Vocational English II (Mesleki Yabancı Dil II)
Week 3

Engineering Faculty

Computeer Engineering

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INTRODUCTION

THIS WEEK WE WILL WORK ON

Data Structures & Algorithms

(DSA)

BLOG POST

TITLE: How to Study for Data-Structures and Algorithms Interviews at FAANG

https://medium.com/swlh/how-to-study-for-data-structures-and-algorithms-interviews-at-faang-65043e00b5df

INTRODUCTION

This is the story of how I got offers from Google,Amazon, Uber and more without a college degree.

THIS WAS ME IN 2015

HIRING MANAGER
CANDIDATE THAT DIDN'T STUDY DS & ALGO
ALGORITHM INTERVIEWER
ALGORITHM INTERVIEWER #2
imgflip.com

THE IMPORTANCE OF PREPARATION

- *I went from 0 → 100 in just a few months and I didn’t do anything special aside from studying consistently. That’s why I strongly believe any engineer can get good at these DS & Algo questions and get into F.A.A.N.G. or similar high paying roles.*

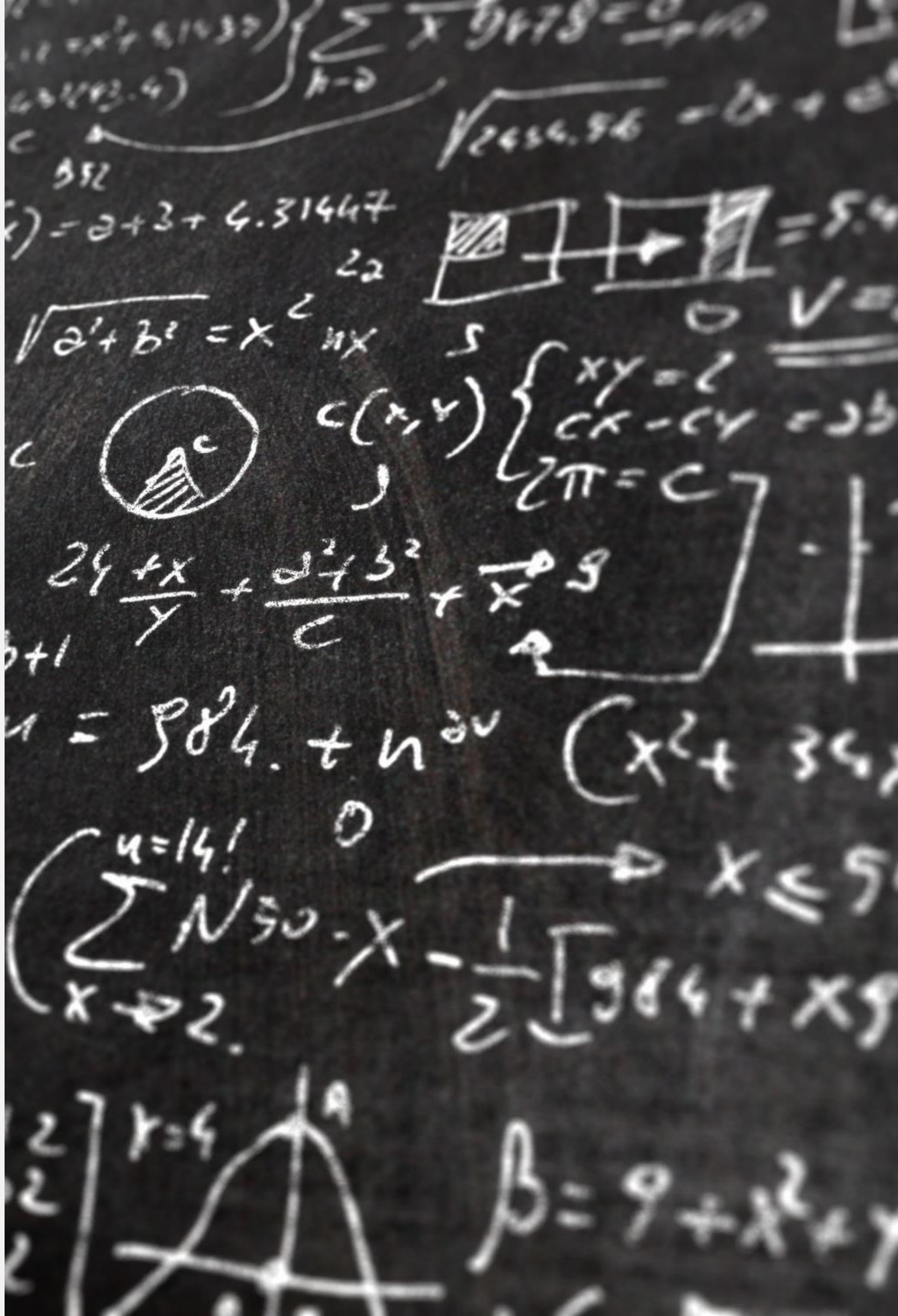
GOOGLE PERKS

THE REALITY OF TECH INTERVIEWS

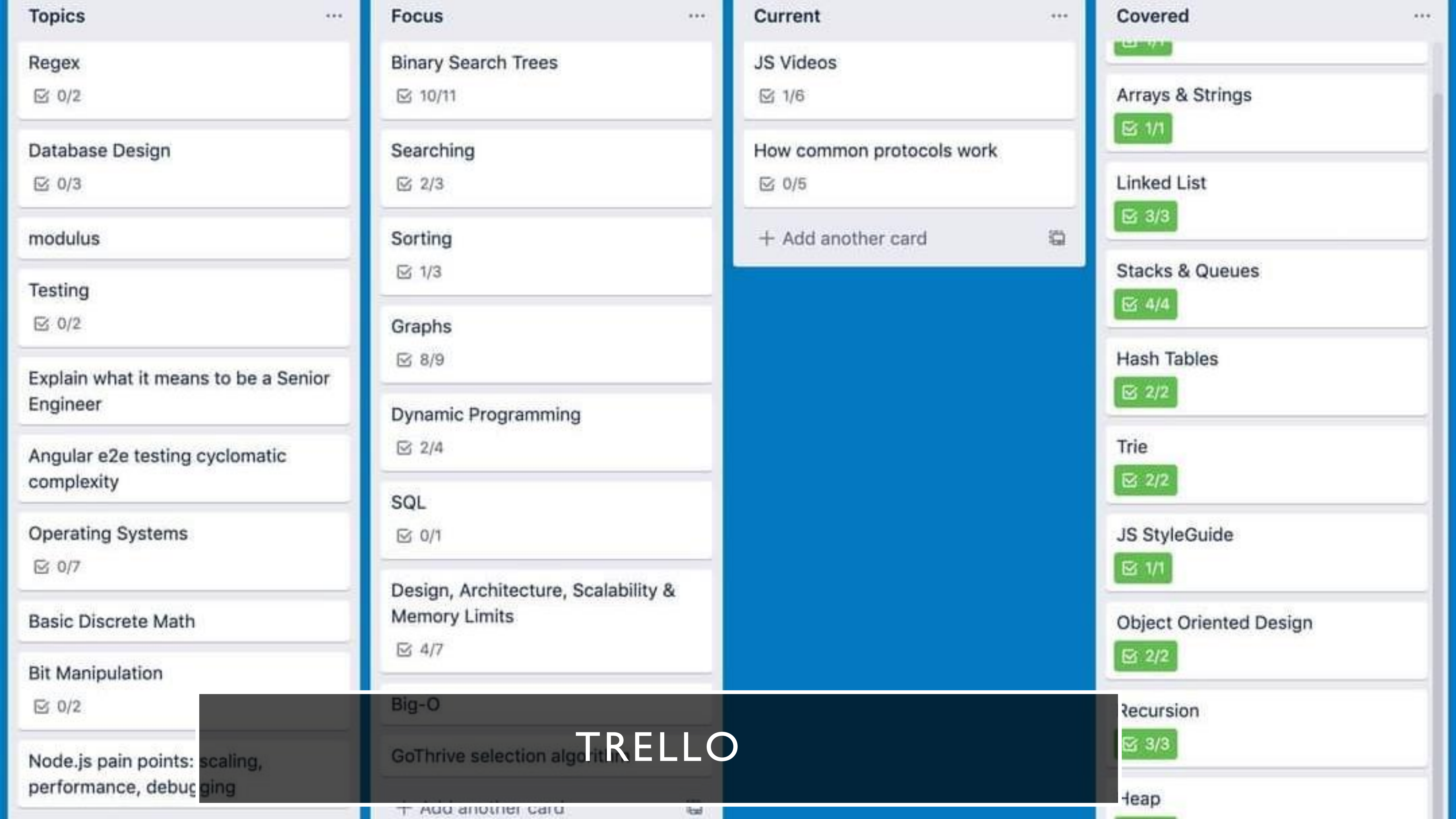
- I discarded this notion of the mythical engineer who can on a whim pass a tech interview and started to appreciate the reality of the situation, that tech interviews are like the SAT's they give in school. It doesn't matter that you spent four years learning all of the content in high school, you still need to prep if you want to ace the test.

