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Check the review of this SDE sheet at Striver's instagram story highlights.
Instagram id: **Striver_79**

SDE SHEET(CORE):
https://docs.google.com/document/d/1sQIRDw6--HwyxeFL7b4kBsOG-Tz7rXMbpWNnf vJErA4/edit

To know the entire list and other stuffs like Projects, Resume, how to give interviews….watch the entire video at:
https://www.youtube.com/watch?v=WNtzUR_MwUQ

Find the placement series at:
https://www.youtube.com/watch?v=c0_1QnyVYQY&list=PLgUwDviBIf0p4ozDR_kJJkONnb1 wdx2Ma&index=1

Subscribe to the channel. :) (take U forward) (striver_79)
(**Channel run by ex-Amazon | Media.net(Directi) | GFG) employee, CM at Codeforces and 6* at Codechef**)

Only start doing these problems if you feel you are comfortable with solving basic problems of DSA. Once you are, you can start preparing for these problems, because these problems are solely interview based.

Day1: (Arrays)

The initial videos might not have high production quality but are content rich, because of me being a noob to youtube. The videos after 20's are of 4k quality and high quality sound!!

1. **Sort an array of 0's 1's 2's without using extra space or sorting algo**

https://www.youtube.com/watch?v=oaVa-9wmpns&list=PLgUwDviBIf0rPG3Ictpu74Y WBQ1CaBkm2&index=2 (Problem link in description)

2. **Repeat and Missing Number**
   https://www.youtube.com/watch?v=5nMGY4VUoRY&list=PLgUwDviBIf0rPG3Ictpu74 YWBQ1CaBkm2&index=3 (Problem link in description)

3. **Merge two sorted Arrays without extra space**
   https://www.youtube.com/watch?v=hVl2b3bLzBw&list=PLgUwDviBIf0rPG3Ictpu74Y WBQ1CaBkm2&index=4 (Problem link in description)

4. **Kadane's Algorithm**
   https://www.youtube.com/watch?v=w_KEocd__20&list=PLgUwDviBIf0rPG3Ictpu74Y WBQ1CaBkm2&index=5

5. **Merge Overlapping Subintervals**
   https://www.youtube.com/watch?v=2JzRBPFYbKE&list=PLgUwDviBIf0rPG3Ictpu74Y WBQ1CaBkm2&index=6

6. **Find the duplicate in an array of N+1 integers.**
   (Ignore the video quality, as this was the first video which i recorded)
   https://www.youtube.com/watch?v=32Ll35mhWg0&list=PLgUwDviBIf0rPG3Ictpu74Y WBQ1CaBkm2&index=1

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Day2: (Arrays)
1. **Set Matrix Zeros**
   (https://www.youtube.com/watch?v=M65xBewcqcI&list=PLgUwDviBIf0rPG3Ictpu74Y WBQ1CaBkm2&index=7)

2. **Pascal Triangle**
   https://www.youtube.com/watch?v=6FLvhQjZqvM&list=PLgUwDviBIf0rPG3Ictpu74Y WBQ1CaBkm2&index=8

3. **Next Permutation**
   https://www.youtube.com/watch?v=LuLCLgMEIus&list=PLgUwDviBIf0rPG3Ictpu74Y WBQ1CaBkm2&index=9

4. **Inversion of Array** (Using Merge Sort)
   https://www.youtube.com/watch?v=kQ1mJIwW-c0&list=PLgUwDviBIf0rPG3Ictpu74Y
   WBQ1CaBkm2&index=10
5. **Stock Buy and Sell**
   https://www.youtube.com/watch?v=eMSfBgbiEjk&list=PLgUwDviBIf0rPG3Ictpu74YW
   BQ1CaBkm2&index=11

6. **Rotate Matrix**
   https://www.youtube.com/watch?v=Y72QeX0Efxw&list=PLgUwDviBIf0rPG3Ictpu74Y
   WBQ1CaBkm2&index=12

Day3: (Arrays/maths)
   1. **Search in a 2D matrix**
      https://www.youtube.com/watch?v=ZYpYur0znng&list=PLgUwDviBIf0rPG3Ictpu74Y
      WBQ1CaBkm2&index=13

