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Striver’s SDE Sheet – Top Coding Interview Problems

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

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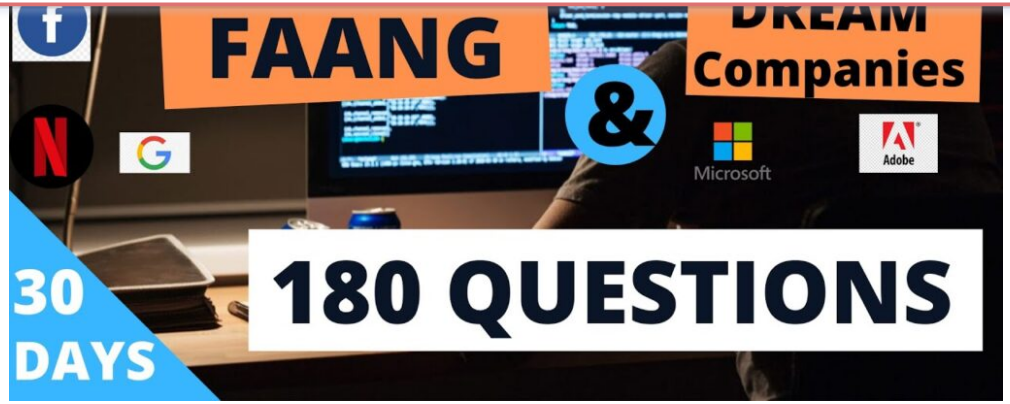

Striver SDE Sheet

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

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 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	Video Solution	C++ Code	Java Code
1	**Set Matrix Zeros**	Coming Soon	Click	Youtube	Code	Code
2	**Pascal Triangle**	Solution	Click	YouTube	Code	Code
3.	**Next Permutation**	Solution	Click	YouTube	Code	Code
4.	**Kadane's Algorithm**	Coming Soon	Click	YouTube	Code	Code

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5.	**Sort an array of 0's 1's 2's**	Solution	Click	YouTube	Code	Code
6.	**Stock Buy and Sell**	Coming Soon	Click	YouTube	Code	Code

Day-2

Q.No	Problem Name	Detailed Solution	Problem Link	Video Solution	C++ Code	Java Code
1	**Rotate Matrix**	Coming Soon	Click	Youtube	Code	Code
2	**Merge Overlapping Subintervals**	Coming Soon	Click	YouTube	Code	Code
3.	**Merge two sorted Arrays without extra space**	Coming Soon	Click	YouTube	Code	Code
4.	**Find the duplicate in an array of N+1 integers.**	Coming Soon	Click	YouTube	Code	Code

5.	**Repeat and Missing Number**	Solution	Click	YouTube	Code	Code
6.	**Inversion of Array** (Pre-req: Merge Sort)	Solution	Click	YouTube	Code	Code

Day-3

Q.No	Problem Name	Detailed Solution	Problem Link	Video Solution	C++ Code	Java Code
1	**Search in a 2d Matrix**	Solution	Click	Youtube	Code	Code
2	**Pow(X,n)**	Coming Soon	Click	YouTube	Code	Code
3.	**Majority Element (>N/2 times)**	Solution	Click	YouTube	Code	Code
4.	**Majority Element (>N/3 times)**	Solution	Click	YouTube	Code	Code
5.	**Grid Unique Paths**	Solution	Click	YouTube	Code	Code

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6.	**Reverse Pairs (Leetcode)**	Coming Soon	Click	YouTube	Code	Code

Day-4

Q.No	Problem Name	Detailed Solution	Problem Link	Video Solution	C++ Code	Java Code
1	**2-Sum-Problem**	Solution	Click	Youtube	Code	Code
2	**4-sum-Problem**	Solution	Click	YouTube	Code	Code
3.	**Longest Consecutive Sequence**	Coming Soon	Click	YouTube	Code	Code
4.	**Largest Subarray with 0 sum**	Solution	Click	YouTube	Code	Code
5.	**Count number of subarrays with given Xor** K	Solution	Click	YouTube	Code	Code
6.	**Longest Substring without repeat**	Coming Soon	Click	YouTube	Code	Code

