STRIVER'S A2Z SHEET (455 Qs)

	Step 1: Learn the basics	DONE	Revisit	Revised	Fresh
1	User Input / Output				
2	Data Types				
3	If Else statements				
4	Switch Statement				
5	What are arrays, strings?				
6	For loops				
7	While loops				
8	Functions (Pass by Reference and Value)				
9	Time Complexity				
10	Patterns				
11	C++ STL				
12	Java Collections				
13	Count Digits				
14	Reverse a Number				
15	Check Palindrome				
16	GCD Or HCF				
17	Armstrong Numbers				
18	Print all Divisors				
19	Check for Prime				
20	Understand recursion by print something N times				
21	Print name N times using recursion				
22	Print 1 to N using recursion				
23	Print N to 1 using recursion				
24	Sum of first N numbers				
25	Factorial of N numbers				
26	Reverse an array				
27	Check if a string is palindrome or not				
28	Fibonacci Number				
29	Hashing Theory				
30	Counting frequencies of array elements				
31	Find the highest/lowest frequency element				
	Step 2: Learn Important Sorting Techniques				
32	Selection Sort				
33	Bubble Sort				
34	Insertion Sort				
35	Merge Sort				
36	Recursive Bubble Sort				
37	Recursive Insertion Sort				
38	Quick Sort				

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	Step 3: Arrays [Easy -> Medium -> Hard]				
39	Largest Element in an Array				
40	Second Largest Element in an Array without sorting				
41	Check if the array is sorted				
42	Remove duplicates from Sorted array				
43	Left Rotate an array by one place				
44	Left rotate an array by D places				
45	Move Zeros to end				
46	Linear Search				
47	Find the Union				
48	Find missing number in an array				
49	Maximum Consecutive Ones				
50	Find the number that appears once, and other numbers twice.				
51	Longest subarray with given sum K(positives)				
52	Longest subarray with sum K (Positives + Negatives)				
53	2Sum Problem				
54	Sort an array of 0's 1's and 2's				
55	Majority Element (>n/2 times)				
56	Kadane's Algorithm, maximum subarray sum				
57	subarray with maximum subarray sum (extended version)				
58	Stock Buy and Sell				
59	Rearrange the array in alternating positive and negative items				
60	Next Permutation				
61	Leaders in an Array problem				
62	Longest Consecutive Sequence in an Array				
63	Set Matrix Zeros				
64	Rotate Matrix by 90 degrees				
65	Print the matrix in spiral manner				
66	Count subarrays with given sum				
67	Pascal's Triangle				
68	Majority Element (n/3 times)				
69	3-Sum Problem				
70	4-Sum Problem				
71	Largest Subarray with 0 Sum				
72	Count number of subarrays with given xor K				
73	Merge Overlapping Subintervals				
74	Merge two sorted arrays without extra space				
75	Find the repeating and missing number				
76	Count Inversions				
77	Reverse Pairs				
78	Maximum Product Subarray				
	Step 4: Binary Search [1D, 2D Arrays, Search Space]				
79	Binary Search to find X in sorted array				
80	Implement Lower Bound				
81	Implement Upper Bound				
82	Search Insert Position				

