COMPILED **DAY**-WISE DSA SHEET

From Siddharth Singh

TOPIC COVERED:

Array & String
Matrix
Sorting and Searching
Linked List
Stacks and Queue
Tree

Graph
HashMap and Heap
Greedy

Dynamic Programming
Backtracking
Bit Manipulation
Tries

YOUTUBE LINK:
https://youtu.be/HzHJ4sysbdk

Total Questions:
450

Time Duration:
3 - 4 Months

COLOUR CODING

	DOUBT
	EASY
	MEDIUM
	EXCELLENT

Array &String

Day 1

Squares of a sorted array	
Rotate Array	rotate-array
Relatively prime	
Napoleon cake	
Next Greater Element III	next-greater-element-version3
majority element	majority element
majority element 2	majority element 2
majority element general	majority element general

Day 2

Max chunks to make sorted	max chunks to make sorted
Max Chunks To Make Sorted II	max-chunks-to-make-sorted-ii
max product of 3 numbers	max product of three numbers
largest number atleast twice of others	largest atleast twice
Product of Array Except Self	product-of-array-except-self
number of subarrays with bounded maximum	number with bounded max
maximum subarray	kadanes-algo

Day 3

K-CON	K-con
best meeting points	best meeting point
Segregate 0 and 1	Segregate 0 and 1
Segregate 0-1-2	Segregate 0,1,2
Sort Array By Parity	sort-array-by-parity
partition labels	partition labels
Check whether one string is a rotation of another	

Day 4

Maximization	Codeforces
K_LCM 1	Codeforces
K_LCM 2	Codeforces
consecutive number sum	consecutive number sum
Fast Exponentiation	
Fibonacci Number	fibonacci-number
Sieve of Eratosthenes	Sieve
Segmented sieve	segmented sieve
wiggle sort	wiggle sort
Min Jump required with +i or -i allowed	min jump
Maximum Swap	maximum-swap

Day 5

minimum domino rotation for equal row	min rotation
multiply strings	multiply strings
Two Sum	two sum
Two Difference	two difference
Boats to Save People	save-people-using-boat
smallest range from k lists	smallest from k lists
maximum product subarray	max product subarray
Min No. of Platform	min no. of platform
Reverse vowels of a string	reverse vowels of a string

Day 6

First missing positive	first missing positive
rotate image	rotate image
Minimum swaps required bring elements less equal K together	min. swaps
push dominoes	Push dominoes
valid palindrome 2	valid palindrome 2
Sum-of subsequence width	sum of subsequence widths
Find the "Kth" max and min element of an array	Kth Max and min element

Day 7

maximize distance to closest person	max distance
Buddy nim	Buddy nim
Bulb switcher 1	bulb switcher
Interesting subarrays	interesting subarrays
Sort the array	Array sort
max sum of two non overlapping subarrays	max sum of two non overlapping
Minimize the maximum difference between heights (V.IMP)	Minimise max diff b/w heights

Range Related question

Day 8

Long Pressed Name	long-pressed-name
Range Addition	range-addition
Max range query	
Orderly Queue	orderly-queue
Container With Most Water	container-with-most-water

Matrix

Day 9

Spiral traversal on a Matrix	
Search an element in a matrix	
Find median in a row wise sorted matrix	
Find row with maximum no. of 1's	
Print elements in sorted order using row-column wise sorted matrix	

Day 10

Find a specific pair in matrix	
Rotate matrix by 90 degrees	
Kth smallest element in a row-column wise sorted matrix	
Common elements in all rows of a given matrix	

Sorting and Searching

Day 11

Binary search	
median of two sorted array	median of two sorted array
capacity to ship within D days	capacity to ship within D days
koko eating bananas	koko-eating bananas
smallest divisor given a threshold	smallest divisor given a threshold
Painter's partition problem	painter's partition problem
split array largest sum	split array largest sum

