Laboratory practice No. 3: LinkedList and ArrayList

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3) Practice for final project defense presentation

3.1

Exercise	ArrayList	LinkedList
1	O(n)	O(n^2)
2.1	O(n)	O(n)
2.2	O(n)	O(n)

- For the first exercise in more convenient using ArrayList, if LinkedList is used the complexity of the problem will increase n times.
- For exercises 2.1 and 2.2 either if ArrayList or LinkedList is used its complexity will be O(n), therefore both are equally effective.

3.2 Exercise 2.1

This exercise receive a String given by the user, and it will use a LinkedList as an auxiliar to save the new String after it is organized taking into account that the characters '[' than represents start and ']' that represents end. All the characters between this characters, will be then be the output of this problem. In simple words this algorithms focuses of the square brackets, and for all the square bracket that is opened, it waits until a closed one appears and re organizes the String.

3.3 The complexity in the exercise 2.1 is O(n+m)

3.4 The variable n is the loop that goes through all the LinkedList positions and the variable m is the instruction that is inside every loop, such as: add, remove or get.

4) Practice for midterms

4.1 a

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4.2 ***c***
4.3 ***g.size()!=1,<=,g.pop(),g.getLast()***
4.4 ***lista.size(),lista.push(auxiliar.removeLast())***
4.5 ***auxiliar1.size()>0,auxiliar2.size()>0***
4.6 ***c***
4.7 ***a***
4.8 \\
4.9 *a, c, c*
4.10 *d,9,a*
4.11 *a,*
4.12 *s1.size()!=1,s1.pop(),s1.pop()*

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