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83	Floor/Ceil in Sorted Array				
84	Find first or last occurrence of a given number in a sorted arr				
85	Count occurrences of a number in a sorted array with duplicates				
86	Search in Rotated Sorted Array I				
87	Search in Rotated Sorted Array II				
88	Find minimum in Rotated Sorted Array				
89	Find out how many times has an array been rotated				
90	Single element in a Sorted Array				
91	Find peak element				
92	Find square root of a number in log n				
93	Find the Nth root of a number using binary search				
94	Koko Eating Bananas				
95	Minimum days to make M bouquets				
96	Find the smallest Divisor				
97	Capacity to Ship Packages within D Days				
98	Kth Missing Positive Number				
99	Aggressive Cows				
100	Book Allocation Problem				
101	Split array - Largest Sum				
102	Painter's partition				
103	Minimize Max Distance to Gas Station				
104	Median of 2 sorted arrays				
105	Kth element of 2 sorted arrays				
106	Find the row with maximum number of 1's				
107	Search in a 2 D matrix				
108	Search in a row and column wise sorted matrix				
109	Find Peak Element (2D Matrix)				
110	Matrix Median				
	Step 5: Strings [Basic and Medium]				
111	Remove outermost Paranthesis				
112	Reverse words in a given string / Palindrome Check				
113	Largest odd number in a string				
114	Longest Common Prefix				
115	Isomorphic String				
116	check whether one string is a rotation of another				
117	Check if two strings are anagram of each other				
118	Sort Characters by frequency				
119	Maximum Nesting Depth of Paranthesis				
120	Roman Number to Integer and vice versa				
121	Implement Atoi				
122	Count Number of Substrings				
123	Longest Palindromic Substring[Do it without DP]				
124	Sum of Beauty of all substring				
125	Reverse Every Word in A String				

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	Step 6: LinkedList [Single LL, Double LL, Medium, Hard]				
126	Introduction to LinkedList, learn about struct, and node				
127	Inserting a node in LinkedList				
128	Deleting a node in LinkedList				
129	Find the length of the linkedlist [learn traversal]				
130	Search an element in the LL				
131	Introduction to DLL, learn about struct, and node				
132	Insert a node in DLL				
133	Delete a node in DLL				
134	Reverse a DLL				
135	Middle of a LinkedList [TortoiseHare Method]				
136	Reverse a LinkedList [Iterative]				
137	Reverse a LL [Recursive]				
138	Detect a loop in LL				
139	Find the starting point in LL				
140	Length of Loop in LL				
141	Check if LL is palindrome or not				
142	Segrregate odd and even nodes in LL				
143	Remove Nth node from the back of the LL				
144	Delete the middle node of LL				
145	Sort LL				
146	Sort a LL of 0's 1's and 2's by changing links				
147	Find the intersection point of Y LL				
148	Add 1 to a number represented by LL				
149	Add 2 numbers in LL				
150	Delete all occurrences of a key in DLL				
151	Find pairs with given sum in DLL				
152	Remove duplicates from sorted DLL				
153	Reverse LL in group of given size K				
154	Rotate a LL				
155	Flattening of LL				
156	Clone a Linked List with random and next pointer				
	Step 7: Recursion [PatternWise]				
157	Recursive Implementation of atoi()				
158	Pow(x, n)				
159	Count Good numbers				
160	Sort a stack using recursion				
161	Reverse a stack using recursion				
162	Generate all binary strings				
163	Generate Paranthesis				
164	Print all subsequences/Power Set				
165	Learn All Patterns of Subsequences (Theory)				
166	Count all subsequences with sum K				
167	Check if there exists a subsequence with sum K				

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168	Combination Sum				
169	Combination Sum-II				
170	Subset Sum-I				
171	Subset Sum-II				
172	Combination Sum - III				
173	Letter Combinations of a Phone number				
174	Palindrome Partitioning				
175	Word Search				
176	N Queen				
177	Rat in a Maze				
178	Word Break				
179	M Coloring Problem				
180	Sudoko Solver				
181	Expression Add Operators				
	Step 8: Bit Manipulation [Concepts & Problems]				
182	Introduction to Bit Manipulation [Theory]				
183	Check if the i-th bit is set or not				
184	Check if a number is odd or not				
185	Check if a number is power of 2 or not				
186	Count the number of set bits				
187	Set/Unset the rightmost unset bit				
188	Swap two numbers				
189	Divide two integers w/o using multiplication, division and mod				
190	Count number of bits to be flipped to convert A to B				
191	Find the number that appears odd number of times				
192	Power Set				
193	Find xor of numbers from L to R				
194	Find the two numbers appearing odd number of times				
195	Print Prime Factors of a Number				
196	All Divisors of a Number				
197	Sieve of Eratosthenes				
198	Find Prime Factorisation of a Number using Sieve				
199	Power(n, x)				
	Step 9: Stack and Queues				
200	Implement Stack using Arrays				
201	Implement Queue using Arrays				
202	Implement Stack using Queue				
203	Implement Queue using Stack				
204	Implement stack using Linkedlist				
205	Implement queue using Linkedlist				
206	Check for balanced paranthesis				
207	Implement Min Stack				
208	Infix to Postfix Conversion using Stack				

