Complete List: Below are mostly list of 25 problems (mostly medium level and may 1 or 2 easy) which are better to start practice with:

**Union Find:**

1. <https://leetcode.com/problems/friend-circles/>
2. <https://leetcode.com/problems/redundant-connection/>
3. <https://leetcode.com/problems/most-stones-removed-with-same-row-or-column/>
4. <https://leetcode.com/problems/number-of-operations-to-make-network-connected/>
5. <https://leetcode.com/problems/satisfiability-of-equality-equations/>
6. <https://leetcode.com/problems/accounts-merge/>(TODO)

**DFS:**

DFS from boundary:

1. <https://leetcode.com/problems/surrounded-regions/>
2. <https://leetcode.com/problems/number-of-enclaves/>

Shortest time:

1. <https://leetcode.com/problems/time-needed-to-inform-all-employees/>

Islands Variants

1. <https://leetcode.com/problems/number-of-closed-islands/>
2. <https://leetcode.com/problems/number-of-islands/>
3. <https://leetcode.com/problems/keys-and-rooms/>
4. <https://leetcode.com/problems/max-area-of-island/>
5. <https://leetcode.com/problems/flood-fill/>

Hash/DFS:

1. <https://leetcode.com/problems/employee-importance/>
2. <https://leetcode.com/problems/find-the-town-judge/>

Cycle Find:

1. <https://leetcode.com/problems/find-eventual-safe-states/>

**BFS:**

BFS for shortest path:

1. <https://leetcode.com/problems/01-matrix/>
2. <https://leetcode.com/problems/as-far-from-land-as-possible/>
3. <https://leetcode.com/problems/rotting-oranges/>
4. <https://leetcode.com/problems/shortest-path-in-binary-matrix/>

**Graph coloring:**

1. <https://leetcode.com/problems/possible-bipartition/>
2. <https://leetcode.com/problems/is-graph-bipartite/>

**Topological Sort:**

1. <https://leetcode.com/problems/course-schedule-ii/>

**Shortest Path:**

1. <https://leetcode.com/problems/network-delay-time/>

Sliding window:

Listing down 11 sliding window based problems which all follow same kind of approach with minor tweaks:

* <https://leetcode.com/problems/longest-continuous-subarray-with-absolute-diff-less-than-or-equal-to-limit/>
* <https://leetcode.com/problems/number-of-substrings-containing-all-three-characters/>
* <https://leetcode.com/problems/replace-the-substring-for-balanced-string/>
* <https://leetcode.com/problems/max-consecutive-ones-iii/>
* <https://leetcode.com/problems/subarrays-with-k-different-integers/>
* <https://leetcode.com/problems/fruit-into-baskets/>
* <https://leetcode.com/problems/get-equal-substrings-within-budget/>
* <https://leetcode.com/problems/longest-repeating-character-replacement/>
* <https://leetcode.com/problems/shortest-subarray-with-sum-at-least-k/>
* <https://leetcode.com/problems/minimum-size-subarray-sum/>
* <https://leetcode.com/problems/sliding-window-maximum/>

Basic template of such problems is basically 3 steps.

**Step1**: Have a counter or hash-map to count specific array input and keep on increasing the window toward right using outer loop.

**Step2**: Have a while loop inside to reduce the window side by sliding toward right. Movement will be based on constraints of problem. Go through few examples below

**Step3**: Store the current maximum window size or minimum window size or number of windows based on problem requirement.

Dynamic programming (DP):