Day 12

Median from data stream	Median from data stream
Kth smallest prime fraction	Kth smallest prime
search in rotated sorted array	search in rotated sorted array
Search in rotated sorted array 2	search in rotated sorted array 2
Find Minimum in rotated sorted array	Find Minimum in rotated sorted array
find min in rotated sorted array 2	Min. in rotated sorted array
counting sort	counting sort
merge sort	merge sort
count inversions	count inversions

Linked List

Day 13

reverse LinkedList	Reverse LinkedList
Reverse a Linked List in group of Given Size.	
Find the middle element	middle element
Flood cycle	Detect loop in a linkedlist
Clone a linkedlist	clone
Split circular LinkedList	Split into two parts

Day 14

Intersection point of 2 linked list	Intersection point
LRU Cache	LRU Cache
Merge Sort For Linked lists (Very Important)	
Quicksort for Linked Lists (Very important)	
Write a Program to check whether the Singly Linked list is a palindrome or not.	
Sort a "k"sorted Doubly Linked list (Very IMP)	

Day 15

Rotate a Doubly Linked list in group of Given Size.(Very IMP)	
Flatten a Linked List	
Sort a LL of 0's, 1's and 2's	
Delete nodes which have a greater value on right side	
Remove Duplicates in a sorted Linked List.	
Add two numbers represented by linked lists.	

Stacks And Queue

Day 16

Next Greater Element on right	Next Greater
Next Greater Element 2	Next Greater 2
Daily Temperatures	Daily Temperatures
Stock Span Problem	Stock Span
maximum difference between left and right smaller	Left Right smaller
Largest Rectangular Area Histogram	Largest Area Histogram
maximu size binary matrix containing 1	maximum size binary matrix
Asteroid Collision	Asteroid Collision

Day 17

Valid Parentheses	Valid Parentheses
Length of longest valid substring	Valid Parentheses Substring
Count of duplicate Parentheses	Count of Duplicate Parentheses
Minimum Number of bracket reversal	Min Reversal
Minimum Add To make Parentheses Valid	Making Parentheses Valid
Remove K digits Problem	Remove k digits
Longest Unbalanced Subsequence	
First negative Integer in k sized window	First negative value
Maximum sum of smallest and second smallest	max sum smallest and second smallest
K reverse in a queue	K reverse in a queue
K stacks in a single array	K stacks in a single array

Day 18

K queue	K queue in a single array
Gas Station	Gas station
Print Binary Number	Binary Number upto n
Remove duplicate letters	Remove duplicate letter
Backspace String Compare	Compare after deletion
Car fleet	Car fleet
Validate Stack	Stack Validation

Day 19

max frequency stack	max freq stack
Min Stack	min stack
ADAPTERS	
Min cost tree from leaf values	

Tree

Day 20

Inorder Traversal	Inorder traversal
Preorder Traversal	Preorder traversal
Postorder Traversal	Postorder traversal
Binary Tree Level Order	Level Order
Binary search tree to greater sum	Greater sum BST
Next right pointer in each node	Next right pointer in each node
Sum of distances in tree	sum of distances in tree

Day 21

right side view	right view
Left View	Left view
Top View	Top view
Bottom View	Bottom view
reverse level order	reverse level order
Vertical order	vertical order
Diagonal Traversal	diagonal traversal
Boundary Traversal	Boundary traversal
Binary tree coloring game	Coloring game

Day 22

Image multiplication	image multiplication
inorder successor	inorder successor
Max product splitted binary tree	Max product splitted binary tree
Lowest common ancestor in BST	LCA in BST

lowest common ancestor | lowest common ancestor

Day 23

Distribute coins in a binary tree | distribute coins
Binary Tree Cameras | Binary tree camera
Max path sum |
Recover binary search tree | recover binary search tree
Flatten binary tree to linked list | Flatten binary tree to linked list
Convert a binary tree to circular doubly linked list | Convert to circular DLL