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209	Prefix to Infix Conversion				
210	Prefix to Postfix Conversion				
211	Postfix to Prefix Conversion				
212	Postfix to Infix				
213	Convert Infix To Prefix Notation				
214	Next Greater Element				
215	Next Greater Element 2				
216	Next Smaller Element				
217	Number of NGEs to the right				
218	Trapping Rainwater				
219	Sum of subarray minimum				
220	Asteroid Collision				
221	Sum of subarray ranges				
222	Remove k Digits				
223	Largest rectangle in a histogram				
224	Maximal Rectangles				
225	Sliding Window maximum				
226	Stock span problem				
227	The Celebrity Problem				
228	LRU cache (IMPORTANT)				
229	LFU cache				
	Step 10: Sliding Window & Two Pointer Combined Problems				
230	Longest Substring Without Repeating Characters				
231	Max Consecutive Ones III				
232	Fruit Into Baskets				
233	longest repeating character replacement				
234	Binary subarray with sum				
235	Count number of nice subarrays				
236	Number of substring containing all three characters				
237	Maximum point you can obtain from cards				
238	Longest Substring with At Most K Distinct Characters				
239	Subarray with k different integers				
240	Minimum Window Substring				
241	Minimum Window Subsequence				
	Step 11: Heaps [Learning, Medium, Hard]				
242	Introduction to Priority Queues using Binary Heaps				
243	Min Heap and Max Heap Implementation				
244	Check if an array represents a min-heap or not				
245	Convert min Heap to max Heap				
246	Kth largest element in an array [use priority queue]				
247	Kth smallest element in an array [use priority queue]				
248	Sort K sorted array				
249	Merge M sorted Lists				
250	Replace each array element by its corresponding rank				
251	Task Scheduler				

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252	Hands of Straights				
253	Design twitter				
254	Connect `n` ropes with minimal cost				
255	Kth largest element in a stream of running integers				
256	Maximum Sum Combination				
257	Find Median from Data Stream				
258	K most frequent elements				
	Step 12: Greedy Algorithms [Easy, Medium/Hard]				
259	Assign Cookies				
260	Fractional Knapsack Problem				
261	Greedy algorithm to find minimum number of coins				
262	Lemonade Change				
263	Valid Paranthesis Checker				
264	N meetings in one room				
265	Jump Game				
266	Jump Game 2				
267	Minimum number of platforms required for a railway				
268	Job sequencing Problem				
269	Candy				
270	Program for Shortest Job First (or SJF) CPU Scheduling				
271	Program for LRU Page Replacement Algorithm				
272	Insert Interval				
273	Merge Intervals				
274	Non-overlapping Intervals				
	Step 13: Binary Trees [Traversals, Medium and Hard Problems]				
275	Introduction to Trees				
276	Binary Tree Representation in C++				
277	Binary Tree Representation in Java				
278	Binary Tree Traversals in Binary Tree				
279	Preorder Traversal of Binary Tree				
280	Inorder Traversal of Binary Tree				
281	Post-order Traversal of Binary Tree				
282	Level order Traversal / Level order traversal in spiral form				
283	Iterative Preorder Traversal of Binary Tree				
284	Iterative Inorder Traversal of Binary Tree				
285	Post-order Traversal of Binary Tree using 2 stack				
286	Post-order Traversal of Binary Tree using 1 stack				
287	Preorder, Inorder, and Postorder Traversal in one Traversal				
288	Height of a Binary Tree				
289	Check if the Binary tree is height-balanced or not				
290	Diameter of Binary Tree				
291	Maximum path sum				
292	Check if two trees are identical or not				
293	Zig Zag Traversal of Binary Tree				
294	Boundary Traversal of Binary Tree				
295	Vertical Order Traversal of Binary Tree				