**Longest Increasing Subsequence variants:**

<https://leetcode.com/problems/longest-increasing-subsequence/>

<https://leetcode.com/problems/largest-divisible-subset/>

<https://leetcode.com/problems/russian-doll-envelopes/>

<https://leetcode.com/problems/maximum-length-of-pair-chain/>

<https://leetcode.com/problems/number-of-longest-increasing-subsequence/>

<https://leetcode.com/problems/delete-and-earn/>

<https://leetcode.com/problems/longest-string-chain/>

**Partition Subset:**

<https://leetcode.com/problems/partition-equal-subset-sum/>

**BitMasking:**

<https://leetcode.com/problems/partition-to-k-equal-sum-subsets/>

**Longest Common Subsequence Variant:**

<https://leetcode.com/problems/longest-common-subsequence/>

<https://leetcode.com/problems/edit-distance/>

<https://leetcode.com/problems/distinct-subsequences/>

<https://leetcode.com/problems/minimum-ascii-delete-sum-for-two-strings/>

**Palindrome:**

<https://leetcode.com/problems/palindrome-partitioning-ii/>

<https://leetcode.com/problems/palindromic-substrings/>

**Coin Change variant:**

<https://leetcode.com/problems/coin-change/>

<https://leetcode.com/problems/coin-change-2/>

<https://leetcode.com/problems/combination-sum-iv/>

<https://leetcode.com/problems/perfect-squares/>

<https://leetcode.com/problems/minimum-cost-for-tickets/>

<https://leetcode.com/problems/last-stone-weight-ii/>

**Matrix multiplication variant:**

<https://leetcode.com/problems/minimum-score-triangulation-of-polygon/>

<https://leetcode.com/problems/minimum-cost-tree-from-leaf-values/>

<https://leetcode.com/problems/burst-balloons/>

**Matrix/2D Array:**

<https://leetcode.com/problems/matrix-block-sum/>

<https://leetcode.com/problems/range-sum-query-2d-immutable/>

<https://leetcode.com/problems/dungeon-game/>

<https://leetcode.com/problems/triangle/>

<https://leetcode.com/problems/maximal-square/>

<https://leetcode.com/problems/minimum-falling-path-sum/>

**Hash + DP:**

<https://leetcode.com/problems/target-sum/>

<https://leetcode.com/problems/longest-arithmetic-sequence/>

<https://leetcode.com/problems/longest-arithmetic-subsequence-of-given-difference/>

<https://leetcode.com/problems/maximum-product-of-splitted-binary-tree/>

**State machine:**

<https://leetcode.com/problems/best-time-to-buy-and-sell-stock/>

<https://leetcode.com/problems/best-time-to-buy-and-sell-stock-ii/>

<https://leetcode.com/problems/best-time-to-buy-and-sell-stock-iii/>

<https://leetcode.com/problems/best-time-to-buy-and-sell-stock-iv/>

<https://leetcode.com/problems/best-time-to-buy-and-sell-stock-with-cooldown/>

<https://leetcode.com/problems/best-time-to-buy-and-sell-stock-with-transaction-fee/>

**Depth First Search + DP:**

<https://leetcode.com/problems/out-of-boundary-paths/>

<https://leetcode.com/problems/knight-probability-in-chessboard/>

**Minimax DP:**

<https://leetcode.com/problems/predict-the-winner/>

<https://leetcode.com/problems/stone-game/>

**Misc:**

<https://leetcode.com/problems/greatest-sum-divisible-by-three/>

<https://leetcode.com/problems/decode-ways/>

<https://leetcode.com/problems/perfect-squares/>

<https://leetcode.com/problems/count-numbers-with-unique-digits/>

<https://leetcode.com/problems/longest-turbulent-subarray/>

<https://leetcode.com/problems/number-of-dice-rolls-with-target-sum/>

**Sort/Array**

<https://leetcode.com/problems/jump-game/>

<https://leetcode.com/problems/jump-game-ii/>

<https://leetcode.com/problems/gas-station/>

<https://leetcode.com/problems/candy/>

<https://leetcode.com/problems/remove-k-digits/>

<https://leetcode.com/problems/wiggle-subsequence/>

<https://leetcode.com/problems/assign-cookies/>

<https://leetcode.com/problems/boats-to-save-people/>

<https://leetcode.com/problems/bag-of-tokens/>

<https://leetcode.com/problems/number-of-burgers-with-no-waste-of-ingredients/>

<https://leetcode.com/problems/queue-reconstruction-by-height/>

<https://leetcode.com/problems/play-with-chips/>

<https://leetcode.com/problems/previous-permutation-with-one-swap/>

<https://leetcode.com/problems/lemonade-change/>

<https://leetcode.com/problems/bag-of-tokens/>

**Hash/Multi-set:**

<https://leetcode.com/problems/task-scheduler/>

<https://leetcode.com/problems/partition-labels/>

<https://leetcode.com/problems/car-pooling/>

<https://leetcode.com/problems/divide-array-in-sets-of-k-consecutive-numbers/>

<https://leetcode.com/problems/group-the-people-given-the-group-size-they-belong-to/>