		Solution	Link	Solution	Code	Code
1	**Reverse a LinkedList**	Solution	Click	Youtube	Code	Code
2	**Find the middle of LinkedList**	Solution	Click	YouTube	Code	Code
3.	**Merge two sorted Linked List** (use method used in mergeSort)	Solution	Click	YouTube	Code	Code
4.	**Remove N-th node from back of LinkedList**	Solution	Click	YouTube	Code	Code
5.	**Add two numbers as LinkedList**	Solution	Click	YouTube	Code	Code
6.	**Delete a given Node when a node is given. (0(1) solution)**	Coming Soon	Click	YouTube	Code	Code

Day-6

1	**Find intersection point of Y LinkedList**	Click	Youtube	Code	Code
2	**Detect a cycle in Linked List**	Click	YouTube	Code	Code
3.	**Reverse a LinkedList in groups of size k.**	Click	YouTube	Code	Code
4.	**Check if a LinkedList is palindrome or not.**	Click	YouTube	Code	Code
5.	**Find the starting point of the Loop of LinkedList**	Click	YouTube	Code	Code
6.	**Flattening of a LinkedList**	Click	YouTube	Code	Code
7.	**Rotate a LinkedList**	Click	YouTube	Code	Code

Day-7

1	**Clone a Linked List with random and next pointer**	Click	Youtube	Code	Code
2	**3 sum**	Click	YouTube	Code	Code
3.	**Trapping rainwater**	Click	YouTube	Code	Code
4.	**Remove Duplicate from Sorted array**	Click	YouTube	Code	Code
5.	**Max consecutive ones**	Click	YouTube	Code	Code

Day-8

Q.No	Problem Name	Detailed Solution	Problem Link	Video Solution	C++ Code	Java Code
1	**N meeting in one room**		Click	Youtube	Code	Code
2	**Minimum number of platforms required for a railway**	Solution	Click	YouTube	Code	Code

3.	**Job sequencing Problem**		Click	YouTube	Code	Code
4.	**Fractional Knapsack Problem**		Click	YouTube	Code	Code
5.	**Greedy algorithm to find minimum number of coins**		Click	YouTube	Code	Code
6.	**Activity Selection (it is the same as N meeting in one room)**		Click	Youtube	Code	Code

Day-9: Recursion

Q.No	Problem Name	Problem Link	Video Solution	C++ Code	Java Code
1	**Subset Sums**	Click	Youtube	Code	Code
2	**Subset-II**	Click	YouTube	Code	Code

3.	**Combination sum-1**	Click	YouTube	Code	Code
4.	**Combination sum-2**	Click	YouTube	Code	Code
5.	**Palindrome Partitioning**	Click	YouTube	Code	Code
6.	**K-th permutation Sequence**	Click	YouTube	Code	Code

Day-10 : Recursion & Backtracking

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

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Q.No	Problem Name	Detailed Solution	Problem Link	Video Solution	C++ Code	Java Code
1	**The N-th root of an integer**	Solution	Click	Youtube	Code	Code
2	**Matrix Median**		Click	Youtube	Code	Code
3.	**Find the element that appears once in a sorted array, and the rest element appears twice (Binary search)**	Solution	Click	Youtube	Code	Code
4.	**Search element in a sorted and rotated array/ find pivot where it is rotated**	Solution	Click	Youtube	Code	Code
5.	**Median of 2 sorted arrays**		Click	Youtube	Code	Code
6.	**K-th element of two sorted arrays**	Solution	Click	Youtube	Code	Code

7.	**Allocate Minimum Number of Pages**		Click	Youtube	Code	Code
8.	**Aggressive Cows**		Click	Youtube	Code	Code

Day-12: BITS (Optional)

Q.No	Problem Name	Problem Link	Video Solution	C++ Code	Java Code
1	**Check if a number if a power of 2 or not in O(1)**	Click	Youtube	Code	Code
2	**Count total set bits**	Click	Youtube	Code	Code
3.	**Divide Integers without / operator**	Click	Youtube	Code	Code
4.	**Power Set (this is very important)**	Click	Youtube	Code	Code
5.	**Find MSB in o(1)**	Click	Youtube	Code	Code
6.	**Find the square of a number without using multiplication or division operators.**	Click	Youtube	Code	Code

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Q.No	Problem Name	Solution	Problem Link	Video Solution	C++ Code	Java Code
1	**Implement Stack Using Arrays**	Solution	Click	Youtube	Code	Code
2	**Implement Queue Using Arrays**		Click	Youtube	Code	Code
3.	**Implement Stack using Queue (using single queue)**		Click	Youtube	Code	Code
4.	**Implement Queue using Stack (0(1) amortized method)**		Click	Youtube	Code	Code
5.	**Check for balanced parentheses**	Solution	Click	Youtube	Code	Code
6.	**Next Greater Element**		Click	Youtube	Code	Code
7.	**Sort a Stack**		Click	Youtube	Code	Code