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296	Top View of Binary Tree				
297	Bottom View of Binary Tree				
298	Right/Left View of Binary Tree				
299	Symmetric Binary Tree				
300	Root to Node Path in Binary Tree				
301	LCA in Binary Tree				
302	Maximum width of a Binary Tree				
303	Check for Children Sum Property				
304	Print all the Nodes at a distance of K in a Binary Tree				
305	Minimum time taken to BURN the Binary Tree from a Node				
306	Count total Nodes in a COMPLETE Binary Tree				
307	Requirements needed to construct a Unique Binary Tree | Theory				
308	Construct Binary Tree from inorder and preorder				
309	Construct the Binary Tree from Postorder and Inorder Traversal				
310	Serialize and deserialize Binary Tree				
311	Morris Preorder Traversal of a Binary Tree				
312	Morris Inorder Traversal of a Binary Tree				
313	Flatten Binary Tree to LinkedList				
	Step 14: Binary Search Trees [Concept and Problems]				
314	Introduction to Binary Search Tree				
315	Search in a Binary Search Tree				
316	Find Min/Max in BST				
317	Ceil in a Binary Search Tree				
318	Floor in a Binary Search Tree				
319	Insert a given Node in Binary Search Tree				
320	Delete a Node in Binary Search Tree				
321	Find K-th smallest/largest element in BST				
322	Check if a tree is a BST or BT				
323	LCA in Binary Search Tree				
324	Construct a BST from a preorder traversal				
325	Inorder Successor/Predecessor in BST				
326	Merge 2 BST's				
327	Two Sum In BST | Check if there exists a pair with Sum K				
328	Recover BST | Correct BST with two nodes swapped				
329	Largest BST in Binary Tree				
	Step 15: Graphs [Concepts & Problems]				
330	Graph and Types				
331	Graph Representation | C++				
332	Graph Representation | Java				
333	Connected Components | Logic Explanation				
334	BFS				
335	DFS				
336	Number of provinces (leetcode)				
337	Connected Components Problem in Matrix				

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338	Rotten Oranges				
339	Flood fill				
340	Cycle Detection in unirected Graph (bfs)				
341	Cycle Detection in undirected Graph (dfs)				
342	0/1 Matrix (Bfs Problem)				
343	Surrounded Regions (dfs)				
344	Number of Enclaves [flood fill implementation - multisource]				
345	Word ladder - 1				
346	Word ladder - 2				
347	Number of Distinct Islands [dfs multisource]				
348	Bipartite Graph (DFS)				
349	Cycle Detection in Directed Graph (DFS)				
350	Topo Sort				
351	Kahn's Algorithm				
352	Cycle Detection in Directed Graph (BFS)				
353	Course Schedule - I				
354	Course Schedule - II				
355	Find eventual safe states				
356	Alien dictionary				
357	Shortest Path in UG with unit weights				
358	Shortest Path in DAG				
359	Djisktra's Algorithm				
360	Why priority Queue is used in Djisktra's Algorithm				
361	Shortest path in a binary maze				
362	Path with minimum effort				
363	Cheapest flights within k stops				
364	Network Delay time				
365	Number of ways to arrive at destination				
366	Minimum steps to reach end				
367	Bellman Ford Algorithm				
368	Floyd Warshal Algorithm				
369	Find city with minimum neighbors in a threshold distance				
370	Minimum Spanning Tree				
371	Prim's Algorithm				
372	Disjoint Set [Union by Rank]				
373	Disjoint Set [Union by Size]				
374	Kruskal's Algorithm				
375	Number of operations to make network connected				
376	Most stones removed with same rows or columns				
377	Accounts merge				
378	Number of island II				
379	Making a Large Island				
380	Swim in rising water				
381	Bridges in Graph				
382	Articulation Point				
383	Kosaraju's Algorithm				