BUILDING A STUDY PLAN

- To solve a lot of these issues when I was studying, I created a Trello board with all the topics I wanted to cover. The board helped me focus on the most important topics I should be studying and manage my time to keep progress consistent.



TRELLO



Topics

- Regex ☑ 0/2
- Database Design ☑ 0/3
- modulus
- Testing ☑ 0/2
- Explain what it means to be a Senior Engineer
- Angular e2e testing cyclomatic complexity
- Operating Systems ☑ 0/7
- Basic Discrete Math
- Bit Manipulation ☑ 0/2
- Node.js pain points: scaling, performance, debugging

Focus

- Binary Search Trees ☑ 10/11
- Searching ☑ 2/3
- Sorting ☑ 1/3
- Graphs ☑ 8/9
- Dynamic Programming ☑ 2/4
- SQL ☑ 0/1
- Design, Architecture, Scalability & Memory Limits ☑ 4/7
- Big-O
- GoThrive selection algorithm
- + Add another card

Current

- JS Videos ☑ 1/6
- How common protocols work ☑ 0/5
- + Add another card

Covered

- ☑ 1/1
- Arrays & Strings ☑ 1/1
- Linked List ☑ 3/3
- Stacks & Queues ☑ 4/4
- Hash Tables ☑ 2/2
- Trie ☑ 2/2
- JS StyleGuide ☑ 1/1
- Object Oriented Design ☑ 2/2
- Recursion ☑ 3/3
- Heap

PRACTICE AND IMPLEMENTATION

- Practice implementing all of the data-structures mentioned earlier in this article until you don’t need to look anything up and you will have a very easy time with these questions during the real interview. Focus on understanding why it's implemented the way it is rather than trying to remember the exact code.

KNOWING WHEN YOU'RE READY

- Keep track of your completion times when you do practice questions and aim for at most 40 minutes to complete most medium level questions and 1 hour to complete hard level questions on sites like leetcode.com or hackerrank.com.

WATCH THIS VIDEO FOR MORE ABOUT AUTHOR

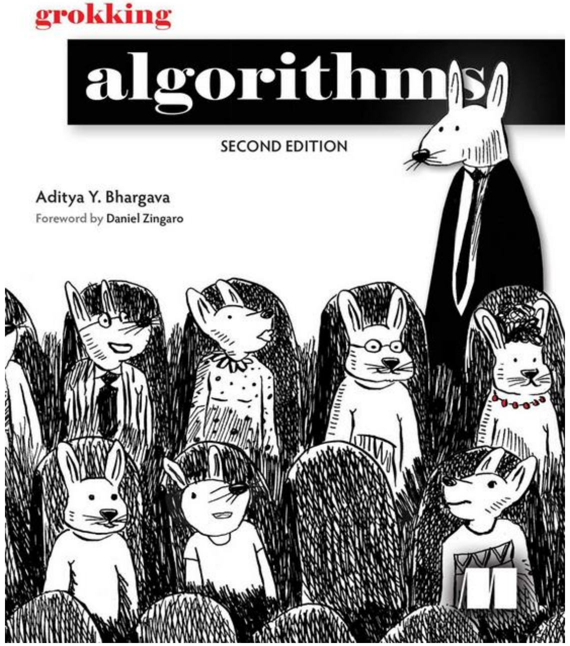
https://www.youtube.com/watch?v=_aJ_EV9i0eA

