1. Modify the selection sort to be used for a linked list.
2. Bubble sort is based on swapping the consecutive arrays contents when they are not in order, is this sort method suitable for a linked list version than selection sort? Discuss
3. Create a member function for linked list class that takes a linked list object as a parameter and check if the two lists are identical or not.
4. Given the root node,Write a function that prints the linked list contents in reverse.
5. Given the root node only and with only one single pass over the linked list, write a function that returns the value of the nth element from the end.
6. Given the root node and with only one single pass over the linked list, write a function that returns the middle element of a linked list.
7. Implement a queue using two stacks, what is the complexity of enqueue and dequeue of that implementation, the problem on hackerrank - [link](https://www.hackerrank.com/challenges/queue-using-two-stacks/problem).
8. Create an algorithm based on the stack to remove repeated items from a given sorted array.
9. Write a linear-time algorithm for reversing a queue Q. To access the queue, you are only allowed to use the methods of queue ADT (enqueue, dequeue)
10. Given an array of non-negative integers. Find the largest multiple of 3 that can be formed from array elements, For example, if the input array is {8, 1, 9}, the output should be “9 8 1”, and if the input array is {8, 1, 7, 6, 0}, output should be “8 7 6 0”, numbers are limited to (0-9)
11. Write a function to convert an infix expression to a postfix expression.
12. Write a function that evaluates a postfix expression.
13. Show the contents of the operator stack when translating the following infix expressions into postfix:
    1. (4+3)\*5-2
    2. (x+t\*y)/2
14. Show the contents of the operand stack when evaluating the following postfix expressions:
    1. X y \* t +
    2. A B \* X Y - /

**Complete Questions**

1. You have an array with 1023 numbers. You use linear search to determine whether number 239 is in this array or not. How many elements of the array will you look at if number 239 is not present in the array?
2. Can you use binary search to find number 8 in the array [1, 24, 25, 23, 17, 8, 9]?
3. You have a sorted array with 1023 elements. You use binary search to determine whether number 239 is present in this array or not. How many elements of the array will you compare it with if number 239 is not present in this array?

**Optional Problems on Search and Sorting:**

1. Given an array of size n of unique integers (where 1<n<100000) you need to find any 3 numbers that sum up to exactly m.
2. HR - Ice Cream Parlor - [link](https://www.hackerrank.com/challenges/icecream-parlor/problem)
3. CF - 367B - Interesting Drink - [link](http://codeforces.com/problemset/problem/706/B)
4. CF - 271B - Worms - [link](http://codeforces.com/problemset/problem/474/B)
5. HR - Gridland Metro - [link](https://www.hackerrank.com/challenges/gridland-metro/problem)
6. CF - 279B - Books - [link](http://codeforces.com/problemset/problem/279/B)

**Optional Problems on Stacks and Queues:**

1. HR - Balanced Brackets - [link](https://www.hackerrank.com/challenges/balanced-brackets/problem)
2. CF - Beta Round 5 C - Longest Regular Bracket Sequence - [link](http://codeforces.com/contest/5/problem/C)
3. HR - Maximum Element - [link](https://www.hackerrank.com/challenges/maximum-element/problem)
4. CF - VK cup C - Cd and pwd commands - [link](http://codeforces.com/contest/158/problem/C)
5. HR - Equal Stacks - [link](https://www.hackerrank.com/challenges/equal-stacks/problem)
6. HR - Simple Text Editor - [link](https://www.hackerrank.com/challenges/simple-text-editor/problem)
7. HR - Game of two Stacks - [link](https://www.hackerrank.com/challenges/game-of-two-stacks/problem)
8. HR - The Largest Rectangle - [link](https://www.hackerrank.com/challenges/largest-rectangle/problem) (The Hardest - DIY)