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Striver's SDE Sheet – Top Coding Interview Problems

Striver SDE Sheet

(Striver's SDE Sheet – Sheet for the sole purpose of quick revision and preparation in less time focusing on top coding interview problems)

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What is Striver SDE Sheet?

SDE Sheet contains very handily crafted and picked top coding interview questions from different topics of Data Structures & Algorithms. These questions are one of the most asked coding interview questions in coding interviews of companies like Amazon, Microsoft, Media.net, Flipkart, etc, and cover almost all of the concepts related to Data Structure & Algorithms.

Why trust the Striver SDE sheet?

This is sheet is prepared by Raj Vikramaditya A.K.A Striver, Candidate Master, 6*, who has bagged offers from **Google** Warsaw, **Facebook** London, **Media.net**(Directi). He has also interned at **Amazon** India. He is also one of the top educators at Unacademy and was at GeeksforGeeks as well. Not only this, hundreds of students cleared interviews of top companies with the help of this sheet. What are you waiting for?

Disclaimer: *Only start doing these problems if you feel you are comfortable with solving the basic*

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problems of DSA. Once you are, you can start preparing for these problems, because these problems are solely interview-based.

Note: If you find the sheet useful, you can also contribute an article or solution for any problem to be published on takeuforward.org! Click here for more details.

Day-1

Q.No	Problem Name	Detailed Solution	Problem Link
1	**Set Matrix Zeros**	Solution	Click
2	**Pascal Triangle**	Solution	Click
3.	**Next Permutation**	Solution	Click
4.	**Kadane's Algorithm**	Solution	Click
5.	**Sort an array of 0's 1's 2's**	Solution	Click
6.	**Stock Buy and Sell**	Solution	Click

Day-2

Q.No	Problem Name	Detailed Solution	Problem Link
1	**Rotate Matrix**	Solution	Click
2	**Merge Overlapping Subintervals**	Solution	Click
3.	**Merge two sorted Arrays without extra space**	Solution	Click
4.	**Find the duplicate in an array of N+1 integers.**	Solution	Click
5.	**Repeat and Missing Number**	Solution	Click
6.	**Inversion of Array (Pre-req: Merge Sort)**	Solution	Click

Day-3

Q.No	Problem Name	Detailed Solution	Problem Link	V S
1	**Search in a 2d Matrix**	Solution	Click	Y
2	**Pow(X,n)**	Solution	Click	Y
3.	**Majority Element (>N/2 times)**	Solution	Click	Y
4.	**Majority Element (>N/3 times)**	Solution	Click	Y
5.	**Grid Unique Paths**	Solution	Click	Y
6.	**Reverse Pairs (Leetcode)**	Solution	Click	Y

Day-4

Q.No	Problem Name	Detailed Solution	Problem Link
1	**2-Sum-Problem**	Solution	Click

Q.No	Problem Name	Detailed Solution	Problem Link
2	**4-sum-Problem**	Solution	Click
3.	**Longest Consecutive Sequence**	Solution	Click
4.	**Largest Subarray with 0 sum**	Solution	Click
5.	**Count number of subarrays with given Xor K**	Solution	Click
6.	**Longest Substring without repeat**	Solution	Click

Day-5: Linked List

Q.No	Problem Name	Detailed Solution	Problem Link	V S
1	**Reverse a LinkedList**	Solution	Click	Y

Q.No	Problem Name	Detailed Solution	Problem Link	V S
2	**Find the middle of LinkedList**	Solution	Click	Y
3.	**Merge two sorted Linked List (use method used in mergeSort)**	Solution	Click	Y
4.	**Remove N-th node from back of LinkedList**	Solution	Click	Y
5.	**Add two numbers as LinkedList**	Solution	Click	Y
6.	**Delete a given Node when a node is given. (O(1) solution)**	Solution	Click	Y

Day-6

Q.No	Problem Name	Problem Link	Video Solution
1	**Find intersection point of Y LinkedList**	Click	Youtube
2	**Detect a cycle in Linked List**	Click	YouTube
3.	**Reverse a LinkedList in groups of size k.**	Click	YouTube
4.	**Check if a LinkedList is palindrome or not.**	Click	YouTube
5.	**Find the starting point of the Loop of LinkedList**	Click	YouTube

Q.No	Problem Name	Problem Link	Video Solution
6.	**Flattening of a LinkedList**	Click	YouTube
7.	**Rotate a LinkedList**	Click	YouTube

