Cheat CODE

A Workbook to Get You Started with DSA

Made with ❤ at GeeksforGeeks

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{The Dilemma}

Which Programming Language Should I Choose?

Beginner Problems

Which Programming Language Should I Start With?

Read More

Top 10

Top 10 Programming Languages to Learn

Read More

C++, JAVA or Python

Which one's the Best?

Read More

{Pick your language}

Learn More

Learn More

Learn More

Learn More

Learn More

Learn More

{The Frenemy}

Data Structures & Algorithms

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{Build your knowledge}

Easy Problems

Use checkboxes to track your progress.
Keep practicing, Geek.

Math

- [ ] Missing Number in Array
- [ ] Minimum steps to make product equal to one
- [ ] Trailing Zeros in Factorial

Array

- [ ] Rotate Array
- [ ] Majority Element
- [ ] Plus one
- [ ] Array of alternative +ve and -ve nos.
- [ ] Product Array puzzle
- [ ] Large Factorial

Searching

- [x] Left most and right most index
- [x] Bitonic Point
- [x] Collecting Wood

Sorting

- [x] Wave Array
- [x] Sort an array of 0's,1's and 2's
- [x] Chocolate Distribution Problem

Matrix

- [ ] Sort a 2D vector diagonally
- [ ] Search in Sorted 2D and not 2d matrix
- [ ] Boundary traversal of matrix

String

- [x] Reverse words in a given string
- [x] Longest Common Prefix
- [x] Roman Number to Integer

Hashing

- [x] Key Pair
- [x] Top K Frequent Elements in Array
- [x] Intersection of two arrays

Bit Masking

- [x] Reverse bits
- [x] Number of set bits
- [ ] Sum of two integers
- [x] Check whether K-th bit is set or not
- [x] Longest Consecutive 1's
- [x] Non repeating numbers

Linked List

- [ ] Merge Two Sorted Linked Lists
- [ ] Reverse a Linked List
- [ ] Delete a Node without Head Pointer
- [ ] Add two Numbers represented by linked lists
- [ ] Finding middle element in a linked list
- [ ] Check if linked list is palindrome

Stack

- [ ] Parenthesis Checker
- [ ] Infix to Postfix
- [ ] Restrictive Candy Crush

Queue

- [ ] First negative integer in every window of size k
- [ ] Valid Substring
- [ ] Maximum Diamonds

Heap

- Adding Array Elements
- Minimum Cost of ropes
- Binary Heap Operations

Binary Tree

- Symmetric Tree
- Zigzag Tree Traversal
- Checked for Balanced tree
- Height of Binary Tree
- Diameter of Binary tree
- Minimum depth of binary tree

Binary Search Tree

- Check for BST
- Array to BST
- Inorder Successor in BST

Graph

- [ ] Print Adjacency List
- [ ] BFS of Graph
- [ ] DFS of Graph
- [ ] Mother Vertex
- [ ] Count the Paths
- [ ] Eulerian Path in an Undirected Graph

Greedy

- [x] Largest number with given Sum
- [ ] Maximum Sum without Adjacents
- [ ] Maximize Toys

Dynamic Programming

- [ ] Count ways to reach the n'th stair
- [ ] Nth Fibonacci Number
- [ ] Gold Mine Problem

Recursion

- [ ] Number of Paths
- [ ] Juggler Sequence
- [x] Tower of Hanoi
- [ ] Permutations
- [ ] Permutation with Spaces
- [ ] Pascals Triangle

Algorithms

- [x] Bubble Sort
- [ ] Insertion Sort
- [x] Selection Sort

Design Patterns

- [ ] Stack using two queues
- [ ] Queue using stack
- [ ] Queue Operations

{Let's Step Up a Bit}

Medium Level Problems

Use checkboxes to track your progress.
Keep practicing, Geek.

Math

- [ ] A Simple Fraction
- [ ] Count of sum of consecutives
- [ ] nCr( )

Array

- [ ] Jump Game
- [ ] Maximum number of 1's
- [ ] Stock Buy and Sell
- [ ] Maximum index
- [ ] Trapping Rain Water
- [ ] 3 sum closest

Searching

- Search an element in sorted and rotated array
- Square root of a number
- Find missing in second array

Sorting

- Count the number of possible triangles
- Triplets with sum with given range
- Count Inversions
- Relative Sorting
- Minimum Platforms
- Maximum Index

Matrix

- Spiral Matrix
- Boolean matrix
- Rotate matrix by 90 degrees

- Search in a row-column sorted Matrix
- Find nth element of spiral matrix
- Row with maximum 1s

String

- Length of longest prefix suffix
- Validate an IP address
- Implement Atoi
- Look and say Pattern
- Longest substring without repeating characters
- Longest K unique characters substring

Hashing

- Triplet Sum in Array
- Length of the longest substring
- Is Sudoku Valid
- Print Anagrams Together
- Subarrays with sum K
- Longest subarray with sum divisible by K

Bit Masking

- [ ] Find the element that appears once
- [ ] Gray code
- [ ] Maximum AND

Linked List

- [ ] Rearrange a linked list
- [ ] Detect and Remove a loop In Linked List
- [ ] Merge Sort for Linked List
- [ ] Intersection of Linked List
- [ ] Rotate Linked List by K places
- [ ] Flattening a Linked List