   2. **Pow(X,n)**
      https://www.youtube.com/watch?v=l0YC3876qxg&list=PLgUwDviBIf0rPG3Ictpu74Y
      WBQ1CaBkm2&index=14

   3. **Majority Element (>N/2 times)**
      https://www.youtube.com/watch?v=AoX3BPWNnoE&list=PLgUwDviBIf0rPG3Ictpu74
      YWBQ1CaBkm2&index=15

   4. **Majority Element (>N/3 times)**
      https://www.youtube.com/watch?v=yDbkQd9t2ig&list=PLgUwDviBIf0rPG3Ictpu74YW
      BQ1CaBkm2&index=16

   5. **Grid Unique Paths**
      https://www.youtube.com/watch?v=t_f0nwwdg5o&list=PLgUwDviBIf0rPG3Ictpu74YW
      BQ1CaBkm2&index=17

   6. **Reverse Pairs (Leetcode)**
      https://www.youtube.com/watch?v=S6rsAlj_iB4&list=PLgUwDviBIf0rPG3Ictpu74YWB
      Q1CaBkm2&index=18

   7. **Go through Puzzles from GFG** (Search on own)

Day4: (Hashing)
   1. **2 Sum problem**
      https://www.youtube.com/watch?v=dRUpbt8vHpo&list=PLgUwDviBIf0rVwua0kKYIsS
      _ik_1IyVK_&index=1

   2. **4 Sum problem**

https://www.youtube.com/watch?v=4ggF3tXIAp0&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=20

3. **Longest Consecutive Sequence**
https://www.youtube.com/watch?v=qgizvmgeyUM&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=21

4. **Largest Subarray with 0 sum**
https://www.youtube.com/watch?v=xmguZ6GbatA&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=22

5. **Count number of subarrays with given XOR**(this clears a lot of problems)
https://www.youtubxe.com/watch?v=lO9R5CaGRPY&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=23

6. **Longest substring without repeat**
https://www.youtube.com/watch?v=qtVh-XEpsJo&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=25

Day5: (LinkedList)
1. **Reverse a LinkedList**
https://www.youtube.com/watch?v=iRtLEoL-r-g&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=26

2. **Find middle of LinkedList**
https://www.youtube.com/watch?v=sGdwSH8RK-o&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=27

3. **Merge two sorted Linked List**
https://www.youtube.com/watch?v=Xb4slcp1U38&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=28

4. **Remove N-th node from back of LinkedList**
https://www.youtube.com/watch?v=Lhu3MsXZy-Q&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=29

5. **Delete a given Node when a node is given. (0(1) solution)**
https://www.youtube.com/watch?v=icnp4FJdZ_c&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=30

6. **Add two numbers as LinkedList**
https://www.youtube.com/watch?v=LBVsXSMOIk4&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=31

Day6:
1. **Find intersection point of Y LinkedList**
   https://www.youtube.com/watch?v=u4FWXfgS8jw&list=PLgUwDviBIf0p4ozDR_kJJk
   ONnb1wdx2Ma&index=32

2. **Detect a cycle in Linked List**
   https://www.youtube.com/watch?v=354J83hX7RI&list=PLgUwDviBIf0p4ozDR_kJJkO
   Nnb1wdx2Ma&index=33

3. **Reverse a LinkedList in groups of size k**.
   https://www.youtube.com/watch?v=Of0HPkk3JgI&list=PLgUwDviBIf0p4ozDR_kJJkO
   Nnb1wdx2Ma&index=33

4. **Check if a LinkedList is palindrome or not.**
   https://www.youtube.com/watch?v=-DtNInqFUXs&list=PLgUwDviBIf0p4ozDR_kJJkO
   Nnb1wdx2Ma&index=35

5. **Find the starting point of the Loop of LinkedList**
   https://www.youtube.com/watch?v=QfbOhn0WZ88&list=PLgUwDviBIf0p4ozDR_kJJk
   ONnb1wdx2Ma&index=36

6. **Flattening of a LinkedList**
   https://www.youtube.com/watch?v=ysytSSXpAI0&list=PLgUwDviBIf0p4ozDR_kJJkO
   Nnb1wdx2Ma&index=37

