

Implement stack with single queue

<http://www.geeksforgeeks.org/implement-a-stack-using-single-queue/>

Reversing a stack using recursion

(insert the element at bottom)

<http://www.geeksforgeeks.org/reverse-a-stack-using-recursion/>

Sort a stack using recursion

(insert at appropriate position in bottom)

<http://www.geeksforgeeks.org/sort-a-stack-using-recursion/>

Stock span problem

<http://www.geeksforgeeks.org/the-stock-span-problem/>

Stack with middle element in $O(1)$

Middle element in $O(1)$ time - implement stack as a dll

Minimum element in $O(1)$ time - use a second stack to keep track of min

<http://www.geeksforgeeks.org/design-a-stack-with-find-middle-operation/>

Create mergeable stack

Implement stack as a linked list

1. Use two pointers for every list
2. Use a circular linked list with a pointer to the last node
So top of stack is next of the last node.

<http://quiz.geeksforgeeks.org/create-mergeable-stack/>

Implement k stacks in a single array

<http://www.geeksforgeeks.org/efficiently-implement-k-stacks-single-array/>

Longest valid substring

<http://www.geeksforgeeks.org/length-of-the-longest-valid-substring/>

Minimum number of bracket reversals to make the string balanced

After removing the balanced brackets

$\text{ceil}(\text{\#open brackets}/2) + \text{ceil}(\text{\#closed brackets}/2)$

<http://www.geeksforgeeks.org/minimum-number-of-bracket-reversals-needed-to-make-an-expression-balanced/>

QUALITY PROBLEMS

Largest area in a histogram

<https://leetcode.com/problems/largest-rectangle-in-histogram/>

getMin() and getMax() in $O(1)$

<http://www.geeksforgeeks.org/design-a-stack-that-supports-getmin-in-o1-time-and-o1-extra-space/>

(Really nice trick!)

<http://www.geeksforgeeks.org/check-if-a-given-array-can-represent-preorder-traversal-of-binary-search-tree/>

Max of min of every window

<http://www.geeksforgeeks.org/find-the-maximum-of-minimums-for-every-window-size-in-a-given-array/>

Remove duplicate letters

<https://leetcode.com/problems/remove-duplicate-letters/>