Stack

- [ ] Next Larger Element
- [ ] Stock span problem
- [ ] The Celebrity Problem

Queue

- [ ] Maximum of all subarrays of size K
- [ ] Circular tour (Sliding Window)
- [ ] First non repeating character in a stream

Heap

- [ ] Kth largest element of stream
- [ ] Merge k sorted arrays
- [ ] Nearly Sorted

Binary Tree

- [ ] Inorder Traversal (iterative)
- [ ] Preorder Traversal (iterative)
- [ ] Postorder Traversal (iterative)
- [ ] Connect nodes at same level
- [ ] Boundary Traversal
- [ ] Sum tree

Binary Search Tree

- [ ] Pair with given target in BST
- [ ] Unique BSTs
- [ ] Preorder Traversal and BST

Graph

- [ ] Number of Islands
- [ ] COVID Spread
- [ ] Prerequisite tasks
- [ ] Minimum swaps to sort
- [ ] Snake and Ladder Problem
- [ ] Unit Area of Largest region of 1s

Greedy

- [ ] N meetings in one room
- [ ] Coin Piles
- [ ] Maximize Toys

- [ ] Job Sequencing
- [ ] Police and Thieves
- [ ] Water the Plants

Dynamic Programming

- [ ] Number of Coins
- [ ] Box Stacking
- [ ] Longest Palindromic Substring
- [ ] Wildcard Pattern Matching
- [ ] Minimum number of jumps
- [ ] Player with max score

Recursion

- [ ] Special Keyboard
- [ ] Flood Fill Algorithm
- [ ] Word Boggle – 1
- [ ] Rat in a Maze Problem
- [ ] Letter Combinations of a Phone Number
- [ ] Generate Parentheses

Algorithms

- Merge Sort
- Quick Sort
- Heap Sort
- Kadane Algorithm
- Minimum Spanning Tree
- Huffman Encoding

Design

- Ternary Search
- Binary Heap Operations
- LRU cache

{When the Going Gets Tough}

Hard Level Problems

Use checkboxes to track your progress.
Keep practicing, Geek.

Math

- [ ] Nth Natural Number
- [ ] Smallest Positive Integer that can not be represented as Sum
- [ ] Generalised Fibonacci Number

Array

- [ ] Maximum circular Subarray Sum
- [ ] Merge without Extra Space
- [ ] Number of subsets with product less than K

Searching

- Painter's Partition Problem
- Median of 2 sorted arrays of Different sizes
- Allocate minimum number of pages

String

- Numbers with one absolute difference
- Longest Palindromic Substring
- Distinct Palindromic substrings

Bit Masking

- Maximum subset XOR
- Minimum X (xor) A
- Bit Difference

Linked List

- [ ] Clone a linked list with next and random pointers
- [ ] Reorder List
- [ ] QuickSort on Doubly Linked List

Stack

- [ ] Longest Valid Parentheses
- [ ] Remove K digits
- [ ] 132 Geeky Buildings

Heap

- [ ] Median of stream
- [ ] Smallest range in K lists
- [ ] Rearrange characters

Binary Tree

- [ ] Binary Tree to Doubly Linked List
- [ ] Maximum sum path between two leaf nodes
- [ ] Burning Tree

Binary Search Tree

- [ ] Merge two BST's
- [ ] Fixing two nodes of a BST
- [ ] Sorted Linked List to BST

Graph

- [ ] Number of Provinces
- [ ] Alien Dictionary
- [ ] Word Ladder
- [ ] Word Ladder II
- [ ] Minimum Cost Path
- [ ] Strongly Connected Components (Tarjan's Algo)

Dynamic Programming

- Matrix Chain
- Partition Equal Subset Sum
- Palindromic Partitioning

Recursion

- Palindrome Partitioning
- N-Queen Problem
- Solve the Sudoku

Algorithms

- Bellman Ford Algorithm
- Dijkstra Algorithm
- Floyd Warshall
- Rabin-Karp Algorithm
- KMP algorithm
- Z Algorithm

{The Endgame}

Building Soft Skills

Resume Building- Resources and Tips

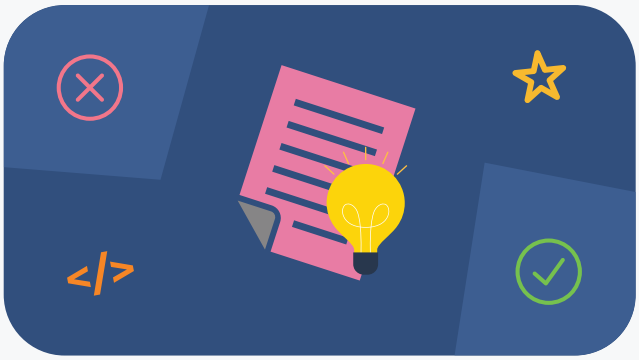
Read More

7 Ways to Add Value to Your Resume

Read More

12 Best Resume Do’s & Don'ts

Read More



{Bonus}

How to Prepare for Interviews

Tell me about yourself!

Read Answer

What are your strengths & weaknesses?

Read Answer

Why should you be hired?

Read Answer

{Liked the workbook?}

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