Day-14 :

1	**Next Smaller Element**	Click	Youtube	Code	Code
2	**LRU cache (IMPORTANT)**	Click	Youtube	Code	Code
3.	**LFU Cache**	Click	Youtube	Code	Code
4.	**Largest rectangle in a histogram**	Click	Two-Pass: Youtube One Pass: Youtube	Code	Code
5.	**Sliding Window maximum**	Click	Youtube	Code	Code
6.	**Implement Min Stack**	Click	Youtube	Code	Code
7.	**Rotten Orange (Using BFS)**	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

1	**Reverse Words in a String**	Click	Youtube	Code	Code
2	**Longest Palindrome in a string**	Click	Youtube	Code	Code
3.	**Roman Number to Integer and vice versa**	Click	Youtube	Code	Code
4.	**Implement ATOI/STRSTR**	Click	Youtube	Code	Code
5.	**Longest Common Prefix**	Click	Youtube	Code	Code
6.	**Rabin Karp**	Click	Youtube	Code	Code

Day-16: String [Continued]

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

3.	**Minimum characters needed to be inserted in the beginning to make it palindromic**	Click	YouTube	Code	Code
4.	**Check for Anagrams**	Click	YouTube	Code	Code
5.	**Count and Say**	Click	YouTube	Code	Code
6.	**Compare version numbers**	Click	YouTube	Code	Code

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

Q.No	Problem Name	Detailed Solution	Problem Link	Video Solution	C++ Code	Java Code

1	**Inorder Traversal**	Morris Traversal	Click	Youtube (Recursive) Youtube (Iterative) Youtube (Morris Traversal)	Code (Recursive) Code (Iterative) Code (Morris)	Code (Recursive) Code (Iterative) Code (Morris)
2	**Preorder Traversal**	Solution	Click	YouTube Youtube (Morris Traversal)	Code (Morris)	Code
3.	**Postorder Traversal**		Click	YouTube	Code	Code
4.	**LeftView Of Binary Tree**	Solution	Click	YouTube	Code	Code
5.	**Bottom View of Binary Tree**	Solution	Click	YouTube	Code	Code

6.	**Top View of Binary Tree**	Solution	Click	YouTube	Code	Code

Day-18: Binary Tree [Continued]

Q.No	Problem Name	Detailed Solution	Problem Link	Video Solution	C++ Code	Java Code
1	**Level order Traversal / Level order traversal in spiral form**	Coming Soon	Click	Youtube	Code	Code
2	**Height of a Binary Tree**	Solution	Click	YouTube	Code	Code
3.	**Diameter of Binary Tree**	Solution	Click	YouTube	Code	Code
4.	**Check if the Binary tree is height-balanced or not**	Solution	Click	YouTube	Code	Code

5.	**LCA in Binary Tree**	Coming Soon	Click	YouTube	Code	Code
6.	**Check if two trees are identical or not**	Coming Soon	Click	YouTube	Code	Code

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

Q.No	Problem Name	Detailed Solution	Problem Link	Video Solution	C++ Code	Java Code
1	**Maximum path sum**		Click	Youtube	Code	Code
2	**Construct Binary Tree from inorder and preorder**		Click	YouTube	Code	Code
3.	**Construct Binary Tree from Inorder and Postorder**		Click	YouTube	Code	Code
4.	**Symmetric Binary Tree**	Solution	Click	YouTube	Code	Code

5.	**Flatten Binary Tree to LinkedList**		Click	YouTube	Code	Code
6.	**Check if Binary Tree is the mirror of itself or not**		Click	YouTube	Code	Code

Day-20: Binary Search Tree

Q.No	Problem Name	Problem Link	Video Solution	C++ Code	Java Code
1	**Populate Next Right pointers of Tree**	Click	Youtube	Code	Code
2	**Search given Key in BST**	Click	YouTube	Code	Code
3.	**Construct BST from given keys**	Click	YouTube	Code	Code
4.	**Check is a BT is BST or not**	Click	YouTube	Code	Code
5.	**Find LCA of two nodes in BST**	Click	YouTube	Code	Code
6.	**Find the inorder predecessor/successor of a given Key in BST.**	Click	YouTube	Code	Code