7. **Rotate a LinkedList**
   https://www.youtube.com/watch?v=9VPm6nEbVPA&list=PLgUwDviBIf0p4ozDR_kJJk
   ONnb1wdx2Ma&index=38

Day7: (2-pointer)
1. **Clone a Linked List with random and next pointer**
   https://www.youtube.com/watch?v=VNf6VynfpdM&list=PLgUwDviBIf0p4ozDR_kJJkO
   Nnb1wdx2Ma&index=39

2. **3 sum**

https://www.youtube.com/watch?v=onLoX6Nhvmg&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=40

3. **Trapping rainwater**
https://www.youtube.com/watch?v=m18Hntz4go8&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=41

4. **Remove Duplicate from Sorted array**
https://www.youtube.com/watch?v=Fm_p9IJ4Z_8&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=42

5. **Max consecutive ones**
https://www.youtube.com/watch?v=Mo33MjjMlyA&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=43

Day8: (Greedy)
1. **N meeting in one room**
https://www.youtube.com/watch?v=II6ziNnub1Q&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=44

2. **Minimum number of platforms required for a railway**
https://www.youtube.com/watch?v=dxVcMDI7vyI&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=45

3. **Job sequencing Problem**
https://www.youtube.com/watch?v=LjPx4wQaRIs&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=46

4. **Fractional Knapsack Problem**
https://www.youtube.com/watch?v=F_DDzYnxO14&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=48

5. **Greedy algorithm to find minimum number of coins**
https://www.youtube.com/watch?v=mVg9CfJvayM&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=47

6. **Activity Selection (it is same as N meeting in one room)**
https://www.youtube.com/watch?v=II6ziNnub1Q&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=44

Day9 (Recursion):

1. **Subset Sums**
   https://www.youtube.com/watch?v=rYkfBRtMJr8&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=52

2. **Subset-II**
   https://www.youtube.com/watch?v=RIn3gOkbhQE&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=53

3. **Combination sum-1**
   https://www.youtube.com/watch?v=OyZFFqQtu98&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=49

4. **Combination sum-2**
   https://www.youtube.com/watch?v=G1fRTGRxXU8&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=50

5. **Palindrome Partitioning**
   https://www.youtube.com/watch?v=WBgsABoCIE0&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=51

6. **K-th permutation Sequence**
   https://www.youtube.com/watch?v=wT7gcXLYoao&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=55

Day10: (Recursion and Backtracking)
1. **Print all Permutations of a string/array**
   https://www.youtube.com/watch?v=f2ic2Rsc9pU&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=52

2. **N queens Problem**
   https://www.youtube.com/watch?v=i05Ju7AftcM&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=57

3. **Sudoku Solver**
   https://www.youtube.com/watch?v=FWAIf_EVUKE&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=58

4. **M coloring Problem**
   https://www.youtube.com/watch?v=wuVwUK25Rfc&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=59

5. **Rat in a Maze**
   https://www.youtube.com/watch?v=bLGZhJIt4y0&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=60

6. **Word Break (print all ways)** (Will be covered later in DP series)

Day11: **(Binary Search)**
1. **N-th root of an integer (use binary search) (square root, cube root, ..)**
   https://www.youtube.com/watch?v=WjpswYrS2nY&list=PLgUwDviBIf0p4ozDR_kJJk ONnb1wdx2Ma&index=61

2. **Matrix Median**
   https://www.youtube.com/watch?v=63fPPOdIr2c&list=PLgUwDviBIf0p4ozDR_kJJkO Nnb1wdx2Ma&index=62

3. **Find the element that appears once in sorted array, and rest element appears twice (Binary search)**
   https://www.youtube.com/watch?v=PzszoiY5XMQ&list=PLgUwDviBIf0p4ozDR_ kJJkONnb1wdx2Ma&index=63

4. **Search element in a sorted and rotated array/ find pivot where it is rotated**
   https://www.youtube.com/watch?v=r3pMQ8-Ad5s&list=PLgUwDviBIf0p4ozDR_kJJkO Nnb1wdx2Ma&index=64

