ESTRUCTURA DE DATOS 1
Código ST0245

Laboratory practice No. 1:

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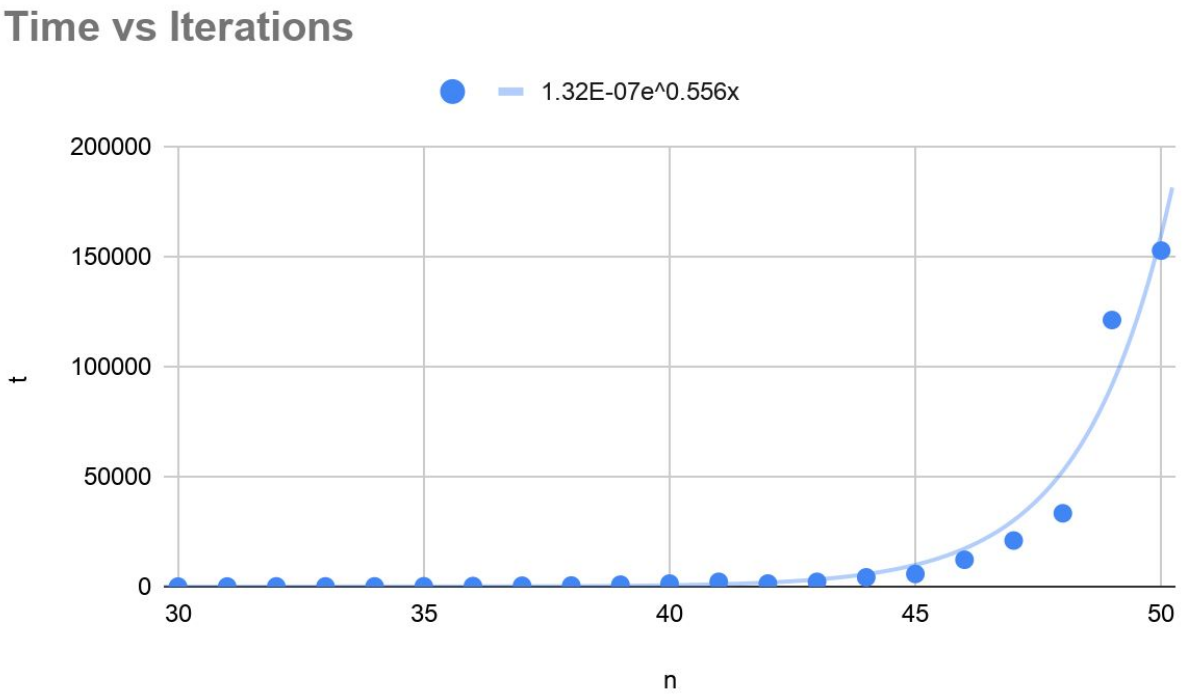
3) Practice for final project defense presentation

3.1 T(n)=T(n−1)+T(n−2)+c

3.2https://docs.google.com/spreadsheets/d/1aPxD7o6ssyrZsRg0RtOCF8Y7EEt1xq02o3PU5fG48Bo/edit#gid=0



3.3 The complexity of this algorithm may allow for it to be used in Puerto Antioquia case. Something to save a lot of space and memory could be changing from centimeters to meters, this way the code instead of doing *x,000* of iterations, it only has to do *x* iterations.

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But even though we believe the complexity allows for this code to be used, we believe that the way the algorithm is configured gives us a big restriction. In this algorithm we are only considering boxes that are sized 1x2, this is something that can't be generalized for the case of Puerto Antioquia. The size of the boxes that are going in each container is a value we don't know and that may change for each case.

3.4

The GroupSum5 exercise consists of finding a group of numbers in an array that when added equal a certain target following some conditions. Every time the method is executed it will check if the number on that position of the array is a multiple of 5, if it is then it checks if the next one is a 1. If the next number is 1, it runs the method again without taking in account the previous number; if it is not a 1, then add the multiple of 5 and check the next position through recursion.