Q.No	Problem Name	Detailed Solution	Problem Link	Video Solution	C++ Code	Java Code
1.	**Floor in a BST**		Click	Youtube	Code	Code
2.	**Ceil in a BST**		Click	Youtube	Code	Code
3.	**Find K-th smallest element in BST**	Solution	Click	YouTube	Code	Code
4.	**Find K-th largest element in BST**	Solution	Click	YouTube	Code	Code
5.	**Find a pair with a given sum in BST**		Click	YouTube	Code	Code
6.	**BST iterator**		Click	YouTube	Code	Code
7.	**Size of the largest BST in a Binary Tree**		Click	YouTube	Code	Code
8.	**Serialize and deserialize Binary Tree**		Click	YouTube	Code	Code

Day-22: Trees [Miscellaneous]

1	**Binary Tree to Double Linked List**	Click	Youtube	Code	Code
2	**Find median in a stream of running integers.**	Click	YouTube	Code	Code
3.	**K-th largest element in a stream.**	Click	YouTube	Code	Code
4.	**Distinct numbers in Window.**	Click	YouTube	Code	Code
5.	**K-th largest element in an unsorted array.**	Click	YouTube	Code	Code
6.	**Flood-fill Algorithm**	Click	YouTube	Code	Code

Day-23: Graphs – Part 1

Q.No	Problem Name	Problem Link	Video Solution	C++ Code	Java Code
1	**Clone a graph (Not that easy as it looks)**	Click	Youtube	Code	Code
2	**DFS**	Click	YouTube	Code	Code
3.	**BFS**	Click	YouTube	Code	Code

4.	**Detect A cycle in Undirected Graph using BFS**	Click	YouTube	Code	Code
5.	**Detect A cycle in Undirected Graph using DFS**	Click	YouTube	Code	Code
6.	**Detect A cycle in a Directed Graph using DFS**	Click	YouTube	Code	Code
7.	**Detect A cycle in a Directed Graph using BFS**	Click	YouTube	Code	Code
8.	**Topological Sort**	Click	DFS: YouTube BFS: Youtube	Code	Code
9.	**Number of islands (Do in Grid and Graph both)**	Click	YouTube	Code	Code
10.	**Bipartite Check using BFS**	Click	YouTube	Code	Code
11.	**Bipartite Check using DFS**	Click	YouTube	Code	Code

Day-24: Graphs – Part 2

1	**Strongly Connected Component(using KosaRaju's algo)**	Click	Youtube	Code	Code
2	**Dijkstra's Algorithm**	Click	YouTube	Code	Code
3.	**Bellman-Ford Algo**	Click	YouTube	Code	Code
4.	**Floyd Warshall Algorithm**	Click	YouTube	Code	Code
5.	**MST using Prim's Algo**	Click	YouTube	Code	Code
6.	**MST using Kruskal's Algo**	Click	YouTube	Code	Code

Day-25: Dynamic Programming – Part 1

Q.No	Problem Name	Problem Link	Video Solution	C++ Code	Java Code
1	**Max Product Subarray**	Click	Youtube	Code	Code
2	**Longest Increasing Subsequence**	Click	YouTube	Code	Code
3.	**Longest Common Subsequence**	Click	YouTube	Code	Code

4.	**0-1 Knapsack**	Click	YouTube	Code	Code
5.	**Edit Distance**	Click	YouTube	Code	Code
6.	**Maximum sum increasing subsequence**	Click	YouTube	Code	Code
7.	**Matrix Chain Multiplication**	Click	YouTube	Code	Code

Day-26: Dynamic Programming – Part 2

Q.No	Problem Name	Problem Link	Video Solution	C++ Code	Java Code
1	**Maximum sum path in the matrix, (count paths and similar type do, also backtrack to find the maximum path)**	Click	Youtube	Code	Code
2	**Coin change**	Click	YouTube	Code	Code
3.	**Subset Sum**	Click	YouTube	Code	Code
4.	**Rod Cutting**	Click	YouTube	Code	Code
5.	**Egg Dropping**	Click	YouTube	Code	Code

6.	**Word Break**	Click	YouTube	Code	Code
7.	**Palindrome Partitioning (MCM Variation)**	Click	Youtube	Code	Code
8.	**Maximum profit in Job scheduling**	Click	Youtube	Code	Code

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.

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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