Day-7

Q.No	Problem Name	Detailed Solution	Problem Link
1	**Clone a Linked List with random and next pointer**		Click
2	**3 sum**	Solution	Click
3.	**Trapping rainwater**	Solution	Click
4.	**Remove Duplicate from Sorted array**	Solution	Click

Q.No	Problem Name	Detailed Solution	Problem Link
5.	**Max consecutive ones**	Solution	Click

Day-8

Q.No	Problem Name	**Detailed Solution**	Problem Link
1	**N meeting in one room**	Solution	Click
2	**Minimum number of platforms required for a railway**	Solution	Click
3.	**Job sequencing Problem**	Solution	Click
4.	**Fractional Knapsack Problem**	Solution	Click

Q.No	Problem Name	**Detailed Solution**	Problem Link
5.	**Greedy algorithm to find minimum number of coins**	Solution	Click
6.	**Activity Selection (it is the same as N meeting in one room)**	Solution	Click

Day-9: Recursion

Q.No	Problem Name	Detailed Solution	Problem Link
1	**Subset Sums**	Solution	Click
2	**Subset-II**	Solution	Click
3.	**Combination sum-1**	Solution	Click
4.	**Combination sum-2**		Click

Q.No	Problem Name	Detailed Solution	Problem Link
5.	**Palindrome Partitioning**	Solution	Click
6.	**K-th permutation Sequence**	Solution	Click

Day-10 : Recursion & Backtracking

Q.No	Problem Name	**Detailed Solution**	Problem Link
1	**Print all permutations of a string/array**	Solution	Click
2	**N queens Problem**	Solution	Click
3.	**Sudoku Solver**		Click
4.	**M coloring Problem**	Solution	Click
5.	**Rat in a Maze**	Solution	Click
6.	**Word Break (print all ways)**		Click

Day-11: Binary Search

Q.No	Problem Name	Detailed Solution	Problem Link	V S
1	**The N-th root of an integer**	Solution	Click	Y
2	**Matrix Median**		Click	Y
3.	**Find the element that appears once in a sorted array, and the rest element appears twice (Binary search)**	Solution	Click	Y

Q.No	Problem Name	Detailed Solution	Problem Link	V S
4.	**Search element in a sorted and rotated array/ find pivot where it is rotated**	Solution	Click	Y
5.	**Median of 2 sorted arrays**	Solution	Click	Y
6.	**K-th element of two sorted arrays**	Solution	Click	Y
7.	**Allocate Minimum Number of Pages**	Solution	Click	Y
8.	**Aggressive Cows**	Solution	Click	Y

Day-12: TRIES (Can be done at Last, but still a very very important topic) Watch this playlist -> Link

Q.No	Problem Name	Detailed Solution	Problem Link	V S
1	**Implement Trie (Prefix Tree)**		Click	Y
2	**Implement Trie – 2 (Prefix Tree)**		Click	Y
3.	**Longest String with All Prefixes**		Click	Y
4.	**Number of Distinct Substrings in a String**		Click	Y
4.	**Power Set (this is very important)**		Click	Y
5.	**Maximum XOR of two numbers in an array**	Solution	Click	Y
6.	**Maximum XOR With an Element From Array**		Click	Y

Day-13 : (Stack and Queue)

Q.No	Problem Name	Solution	Problem Link
1	**Implement Stack Using Arrays**	Solution	Click
2	**Implement Queue Using Arrays**	Solution	Click
3.	**Implement Stack using Queue (using single queue)**	Solution	Click
4.	**Implement Queue using Stack (O(1) amortized method)**	Solution	Click
5.	**Check for balanced parentheses**	Solution	Click

Q.No	Problem Name	Solution	Problem Link
6.	**Next Greater Element**	Solution	Click
7.	**Sort a Stack**		Click

Day-14 :

Q.No	Problem Name	Detailed Solution	Problem Link
1	**Next Smaller Element**		Click
2	**LRU cache (IMPORTANT)**	Solution	Click
3.	**LFU Cache**		Click
4.	**Largest rectangle in a histogram**	Solution	Click
5.	**Sliding Window maximum**	Solution	Click

Q.No	Problem Name	Detailed Solution	Problem Link
6.	**Implement Min Stack**	Solution	Click
7.	**Rotten Orange (Using BFS)**	Solution	Click
8.	**Stock Span Problem**		Click
9.	**Find the maximum of minimums of every window size**		Click
10.	**The Celebrity Problem**		Click