<https://leetcode.com/problems/cinema-seat-allocation/>

<https://leetcode.com/problems/construct-k-palindrome-strings/>

<https://leetcode.com/problems/advantage-shuffle/>

**Strings:**

<https://leetcode.com/problems/reorganize-string/>

<https://leetcode.com/problems/string-without-aaa-or-bbb/>

<https://leetcode.com/problems/check-if-a-string-can-break-another-string/>

<https://leetcode.com/problems/remove-duplicate-letters/>

**Heap:**

<https://leetcode.com/problems/last-stone-weight/>

<https://leetcode.com/problems/reduce-array-size-to-the-half/>

**Stack:**

<https://leetcode.com/problems/minimum-add-to-make-parentheses-valid/>

LeetCode:

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[Two Pointers](https://leetcode.com/list/x0ow1a2v)

1. [#75](https://leetcode.com/problems/sort-colors/) Sort Colors
2. [#80](https://leetcode.com/problems/remove-duplicates-from-sorted-array-ii/) Remove Duplicates from Sorted Array II
3. [#88](https://leetcode.com/problems/merge-sorted-array/) Merge Sorted Array
4. [#457](https://leetcode.com/problems/circular-array-loop/) Circular Array Loop
5. [#713](https://leetcode.com/problems/subarray-product-less-than-k/) Subarray Product Less Than K
6. [#845](https://leetcode.com/problems/longest-mountain-in-array/) Longest Mountain in Array
7. [#904](https://leetcode.com/problems/longest-mountain-in-array/) Fruit into baskets
8. [#925](https://leetcode.com/problems/long-pressed-name/) Long Pressed name
9. [#986](https://leetcode.com/problems/interval-list-intersections/) Interval list intersections

[Binary Search](https://leetcode.com/list/x05ptl33)

1. [#33](https://leetcode.com/problems/search-in-rotated-sorted-array) Search in rotated sorted array
2. [#69](https://leetcode.com/problems/sqrtx/) Sqrt(x)
3. [#153](https://leetcode.com/problems/find-minimum-in-rotated-sorted-array/) Find min in rotated sorted array
4. [#349](https://leetcode.com/problems/intersection-of-two-arrays/) Intersection of two arrays
5. [#441](https://leetcode.com/problems/arranging-coins/) Arranging coins
6. [#475](https://leetcode.com/problems/heaters/) Heaters
7. [#658](https://leetcode.com/problems/find-k-closest-elements/) Find K closest elements
8. [#911](https://leetcode.com/problems/online-election/) Online Election

[Hashmap](https://leetcode.com/list/x071gbbg)

1. [#463](https://leetcode.com/problems/island-perimeter/) Island Perimeter
2. [#535](https://leetcode.com/problems/encode-and-decode-tinyurl/) Encode and decode TinyURL
3. [#575](https://leetcode.com/problems/distribute-candies) Distribute Candies
4. [#739](https://leetcode.com/problems/daily-temperatures/) Daily Temperatures
5. [#748](https://leetcode.com/problems/shortest-completing-word) Shortest Completing Word
6. [#811](https://leetcode.com/problems/subdomain-visit-count/) Subdomain visit count
7. [#884](https://leetcode.com/problems/uncommon-words-from-two-sentences/) Uncommon words from Twos sentences
8. [#953](https://leetcode.com/problems/verifying-an-alien-dictionary) Verifying an Alien Dictionary
9. [#961](https://leetcode.com/problems/n-repeated-element-in-size-2n-array/) N-Repeated Element in Size 2N Array
10. [#1160](https://leetcode.com/problems/find-words-that-can-be-formed-by-characters/) Find words that can be formed by characters
11. [#1078](https://leetcode.com/problems/occurrences-after-bigram/) Occurences after bigram

[Stack](https://leetcode.com/list/x0pdfinc)

1. [#496](https://leetcode.com/problems/next-greater-element-i/) Next Greater Element I
2. [#682](https://leetcode.com/problems/baseball-game/) Baseball Game
3. [#856](https://leetcode.com/problems/score-of-parentheses/) Score of Parentheses
4. [#946](https://leetcode.com/problems/validate-stack-sequences) Validate Stack Sequences
5. [#1190](https://leetcode.com/problems/reverse-substrings-between-each-pair-of-parentheses) Reverse Substrings Between Each Pair of Parentheses
6. [#1209](https://leetcode.com/problems/remove-all-adjacent-duplicates-in-string-ii/) Remove All Adjacent Duplicates in String II

[String](https://leetcode.com/list/xvhhh89c)