Day 24

Conversion of sorted DLL to BST | DLL to BST
Merge Two BST | Merge 2 BST
clone a binary tree with random pointer | clone binary tree
Delete node is list |
Construct from inorder and preorder | from in and pre
Construct from inorder and postorder | from in and post

Day 25

Inorder and level order | Inorder and level order
idkdPreorder | preorder idlist
BST from Postorder | Bst from postorder
BST from preorder | BST from preorder
Construct from pre and post | Pre and Post
serialize and deserialize | serialize and deserialize
Fenwick tree | Fenwick tree
Longest zigzag path in binary tree | zigzag in a binary tree

Day 26

Count complete tree node | count complete tree node
closest binary search tree | closest binary search tree
Closest binary search tree value 2 | closest binary search tree 2
Sum root to leaf | sum root to leaf
LCA in O(root h) |
Segment tree |

Graph

Day 27

BFS of graph | bfs-of-graph
Bipartite graph | Bipartite graph
Bus routes |
Prim's Algo | Prims algo
connecting cities with minimum cost | Connecting cities with min cost
Dijkstra algo | Dijkstra

Day 28

chef and reversing | chef and reversing
optimize water distribution in village | optimize water distribution
DFS | DFS
evaluate division |
Strongly Connected Components (Kosaraju's Algo) |
Mother Vertex | mother-vertex
Number of Enclaves | number-of-enclaves
0-1 matrix | 01-matrix
Number of islands | number-of-islands
Number of Distinct Islands | number-of-distinct-islands

Day 29

Word Ladder | word-ladder
Shortest bridge |
As far from land as possible | As far from land as possible
Sliding Puzzle |
bellman ford | Bellman ford

Day 30

Coloring A border | coloring-a-border
Rotting Oranges | rotten-oranges
topological sorting | topological sorting
Kahn's algo | Kahn's algo
course schedule 2 | course schedule 2
Articulation point | articulation point
Doctor Strange | doctor-strange
Eulerian Path in an Undirected Graph | euler-circuit-in-an-undirected-graph
Euler Circuit in a Directed Graph | euler-circuit-in-a-directed-graph

Day 31

DSU |
DFS vs DSU |
Number of Islands II | number-of-islands-ii
Regions Cut by Slashes | regions-cut-by-slashes
Sentence Similarity II | sentence-similarity
Satisfiability of Equality Equations | consistent-equations
Redundant Connection | redundant-connection
Redundant connection 2 | redundant-connection 2

Day 32

Castle RUN | castle-run
Minimize Malware Spread | minimize-malware-spread
Kruskal's algo | MST
Job Sequencing | Job sequencing
Reconstruct Itinerary | reconstruct-journey
Sort item by group accord to dependencies | dependency sort

Day 33

Most Stones Removed with Same Row or Column | most-stones-removed-with-same-row-or-column
Find the Maximum Flow | Ford fulkerson and Edmond's karp
Maximum Bipartite Matching | maximum-bipartite-matching
Min swaps required to sort array | Min swaps

Day 34

min swaps to make 2 array identical |
Bricks Falling when hit |
Alien Dictionary |
Largest color value in a directed graph | largest color value
Swim in rising water |
Shortest distance from all buildings |
remove max number of edges to keep graph traversal |

Day 35

graph connectivity with threshold |
Smallest string with swaps |
cheapest flight within k stops | cheapest flight within k stops
cracking the safe | Cracking the safe
Find eventual safe state |
Shortest cycle in an undirected graph |
Floyd Warshall | floyd-warshall
Johnson's Algorithm |

HashMap and Heap

Day 36

number of subarrays sum exactly k | number of subarrays with sum exactly k
Subarray sum Divisible by k | Sum divisibe by k
Same differences |
subarray with equal number of 0 and 1 | subarray with equal zero and one
Substring with equal 0 1 and 2 | substring with equal 0 1 2
K closest point from origin | K closest point from origin
Longest consecutive 1's | longest consecutive 1's