Day-15: String

Q.No	Problem Name	Problem Link	Video Solution
1	**Reverse Words in a String**	Click	Youtube
2	**Longest Palindrome in a string**	Click	Youtube

Q.No	Problem Name	Problem Link	Video Solution
3.	**Roman Number to Integer and vice versa**	Click	Youtube
4.	**Implement ATOI/STRSTR**	Click	Youtube
5.	**Longest Common Prefix**	Click	Youtube
6.	**Rabin Karp**	Click	Youtube

Day-16: String [Continued]

Q.No	Problem Name	Problem Link	Video Solution
1	**Z-Function**	Click	Youtube
2	**KMP algo / LPS(pi) array**	Click	YouTube

Q.No	Problem Name	Problem Link	Video Solution
3.	**Minimum characters needed to be inserted in the beginning to make it palindromic**	Click	YouTube
4.	**Check for Anagrams**	Click	YouTube
5.	**Count and Say**	Click	YouTube
6.	**Compare version numbers**	Click	YouTube

Day-17: **Binary Tree** (Introduction)

Q.No	Problem Name	Detailed Solution	Pro Lin

Q.No	Problem Name	Detailed Solution	Pro Lin
1	**Inorder Traversal**	Morris Traversal Iterative/Recursive	Clic
2	**Preorder Traversal**	Morris Traversal Solution	Clic
3.	**Postorder Traversal**	Solution	Clic
4.	**LeftView Of Binary Tree**	Solution	Clic
5.	**Bottom View of Binary Tree**	Solution	Clic
6.	**Top View of Binary Tree**	Solution	Clic

Q.No	Problem Name	Detailed Solution	Pro Lin
7.	**Preorder inorder postorder in a single traversal**	Solution	
8.	**Vertical order traversal**	Solution	Clic
9.	**Root to node path in a Binary Tree**	Solution	Clic
10.	**Max width of a Binary Tree**	Solution	Clic

Day-18: **Binary Tree** [Continued]

Q.No	Problem Name	Detailed Solution	Problem Link	Vi Sc

Q.No	Problem Name	Detailed Solution	Problem Link	Vi Sc
1	**Level order Traversal / Level order traversal in spiral form**	Solution	Click	Yo
2	**Height of a Binary Tree**	Solution	Click	Yo
3.	**Diameter of Binary Tree**	Solution	Click	Yo
4.	**Check if the Binary tree is height-balanced or not**	Solution	Click	Yo
5.	**LCA in Binary Tree**	Solution	Click	Yo

Q.No	Problem Name	Detailed Solution	Problem Link	Vi So
6.	**Check if two trees are identical or not**	Solution	Click	Yo
7.	**Zig Zag Traversal of Binary Tree**	Solution	Click	Yo
8.	**Boundary Traversal of Binary Tree**	Solution	Click	Yo

Day-19: **Binary Tree** [Continued]

Q.No	Problem Name	**Detailed Solution**	Problem Link	\ S
1	**Maximum path sum**	Solution	Click	Y
2	**Construct Binary Tree from inorder and preorder**		Click	Y

Q.No	Problem Name	**Detailed Solution**	Problem Link	V S
3.	**Construct Binary Tree from Inorder and Postorder**		Click	Y
4.	**Symmetric Binary Tree**	Solution	Click	Y
5.	**Flatten Binary Tree to LinkedList**	Solution	Click	Y
6.	**Check if Binary Tree is the mirror of itself or not**		Click	Y

Day-20: Binary Search Tree

Q.No	Problem Name	Problem Link
1	**Populate Next Right pointers of Tree**	Click

Q.No	Problem Name	Problem Link
2	**Search given Key in BST**	Click
3.	**Construct BST from given keys**	Click
4.	**Construct BST from preorder traversal**	Click
5.	**Check is a BT is BST or not**	Click
6.	**Find LCA of two nodes in BST**	Click
7.	**Find the inorder predecessor/successor of a given Key in BST.**	Click

Day-21: Binary Search Tree [Continued]

Q.No	Problem Name	**Detailed Solution**	Problem Link	V S
1.	**Floor in a BST**		Click	Y
2.	**Ceil in a BST**		Click	Y