5. **Median of 2 sorted arrays**
   https://www.youtube.com/watch?v=NTop3VTjmxk&list=PLgUwDviBIf0p4ozDR_kJJkO Nnb1wdx2Ma&index=65

6. **K-th element of two sorted arrays**
   https://www.youtube.com/watch?v=nv7F4PiLUzo&list=PLgUwDviBIf0p4ozDR_kJJkO Nnb1wdx2Ma&index=66

7. **Allocate Minimum Number of Pages**
   https://www.youtube.com/watch?v=gYmWHvRHu-s&list=PLgUwDviBIf0p4ozDR_kJJ kONnb1wdx2Ma&index=69

8. **Aggressive Cows**
   https://www.youtube.com/watch?v=wSOfYesTBRk&list=PLgUwDviBIf0p4ozDR_kJJk ONnb1wdx2Ma&index=70

Day12: (Bits) (Optional, very rare topic in interviews, but if you have time left, someone might ask)
1. Check if a number if a power of 2 or not in O(1)
2. Count total set bits
3. Divide Integers without / operator
4. **Power Set (this is very important)**
   https://www.youtube.com/watch?v=b7AYbpM5YrE&list=PLgUwDviBIf0p4ozDR_kJJk ONnb1wdx2Ma&index=67

5. Find MSB in o(1)
6. Find square of a number without using multiplication or division operators.

Day13: (Stack and Queue)
1. **Implement Stack Using Arrays**
   https://www.youtube.com/watch?v=GYptUgnIM_I&list=PLgUwDviBIf0p4ozDR_kJJkO
   Nnb1wdx2Ma&index=68

2. **Implement Queue Using Arrays**
   https://www.youtube.com/watch?v=M6GnoUDpqEE&list=PLgUwDviBIf0p4ozDR_kJJ
   kONnb1wdx2Ma&index=72

3. **Implement Stack using Queue (using single queue)**
   https://www.youtube.com/watch?v=jDZQKzEtbYQ&list=PLgUwDviBIf0p4ozDR_kJJk
   ONnb1wdx2Ma&index=74

4. **Implement Queue using Stack (0(1) amortised method)**
   https://www.youtube.com/watch?v=3Et9MrMc02A&list=PLgUwDviBIf0p4ozDR_kJJk
   ONnb1wdx2Ma&index=75

5. **Check for balanced parentheses**
   https://www.youtube.com/watch?v=wkDfsKijrZ8&list=PLgUwDviBIf0p4ozDR_kJJkON
   nb1wdx2Ma&index=74

6. **Next Greater Element**
   https://www.youtube.com/watch?v=Du881K7Jtk8&list=PLgUwDviBIf0p4ozDR_kJJkO
   Nnb1wdx2Ma&index=75

7. **Sort a Stack**

Update: Find this sheet on takeuforward.org for improved user experience

Day14:
1. **Next Smaller Element**
   Similar to previous question next greater element, just do pop the greater elements
   out ..

2. **LRU cache (vvvv. imp)**
   https://www.youtube.com/watch?v=xDEuM5qa0zg&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=77

   Clean code:
   https://www.youtube.com/watch?v=Xc4sICC8m4M&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=78

3. **LFU Cache** (Hard, can be ignored)
   https://www.youtube.com/watch?v=0PSB9y8ehbk&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=79
   Code:
   https://www.youtube.com/watch?v=mzqHIAW7jeE&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=80

4. **Largest rectangle in histogram** (Do the one pass solution)

   Two pass:
   https://www.youtube.com/watch?v=X0X6G-eWgQ8&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=81

   One pass:
   https://www.youtube.com/watch?v=jC_cWLy7jSI&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=82

5. **Sliding Window maximum**
   https://www.youtube.com/watch?v=CZQGRp93K4k&list=PLgUwDviBIf0p4ozDR_kJJkONnb1wdx2Ma&index=83

6. **Implement Min Stack**

7. **Rotten Orange (Using BFS)**

8. Stock Span Problem

9. Find maximum of minimums of every window size

10. The Celebrity Problem

Day15: (String)
   1. Reverse Words in a String
   2. Longest Palindrome in a string
   3. Roman Number to Integer and vice versa
   4. Implement ATOI/STRSTR
   5. Longest Common Prefix

