Top-20 Training Program
(DataStructure Design Problems)

Apply the solution building strategies discussed in class to solve following problems.

Problem 1: incr, decr, findmin, findmax API Datastructure
https://leetcode.com/problems/all-oone-data-structure/description/

Problem 2: insert, delete, getRandom API Datastructure
https://leetcode.com/problems/insert-delete-getrandom-o1/description/

Problem 3: Stack using Queues
https://leetcode.com/problems/implement-stack-using-queues/description/

Problem 4: LFU Cache
https://leetcode.com/problems/lfu-cache/description/

Problem 5: Bidirectional Symbol Table
Create a data structure that supports following operations in O(1) time:
    put(key, value)
    getByKey(key)
    getByValue(value)
This kind of datastructure is very useful in DNS lookup and DNS reverse lookup i.e., domain name to IP resolution and viceversa.

Problem 6: Inverted index of web
Given a list of web pages, create an inverted index for the words of those web pages i.e., associate with each word a list of web pages in which that word appears. Write a program that reads in a list of web pages, creates an inverted index, and support multi-word queries. That means, it must output the list of web pages that contain at least one occurrence of each of the query words.