Top Stack Problems

Valid Parentheses: Given a string containing just the characters '(', ')', '{', '}', '[' and ']', determine if the input string is valid.

Min Stack: Design a stack that supports push, pop, top, and retrieving the minimum element in constant time.

Evaluate Reverse Polish Notation: Evaluate the value of an arithmetic expression in Reverse Polish Notation (postfix notation).

Implement Queue using Stacks: Implement a queue using two stacks.

Longest Valid Parentheses: Given a string containing just the characters '(' and ')', find the length of the longest valid (well-formed) parentheses substring.

Largest Rectangle in Histogram: Given n non-negative integers representing the histogram's bar height where the width of each bar is 1, find the area of the largest rectangle in the histogram.

Implement Stack using Queues: Implement a stack using two queues.

Decode String: Given an encoded string, return its decoded string.

Next Greater Element: Given an array, find the next greater element for every element in the array.

Trapping Rain Water: Given n non-negative integers representing an elevation map where the width of each bar is 1, compute how much water it can trap after raining.