6. Rabin Karp

Day16: (String)
1. **Prefix Function/Z-Function**
2. **KMP algo / LPS(pi) array**
3. **Minimum characters needed to be inserted in the beginning to make it palindromic.**
4. **Check for Anagrams**
5. **Count and Say**
6. **Compare version numbers**

Day17: (Binary Tree)
1. **Inorder Traversal (with recursion and without recursion)**
2. **Preorder Traversal (with recursion and without recursion)**
3. **Postorder Traversal (with recursion and without recursion)**
4. **LeftView Of Binary Tree**
5. **Bottom View of Binary Tree**
6. **Top View of Binary Tree**

Day18: (Binary Tree)
1. **Level order Traversal / Level order traversal in spiral form**
2. **Height of a Binary Tree**
3. **Diameter of Binary Tree**
4. **Check if Binary tree is height balanced or not**
5. **LCA in Binary Tree**
6. **Check if two trees are identical or not**

Day 19: (Binary Tree)
1. **Maximum path sum**
2. **Construct Binary Tree from inorder and preorder**
3. **Construct Binary Tree from Inorder and Postorder**
4. **Symmetric Binary Tree**
5. **Flatten Binary Tree to LinkedList**
6. **Check if Binary Tree is mirror of itself or not**

Day 20: (Binary Search Tree)
1. **Populate Next Right pointers of Tree**
2. **Search given Key in BST**
3. **Construct BST from given keys.**
4. **Check is a BT is BST or not**
5. **Find LCA of two nodes in BST**
6. **Find the inorder predecessor/successor of a given Key in BST.**

Day21: (BinarySearchTree)
1. Floor and Ceil in a BST
2. Find K-th smallest and K-th largest element in BST (2 different Questions)

3. Find a pair with a given sum in BST
4. BST iterator
5. Size of the largest BST in a Binary Tree
6. Serialize and deserialize Binary Tree

Day22: (Mixed Questions)
1. Binary Tree to Double Linked List
2. Find median in a stream of running integers.
3. K-th largest element in a stream.
4. Distinct numbers in Window.
5. K-th largest element in an unsorted array.
6. Flood-fill Algorithm

Day23: (Graph)
https://www.youtube.com/watch?v=LCrovIMurxY&list=PLgUwDviBIf0rGEWe64KWas0Nryn7SCRWw&index=2

1. Clone a graph (Not that easy as it looks)
2. DFS
3. BFS
4. Detect A cycle in Undirected Graph/Directed Graph
5. Topo Sort
6. Number of islands (Do in Grid and Graph both)
7. Bipartite Check

Day24: (Graph)
https://www.youtube.com/watch?v=LCrovIMurxY&list=PLgUwDviBIf0rGEWe64KWas0Nryn7SCRWw&index=2
1. SCC(using KosaRaju's algo)
2. Djisktra's Algorithm
3. Bellman Ford Algo
4. Floyd Warshall Algorithm
5. MST using Prim's Algo
6. MST using Kruskal's Algo

Day25: (Dynamic Programming)
1. Max Product Subarray
2. Longest Increasing Subsequence
3. Longest Common Subsequence
4. 0-1 Knapsack
5. Edit Distance
6. Maximum sum increasing subsequence
7. Matrix Chain Multiplication

Day26: (DP)

1. Maximum sum path in matrix, (count paths, and similar type do, also backtrack to find the maximum path)
2. Coin change
3. Subset Sum
4. Rod Cutting
5. Egg Dropping
6. Word Break
7. Palindrome Partitioning (MCM Variation)
8. Maximum profit in Job scheduling

[https://docs.google.com/document/d/1sQlRDw6--HwyxeFL7b4kBsOG-Tz7rXMb pWNnfvJErA4/edit](https://docs.google.com/document/d/1sQlRDw6--HwyxeFL7b4kBsOG-Tz7rXMbpWNnfvJErA4/edit) **(For core revision)**

Day27:
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.

Day28:
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.

Day29:
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.

Day30:
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.

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