As we near the end of this course, I'd like to share a few resources that I've found extremely useful in my DSA learning journey.

Every student connects with me in the below ways:

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* Email ID: [priyabhatia@ineuron.ai](mailto:priyabhatia@ineuron.ai)
* GitHub: <https://github.com/priya6971/FAANG-DSA-Live-Batch>
* YouTube: <https://www.youtube.com/@PriyaBhatia>
* Topmate: <https://topmate.io/priya_bhatia>

**YouTube DSA Playlist:** <https://www.youtube.com/playlist?list=PLUl4u3cNGP61Oq3tWYp6V_F-5jb5L2iHb>

**DSA Standard Book:**

<https://github.com/priya6971/FAANG-DSA-Live-Batch/blob/main/Cormen%2C%20Thomas%20H._%20Leiserson%2C%20Charles%20E._%20Rivest%2C%20Ronald%20L._%20Ste%20-%20Introduction%20to%20Algorithms%20(2022)%20-%20libgen.li.pdf>

**DSA Standard Interview Questions:**

**(Try to practice the below questions)**

**Google**

1. **Say you have an n-by-n matrix of elements that are sorted in ascending order both in the column and rows of the matrix. Return the k-th smallest element of the matrix.**

**For example: [[1, 4, 7], [3, 5, 9], [6, 8, 11]]**

**If k = 4**

**Result = 5**

1. **Given a binary tree, write a function to determine the diameter of the tree, which is the longest path between any two nodes.**
2. **Given a number n, return the number of lists of consecutive positive integers that sum up to n. For example, for n = 9, return 3 since the consecutive integer lists are: [2, 3, 4], [4, 5], and [9].**

**Try to solve the above problem in linear time complexity**

**Amazon**

1. **Given a list of one or more distinct integers, write a function to generate all the permutations of those integers. For example, given the input [2, 3, 4] return the following permutations: [2, 3, 4], [2, 4, 3], [3, 2, 4], [3, 4, 2], [4, 2, 3], [4, 3, 2].**
2. **Given two arrays with integers, return the maximum length of common subarray within both arrays. For example, if two arrays are [1, 3, 5, 6, 7] and [2, 4, 3, 5, 6] then return 3 since the length of the maximum common subarray [3, 5, 6] is 3.**

**Qualcomm**

1. **Write a program to implement the in-order traversal of a binary search tree without using recursion.**
2. **Implement stack data structure using two queues.**
3. **Implement level order traversal of the given binary tree.**

**Microsoft**

1. **Given two arrays, write a function to get the intersection of the two. For example, if A = [1, 2, 3, 4, 5], and B = [0, 1, 3, 7] then you should return [1, 3].**
2. **Implement a Hashing-based data structure from scratch.**
3. **Given an integer array, return the maximum product of any three numbers in the array. For example, if A = [1, 3, 4, 5] you should return 60 while for B = [-2, -4, 5, 3] you should return 40.**

**Facebook**

1. **You have the entire social graph of Facebook users, with nodes representing users and edges representing friendships between users. Given a social graph and two users as input, write a function to return the smallest number of friendships between the two users. For example, take the graph that consists of 5 users A, B, C, D, E, and the friendships edges are: (A, B), (A, C), (B, D), (D, E). If the two input users are A and E, then the function should return 3 since A is a friend with B, B is a friend with D, and D is a friend with E.**
2. **Given a list of coordinates, write a function to find the k closest points to the origin. For example, if k = 3 and the points are: [[2, -1], [3, 2], [4, 1], [-1, -1], [-2, 2]] then return [[-1,-1], [2,-1], [-2, 2]].**