAL LOGIC

21. Find **factorial** (iteration)

- 22. Find **factorial** (recursion)
 - 23. Check **prime number**
 - 24. Print all primes in a range
 - 25. Count number of primes up to n
 - 26. Find **GCD** of two numbers
 - 27. Find **LCM** of two numbers
 - 28. Check **perfect number**
 - 29. Check **abundant number**
 - 30. Check **deficient number**
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LEVEL 4 — SERIES & CONVERSIONS

- 31. Print **Fibonacci series** (n terms)
 - 32. Find **nth Fibonacci number**
 - 33. Decimal to binary
 - 34. Binary to decimal
 - 35. Decimal to octal
 - 36. Decimal to hexadecimal
 - 37. Power of a number (using loop)
 - 38. Power of a number (recursion)
 - 39. Check if number is **power of 2**
 - 40. Check if number is **power of 4**
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LEVEL 5 — BIT MANIPULATION & INTERVIEW FAVORITES

- 41. Count number of **set bits**
- 42. Check even/odd using **bitwise operator**
- 43. Swap two numbers without using temp
- 44. Find missing number in range 1 to n
- 45. Find XOR of numbers from 1 to n

46. Check if number is **binary or not**
47. Find trailing zeros in factorial
48. Print all divisors of a number
49. Check if number is **perfect square**
50. Find digital root of a number