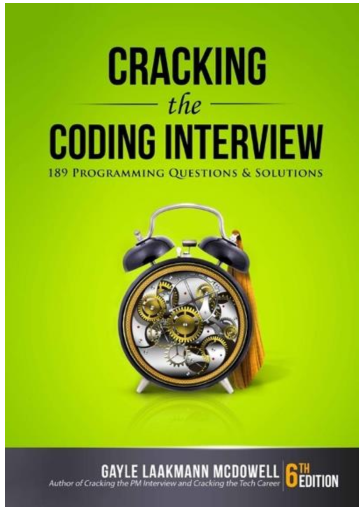
LISTENING/WATCHING ACTIVITY

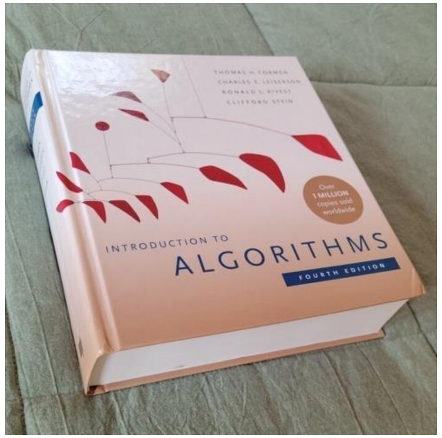
Top 6 Coding Interview Concepts

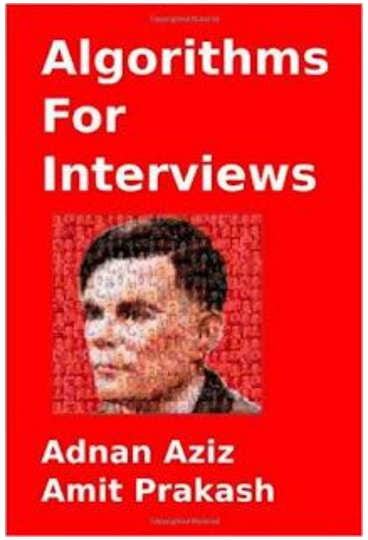
(Data Structures & Algorithms)

https://www.youtube.com/watch?v=ft0owvS5tQA



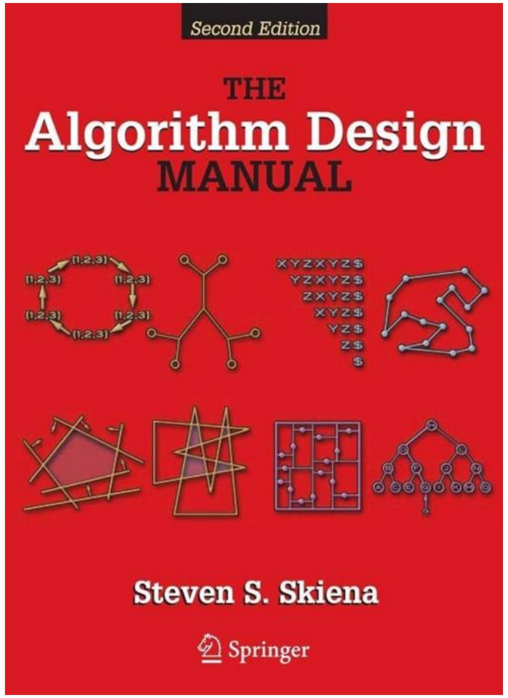

CRACKING
the
CODING INTERVIEW
189 PROGRAMMING QUESTIONS & SOLUTIONS
GAYLE LAAKMANN MCDOWELL
Author of Cracking the PM Interview and Cracking the Tech Career
6TH EDITION

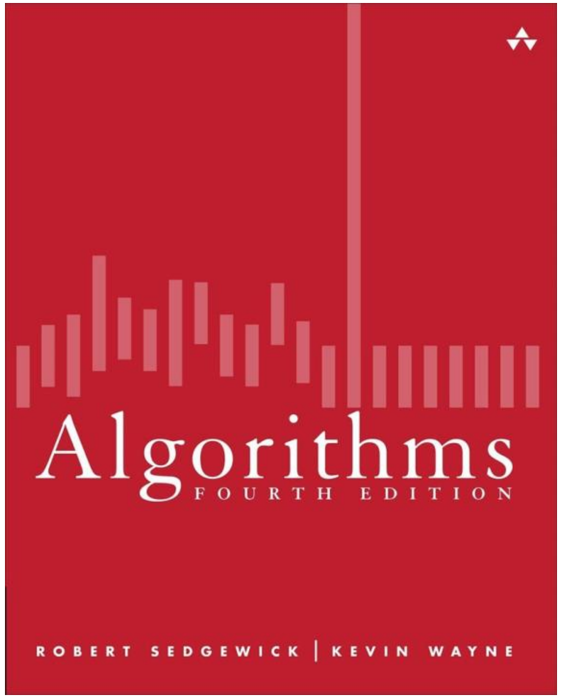




DSA RESOURCES

- https://www.techinterviewhandbook.org/algorithms/study-cheatsheet/
- https://dev.to/somadevtoo/10-must-read-data-structures-and-algorithms-books-for-developers-39f1





MORE DSA RESOURCES

WORDS OF THE WEEK

1. Recursion
2. Greedy Algorithms
3. Dynamic Programming
4. Bit Manipulation
5. Graph
6. Heap (Priority Queue)
7. Trie
8. Disjoint Set
9. Binary Search Tree
10. Breadth-First Search (BFS)
11. Depth-First Search (DFS)
12. Dijkstra's Algorithm
13. Bellman-Ford Algorithm
14. Merge Sort
15. Quick Sort
16. Sliding Window
17. Backtracking
18. Divide & Conquer
19. Big-O Notation
20. LRU Cache

PS: Keep a journal where you note these words with their meanings and usages in a sentence.

EOF*

*End of Fun/File