Day 37

Minimum number of refueling spots | minimum number of refueling spot
Potion(Hard version) |
X of akind in a deck | X of a kind in a deck
Check AP sequence | Check AP sequence

Day 38

Array of doubled Pair | Array of doubled Pair
Rabbits in forest | Rabbits in a forest
Longest consecutive sequence | Longest consecutive sequence
The skyline problem | The skyline problem
Morning Assembly | morning assembly
Brick wall |

Day 39

Grid Illumination | Grid illumination
Island perimeter | Island perimeter
bulb switcher | bulb switcher
isomorphic string | isomorphic string
Pairs of coinciding points | Coinciding points

Day 40

trapping rain water | trapping rain water
Trapping Rain Water II | trapping rain water 2
Count Pair whose sum is divisible by k | Pair sum divisibility
length of largest subarray with continuous element | length of largest subarray with cont element
length of largest subarray with cont element 2 | length of largest subarray with cont element 2
smallest number whose digit mult to given no. | Smallest no. digit multiply to given number
same frequency after one removal | Same after one removal
Insert Delete GetRandom O(1) | Insert delete GetRand O(1)

Day 41

insert delete get random duplicates allowed | Insert delete GetRand O(1) with duplicates
Find all programs in a string | Find all anagram
Anagram Pallindrome | Anagram palindrome
Find smallest size of string containing all char of other | Smallest window string
Group anagram | Group angram
longest substring with unique character | longest substring with unique character
smallest subarray with all the occurence of MFE | Smallest subarray with all MFE
Find Anagram Mapping | Find anagram mapping
K anagram | K anagram

Day 42

rearrange character string such that no two are same | rearrange such that no two are same
Mode of frequencies | Mode of frequencies
Line reflection | Line reflection
Kth smallest element in sorted 2d matrix | Kth smallest in 2d matrix
Kth smallest prime fraction | Kth smallest prime
Employee Free time | Employee free time

Greedy

Day 43

Activity Selection Problem
Job SequencingProblem
Huffman Coding
Water Connection Problem
Fractional Knapsack Problem
Greedy Algorithm to find Minimum number of Coins
Maximum trains for which stoppage can be provided
Minimum Platforms Problem

Day 44

Buy Maximum Stocks if i stocks can be bought on i-th day
Find the minimum and maximum amount to buy all N candies
Minimize Cash Flow among a given set of friends who have borrowed money from each other
Minimum Cost to cut a board into squares
Check if it is possible to survive on Island
Find maximum meetings in one room
Maximum product subset of an array
Maximize array sum after K negations

Day 45

Maximize the sum of arr[i]*i
Maximum sum of absolute difference of an array
Maximize sum of consecutive differences in a circular array
Minimum sum of absolute difference of pairs of two arrays
Program for Shortest Job First (or SJF) CPU Scheduling
Program for Least Recently Used (LRU) Page Replacement algorithm
Smallest subset with sum greater than all other elements
Chocolate Distribution Problem

Day 46

DEFKIN -Defense of a Kingdom
DIEHARD -DIE HARD
GERGOVIA -Wine trading in Gergovia
Picking Up Chicks
CHOCOLA –Chocolate
ARRANGE -Arranging Amplifiers

Day 47

K Centers Problem
Minimum Cost of ropes
Find smallest number with given number of digits and sum of digits
Rearrange characters in a string such that no two adjacent are same
Find maximum sum possible equal sum of three stacks

Backtracking

Day 48

Rat in a maze Problem
Printing all solutions in N-Queen Problem
Word Break Problem using Backtracking

Remove Invalid Parentheses
Sudoku Solver

Day 49

m Coloring Problem
Print all palindromic partitions of a string
Subset Sum Problem
The Knight's tour problem

Day 50

Tug of War
Find shortest safe route in a path with landmines
Combinational Sum
Find Maximum number possible by doing at-most K swaps
Print all permutations of a string

