

30-DAY CODING IMPROVEMENT PLAN

WEEK 1 — Logic Building + Patterns + Basics (Days 1–7)

Day 1 – Basic Python Practice

1. Print your name 5 times
2. Sum of first 10 numbers
3. Print even numbers 1–50
4. Print odd numbers 1–50
5. Max of 3 numbers
6. Positive/negative check
7. Simple calculator
8. Count digits
9. Factorial (loop)
10. Reverse number

Day 2 – Patterns (Easy)

1. Square pattern
2. Right triangle
3. Reverse triangle
4. Number triangle
5. Alphabet triangle
6. Odd number triangle
7. Even number triangle
8. Hollow square
9. Pyramid
10. Inverted pyramid

Day 3 – Patterns (Medium)

1. Floyd triangle
2. Pascal triangle
3. Diamond pattern
4. Sandglass
5. Binary triangle
6. Alternating 0-1
7. Number pyramid
8. Decreasing pyramid

9. Butterfly

10. X pattern

Day 4 – Strings (Easy)

1. Count vowels

2. Count consonants

3. Reverse string

4. Palindrome

5. Count words

6. Case convert

7. Replace spaces

8. Character frequency

9. Anagram check

10. Remove duplicates

Day 5 – Strings (Medium)

1. First non-repeat char

2. Most repeating char

3. Remove vowels

4. Swap first–last char

5. Pangram check

6. Find substring

7. Substring count

8. Longest word

9. Shortest word

10. Reverse sentence words

Day 6 – List Basics

1. Max element

2. Min element

3. Sum list

4. Average

5. Remove duplicates

6. Frequency count

7. Reverse list

8. Second largest

9. Sort manually
10. Count even/odd

Day 7 – List Medium

1. Move zeros
2. Rotate list
3. Missing number
4. Duplicate number
5. Union
6. Intersection
7. Merge sorted lists
8. Monotonic check
9. Pair sum
10. Running sum

WEEK 2 — Searching, Sorting, Operations (Days 8–14)

Day 8 – Searching (10 tasks)

Day 9 – Sorting (10 tasks)

Day 10 – Dictionary problems (10 tasks)

Day 11 – Tuple/Set (10 tasks)

Day 12 – Math logic (10 tasks)

Day 13 – Recursion Easy (10 tasks)

Day 14 – Recursion Medium (10 tasks)

WEEK 3 — DSA Foundation (Days 15–21)

Day 15 – Stack (10 tasks)

Day 16 – Queue (10 tasks)

Day 17 – Linked List (10 tasks)

Day 18 – Sliding window (10 tasks)

Day 19 – Prefix sum (10 tasks)

Day 20 – Hashing (10 tasks)

Day 21 – Medium challenges (10 tasks)

WEEK 4 — Advanced Logic (Days 22–30)

Day 22 – Logic problems (10 tasks)

Day 23 – Medium logic (10 tasks)

Day 24 – Strings medium-hard (10 tasks)

Day 25 – Math + hard patterns (10 tasks)

Day 26 – Arrays hard (10 tasks)

Day 27 – Deep logic (10 tasks)

Day 28 – Thinking skills (10 tasks)

Day 29 – Speed coding (10 tasks)

Day 30 – Final assessment (10 tasks)