3.5 2.1

1. **T(n)= (n-1) + c**
2. **T(n) = (n-1) + c**
3. **(n-1) + (n-2) + c**
4. **(n-1) + c**
5. **(n-1) + c**

3.6

n makes reference to the amount of recursive calls that method has to make each time it is run, until it meets the stopping position and finally returns that requested value.

4) Practice for midterms

4.1 Line 3: return true;
Line 4: if(s.charAt(0) == s.charAt(s.length-1){

4.2 b

4.3 *length-1*

4.4 *opc*

4.5

4.5.1 Line 3:if(T==0){return 1;}
Line 4:else if(T<= 0={ return 0;}
Line 8 : return f1 + f2 + f3;

4.6

4.6.1 Line 10: return sumaAux(n.substring(2),i);
4.6.2 Line 12: return sumaAux(n.substring(1),i);

4.7 *opc*

4.8

4.8.1 return 0
4.8.2 return ni + nj;

4.9 *c (22)*

4.10 *b (6)*

4.11

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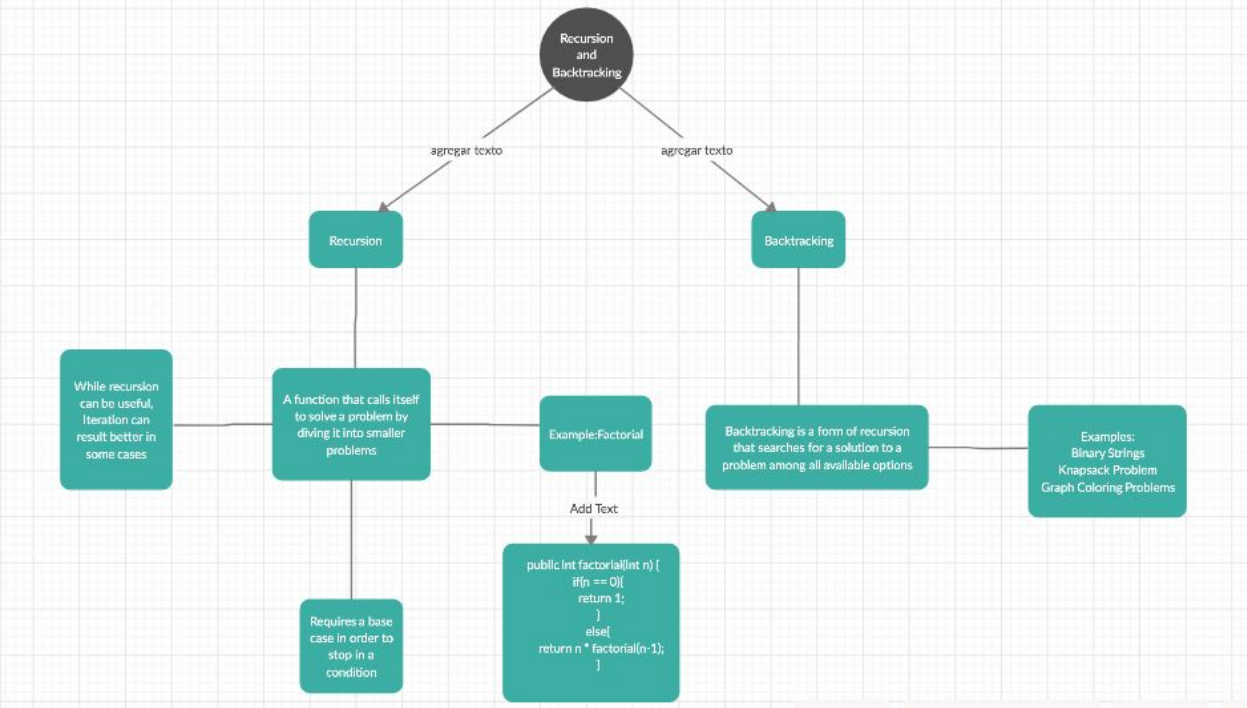
4.11.1 return lucas(n-1) + lucas (n-2)
4.11.2 c

4.12

4.12.1 return sat;
4.12.2 Math.max(fi,fj)
4.12.3 return sat;

5) Recommended reading (optional)



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