Day 51

Find if there is a path of more than k length from a source
Longest Possible Route in a Matrix with Hurdles
Print all possible paths from top left to bottom right of a mXn matrix
Partition of a set intoK subsets with equal sum
Find the K-th Permutation Sequence of first N natural numbers

Dynamic Programming

Day 52

longest increasing subsequence	LIS(n^2)
longest increasing subsequence	LIS(nLogn)
building bridges	Building bridges
Russian doll envelopes	Envelope stacking
Box stacking	Stacking
weighted job scheduling	weighted job scheduling
minimum number of increasing subsequence	min number of inc subseq

Day 53

Paint fence	Paint fence
Paint house	Paint house
Paint house 2	Paint house 2
No. of binary string without consecutive 1	Without cons 1
Possible ways to construct the building	
Catalan number	
Total no. of bst	Total bst
Applications of Catalan numbers	
Min cost path	min cost path
Cherry pickup	Cherry pickup

Day 54

Cherry pickup 2	
best time to buy and sell stock	best time to buy and sell
best time to buy and sell 2	best time to buy and sell 2
buy and sell with transaction fee	transaction fee
best time to buy and sell with cool down	cooldown
best time to buy and sell 3	best time to buy and sell 3
best time to buy and sell 4	best time to buy and sell 4
Highway billboard problem	billboard

Day 55

burst balloons	Burst balloons
Matrix chain multiplication	MCM
boolean parenthesization	boolean parenthesization
Min and max val of expression	Min and max
Minimum score triangulation	Min score triangulation
Binomial coefficient	binomial coefficient

Day 56

Longest common subsequence	LCS
LCS triplet	LCS triplet
Longest palindromic subsequence	LPS
Count of all palindromic subsequence	
Count distinct palindromic subsequence	
Palindromic substring	
No. of sequence of type a^ib^jc^k	seq of given type
COunt of distinct subsequences	

Day 57

Edit distance	Edit distance
2 egg 100 floor	
egg drop	
Optimal strategy for a game	
Ugly number	
Super ugly number	Super ugly number
max size subsquare with all 1	
Wildcard pattern matching	Wildcard

Day 58

Regular Expression Matching
Palindrome partitioning
Longest Bitonic subsequence
Knights probability in chessboard
Word break problem
Longest repeating subsequence

Day 59

Optimal BST	
Max sum subarray with atleast k elements	
Say no to palindrome	
Number of digit 1	
Scramble string	Scramble string
Distinct subsequences	
Shortest common superseq	

Day 60

Longest common substring	
Frog jump	
Jump game 2	
Friends pairing problem	Friends pairing problem
Dungeon game	

String Algorithm

Day 61

KMP	KMP
Rabin Karp	Rabin Karp
Shortest Palindrome	shortest palindrome
Z algo	Z algo
chef and secret password	Chef and secret password
Manacher's algo	Manacher's algo

Day 62

Tri tiling	tri tiling
Scramble string	Scramble string
Coin change	
Coin change 2	
Unbounded knapsack	Unbounded knap

Bit Manipulation

Day 63

Count set bits in an integer
Reverse Bits
Find the two non-repeating elements in an array of repeating elements
Count number of bits to be flipped to convert A to B
Program to find whether a no is power of two
Copy set bits in a range
Calculate square of a number without using * / and pow()

Day 64

Subsequence of string (using Bit Manipulation)
Single Number II
Hamming Distance(Imp.)
Bitwise ORs of subarrays
Divide Integers
Minimum Xor Value
Max Xor in a range (L, R)

Tries

Day 65

Implement Trie prefix tree	Implement Trie
maximum XOR of two numbers in an array	Maximum XOR
Search Suggestions System	Search suggestions system
Kth smallest in lexicographical order	Kth smallest in lexicographical
No prefix set	No prefix set
Shortest Unique prefix	Shortest unique prefix

DSA INTERVIEW READY