	Step 16: Dynamic Programming [Patterns and Problems]	DONE	Revisit	Revised	Fresh
384	Dynamic Programming Introduction				
385	Climbing Stars				
386	Frog Jump(DP-3)				
387	Frog Jump with k distances(DP-4)				
388	Maximum sum of non-adjacent elements (DP 5)				
389	House Robber (DP 6)				
390	Ninja's Training (DP 7)				
391	Grid Unique Paths : DP on Grids (DP8)				
392	Grid Unique Paths 2 (DP 9)				
393	Minimum path sum in Grid (DP 10)				
394	Minimum path sum in Triangular Grid (DP 11)				
395	Minimum/Maximum Falling Path Sum (DP-12)				
396	3-d DP : Ninja and his friends (DP-13)				
397	Subset sum equal to target (DP- 14)				
398	Partition Equal Subset Sum (DP- 15)				
399	Partition Set Into 2 Subsets With Min Absolute Sum Diff (DP- 16)				
400	Count Subsets with Sum K (DP - 17)				
401	Count Partitions with Given Difference (DP - 18)				
402	Assign Cookies				
403	Minimum Coins (DP - 20)				
404	Target Sum (DP - 21)				
405	Coin Change 2 (DP - 22)				
406	Unbounded Knapsack (DP - 23)				
407	Rod Cutting Problem | (DP - 24)				
408	Longest Common Subsequence | (DP - 25)				
409	Print Longest Common Subsequence | (DP - 26)				
410	Longest Common Substring | (DP - 27)				
411	Longest Palindromic Subsequence | (DP-28)				
412	Minimum insertions to make string palindrome | DP-29				
413	Minimum Insertions/Deletions to Convert String | (DP- 30)				
414	Shortest Common Supersequence | (DP - 31)				
415	Distinct Subsequences| (DP-32)				
416	Edit Distance | (DP-33)				
417	Wildcard Matching | (DP-34)				
418	Best Time to Buy and Sell Stock |(DP-35)				
419	Buy and Sell Stock - II|(DP-36)				
420	Buy and Sell Stocks III|(DP-37)				
421	Buy and Stock Sell IV |(DP-38)				
422	Buy and Sell Stocks With Cooldown|(DP-39)				
423	Buy and Sell Stocks With Transaction Fee|(DP-40)				
424	Longest Increasing Subsequence |(DP-41)				
425	Printing Longest Increasing Subsequence|(DP-42)				
426	Longest Increasing Subsequence |(DP-43)				
427	Largest Divisible Subset|(DP-44)				
428	Longest String Chain|(DP-45)				
429	Longest Bitonic Subsequence |(DP-46)				

		DONE	Revisit	Revised	Fresh
430	Number of Longest Increasing Subsequences|(DP-47)				
431	Matrix Chain Multiplication|(DP-48)				
432	Matrix Chain Multiplication | Bottom-Up|(DP-49)				
433	Minimum Cost to Cut the Stick|(DP-50)				
434	Burst Balloons|(DP-51)				
435	Evaluate Boolean Expression to True|(DP-52)				
436	Palindrome Partitioning - II|(DP-53)				
437	Partition Array for Maximum Sum|(DP-54)				
438	Maximum Rectangle Area with all 1's|(DP-55)				
439	Count Square Submatrices with All Ones|(DP-56)				
	Step 17: Tries				
440	Implement TRIE | INSERT | SEARCH | STARTSWITH				
441	Implement Trie - 2 (Prefix Tree)				
442	Longest String with All Prefixes				
443	Number of Distinct Substrings in a String				
444	Bit PreRequisites for TRIE Problems				
445	Maximum XOR of two numbers in an array				
446	Maximum XOR With an Element From Array				
	Step 18: Strings				
447	min number of bracket reversals to make an expression balanced				
448	Count and say				
449	Hashing In Strings | Theory				
450	Rabin Karp				
451	Z-Function				
452	KMP algo / LPS(pi) array				
453	Shortest Palindrome				
454	Longest happy prefix				
455	Count palindromic subsequence in given string