1. [#468](https://leetcode.com/problems/validate-ip-address) Validate IP Address
2. [#522](https://leetcode.com/problems/longest-uncommon-subsequence-ii) Longest Uncommon Subsequence II
3. [#539](https://leetcode.com/problems/minimum-time-difference) Minimum Time Difference
4. [#553](https://leetcode.com/problems/optimal-division) Optimal Division
5. [#791](https://leetcode.com/problems/custom-sort-string/) Custom Sort String
6. [#833](https://leetcode.com/problems/find-and-replace-in-string) Find and replace in String
7. [#835](https://leetcode.com/problems/image-overlap/) Image Overlap
8. [#893](https://leetcode.com/problems/groups-of-special-equivalent-strings/) Groups of Special-Equivalent Strings
9. [#1156](https://leetcode.com/problems/swap-for-longest-repeated-character-substring/) Swap For Longest Repeated Character Substring

[Sliding Window](https://leetcode.com/list/x0afjb2e)

1. [#424](https://leetcode.com/problems/longest-repeating-character-replacement) Longest Repeating Character Replacement
2. [#1040](https://leetcode.com/problems/moving-stones-until-consecutive-ii/) Moving Stones Until Consecutive II

[Tree](https://leetcode.com/list/xdbjkzl1)

1. [#101](https://leetcode.com/problems/symmetric-tree) Symmetric Tree
2. [#108](https://leetcode.com/problems/convert-sorted-array-to-binary-search-tree/) Convert Sorted Array to Binary Search Tree
3. [#226](https://leetcode.com/problems/invert-binary-tree/) Invert Binary Tree
4. [#538](https://leetcode.com/problems/convert-bst-to-greater-tree/) Convert BST to Greater Tree
5. [#543](https://leetcode.com/problems/diameter-of-binary-tree/) Diameter of a Binary Tree
6. [#637](https://leetcode.com/problems/average-of-levels-in-binary-tree/) Average of Levels in Binary Tree
7. [#654](https://leetcode.com/problems/maximum-binary-tree/) Maximum Binary Tree
8. [#669](https://leetcode.com/problems/trim-a-binary-search-tree/) Trim a Binary Search Tree
9. [#589](https://leetcode.com/problems/n-ary-tree-preorder-traversal) N-ary Tree Preorder Traversal
10. [#894](https://leetcode.com/problems/all-possible-full-binary-trees/) All Possible Full Binary Trees
11. [#979](https://leetcode.com/problems/distribute-coins-in-binary-tree) Distribute Coins in Binary Tree
12. [#993](https://leetcode.com/problems/cousins-in-binary-tree) Cousins in a Binary Tree
13. [#1022](https://leetcode.com/problems/sum-of-root-to-leaf-binary-numbers) Sum of Root To Leaf Binary Numbers
14. [#1104](https://leetcode.com/problems/path-in-zigzag-labelled-binary-tree/) Path In Zigzag Labelled Binary Tree
15. [#1110](https://leetcode.com/problems/delete-nodes-and-return-forest/) Delete Nodes And Return Forest

Binary search

<https://leetcode.com/problems/minimum-number-of-days-to-make-m-bouquets/>

<https://leetcode.com/problems/sum-of-mutated-array-closest-to-target/>

<https://leetcode.com/problems/find-the-smallest-divisor-given-a-threshold/>

<https://leetcode.com/problems/koko-eating-bananas/>

<https://leetcode.com/problems/capacity-to-ship-packages-within-d-days/>

**Tricky Binary Search**

<https://leetcode.com/problems/find-peak-element/>

<https://leetcode.com/problems/find-minimum-in-rotated-sorted-array/>

<https://leetcode.com/problems/search-in-rotated-sorted-array/>

<https://leetcode.com/problems/missing-element-in-sorted-array/>

**Simple Binary Search**

<https://leetcode.com/problems/find-smallest-letter-greater-than-target/>

<https://leetcode.com/problems/missing-element-in-sorted-array/>

<https://leetcode.com/problems/peak-index-in-a-mountain-array/>

<https://leetcode.com/problems/h-index-ii/>

<https://leetcode.com/problems/find-first-and-last-position-of-element-in-sorted-array/>

<https://leetcode.com/problems/first-bad-version/>

**Using C++ STL upper bound for binary search**

<https://leetcode.com/problems/time-based-key-value-store/>

<https://leetcode.com/problems/online-election/>

<https://leetcode.com/problems/random-pick-with-weight/>

<https://leetcode.com/problems/find-right-interval/>

**Binary search based on condition on 2 arrays**

<https://leetcode.com/problems/median-of-two-sorted-arrays/>

Problem links:

<https://leetcode.com/list?selectedList=xcavldh6>