Q.No	Problem Name	**Detailed Solution**	Problem Link	V S
3.	**Find K-th smallest element in BST**	Solution	Click	Y
4.	**Find K-th largest element in BST**	Solution	Click	Y
5.	**Find a pair with a given sum in BST**		Click	Y
6.	**BST iterator**		Click	Y
7.	**Size of the largest BST in a Binary Tree**		Click	Y
8.	**Serialize and deserialize Binary Tree**	Solution	Click	Y

Day-22: Trees [Miscellaneous]

Q.No	Problem Name	Problem Link	Video Solution	C C
1	**Binary Tree to Double Linked List**	Click	Youtube	C
2	**Find median in a stream of running integers.**	Click	YouTube	C
3.	**K-th largest element in a stream.**	Click	YouTube	C
4.	**Distinct numbers in Window.**	Click	YouTube	C
5.	**K-th largest element in an unsorted array.**	Click	YouTube	C

Q.No	Problem Name	Problem Link	Video Solution	C C
6.	**Flood-fill Algorithm**	Click	YouTube	C

Day-23: Graphs – Part 1

Q.No	Problem Name	**Detailed Solution**	Problem Link
1	**Clone a graph (Not that easy as it looks)**		Click
2	**DFS**	Solution	Click
3.	**BFS**	Solution	Click
4.	**Detect A cycle in Undirected Graph using BFS**	Solution	Click
5.	**Detect A cycle in Undirected Graph using DFS**	Solution	Click

Q.No	Problem Name	**Detailed Solution**	Problem Link
6.	**Detect A cycle in a Directed Graph using DFS**	Solution	Click
7.	**Detect A cycle in a Directed Graph using BFS**		Click
8.	**Topological Sort**	Solution	Click
9.	**Number of islands (Do in Grid and Graph both)**		Click
10.	**Bipartite Check using BFS**		Click
11.	**Bipartite Check using DFS**	Solution	Click

Day-24: Graphs – Part 2

Q.No	Problem Name	Detailed Solution	Probl Link
1	**Strongly Connected Component(using KosaRaju's algo)**	Solution	Click
2	**Dijkstra's Algorithm**	Solution	Click
3.	**Bellman-Ford Algo**	Solution	Click
4.	**Floyd Warshall Algorithm**		Click
5.	**MST using Prim's Algo**	Solution	Click
6.	**MST using Kruskal's Algo**	Solution	Click

Day-25: Dynamic Programming – Part 1

Q.No	Problem Name	**Detailed Solution**	Problem Link
1	**Max Product Subarray**		Click

Q.No	Problem Name	**Detailed Solution**	Problem Link
2	**Longest Increasing Subsequence**		Click
3.	**Longest Common Subsequence**	Solution	Click
4.	**0-1 Knapsack**		Click
5.	**Edit Distance**		Click
6.	**Maximum sum increasing subsequence**		Click
7.	**Matrix Chain Multiplication**		Click

Day-26: Dynamic Programming – Part 2

Q.No	Problem Name	Problem Link	Video Solution

Q.No	Problem Name	Problem Link	Video Solution
1	**Maximum sum path in the matrix, (count paths and similar type do, also backtrack to find the maximum path)**	Click	Youtube
2	**Coin change**	Click	YouTube
3.	**Subset Sum**	Click	YouTube
4.	**Rod Cutting**	Click	YouTube
5.	**Egg Dropping**	Click	YouTube
6.	**Word Break**	Click	YouTube
7.	**Palindrome Partitioning (MCM Variation)**	Click	Youtube

Q.No	Problem Name	Problem Link	Video Solution
8.	**Maximum profit in Job scheduling**	Click	Youtube

Day-27:

1. Revise OS notes that you would have made during your sem
2. If not made notes, spend 2 or 3 days and make notes from Knowledge Gate.

Day-28:

1. Revise DBMS notes that you would have made during your semesters.
2. If not made notes, spend 2 or 3 days and make notes from Knowledge Gate.

Day-29:

1. Revise CN notes, that you would have made during your sem.
2. If not made notes, spend 2 or 3 days and make notes from Knowledge Gate.

Day-30:

1. Make a note of how will your represent your projects, and prepare all questions related to tech which you have used in your projects. Prepare a note which you can say for 3-10 minutes when he asks you that say something about the project.

> Hurrah!! You are ready for your placement after a month of hard work without a cheat day.
>
> — ~Striver

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