ESTRUCTURA DE DATOS 1
Código ST0245

Laboratory practice No. 5:

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3) Practice for final project defense presentation

3.1 Optional

3.2 The amount of memory used with adjacency lists is calculated using the formula O(max(V, E)) which was accessed from a StackOverflow forum regarding this information. In this case, V equals the amount of vectors used in the adjacency list being close to 300,000 in this particular problem. The E represents the edges joining vectors together which consumes the same amount of memory as an individual V. **So memory usage in this case is given by the amount of Edges in the problem**, since V only surpasses E when we have disjoint trees or a forest. **O(E)**
Source: How is the memory required for adjacency list representation is O(V+E)?

3.3 To solve this problem when the identifiers of the map don't start at 0 we have to use the same algorithm with some changes. We would have to change our method to first find the star of each identifier and then do the same process it is supposed to do.

3.4 Optional

3.5 The complexity of the problem 2.1 is O(V^2) since we are using BFD to solve the problem where V is the amount of vertices in the problem.
3.6 V is the amount of vertices in the problem that we have in the graph so the complexity depends completely on the amount of vertices.

4) Practice for midterms

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4.1 OPTIONAL

4.2

1-[0,2,5]
2-[1,4,6]
3-[7]
4-[2]
5-[]
6-[2]
7-[]

4.3 *b*

4.4

4.4.1 ***ii***

4.4.2 ***i***

5) Recommended reading

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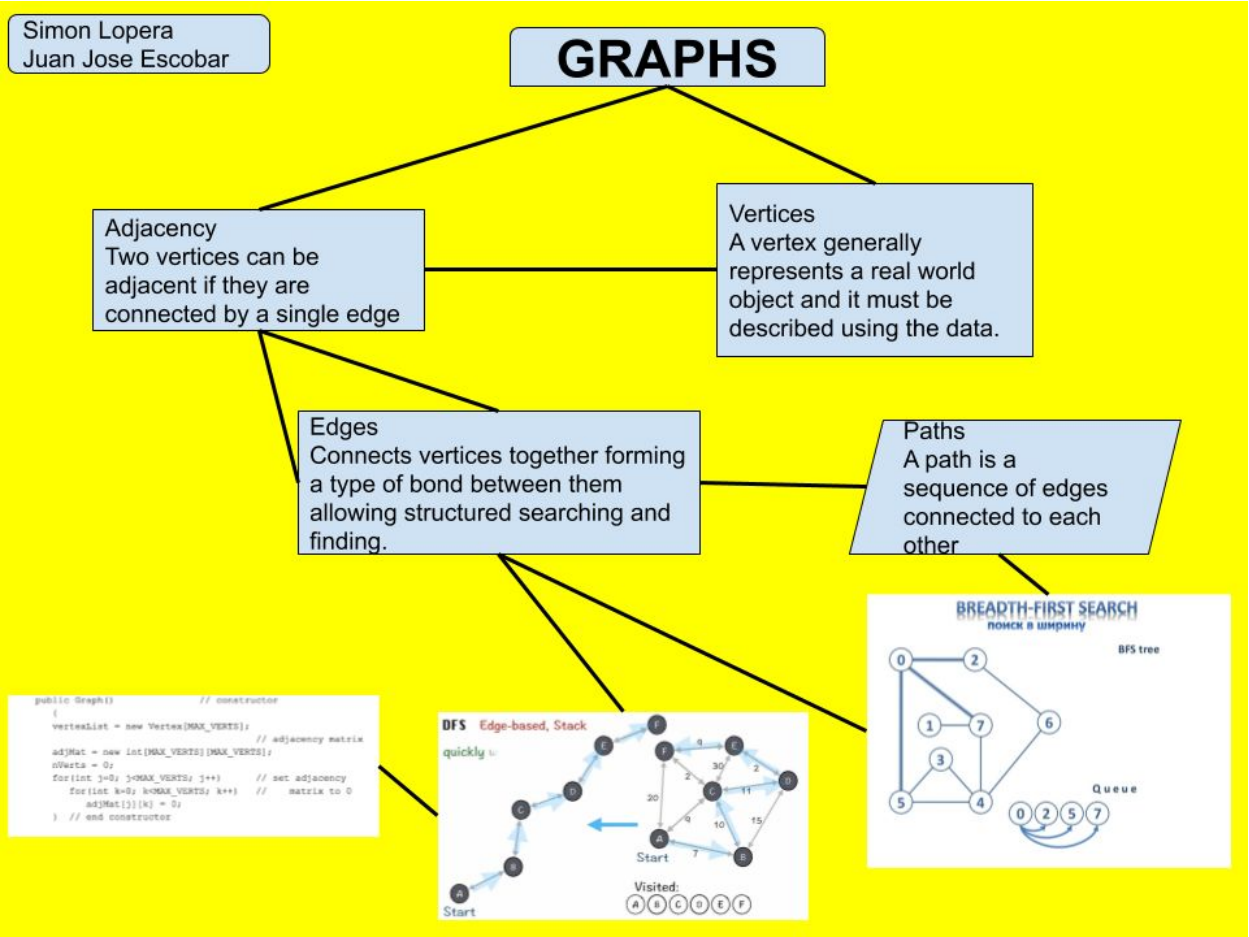

6)Teamwork y Progress

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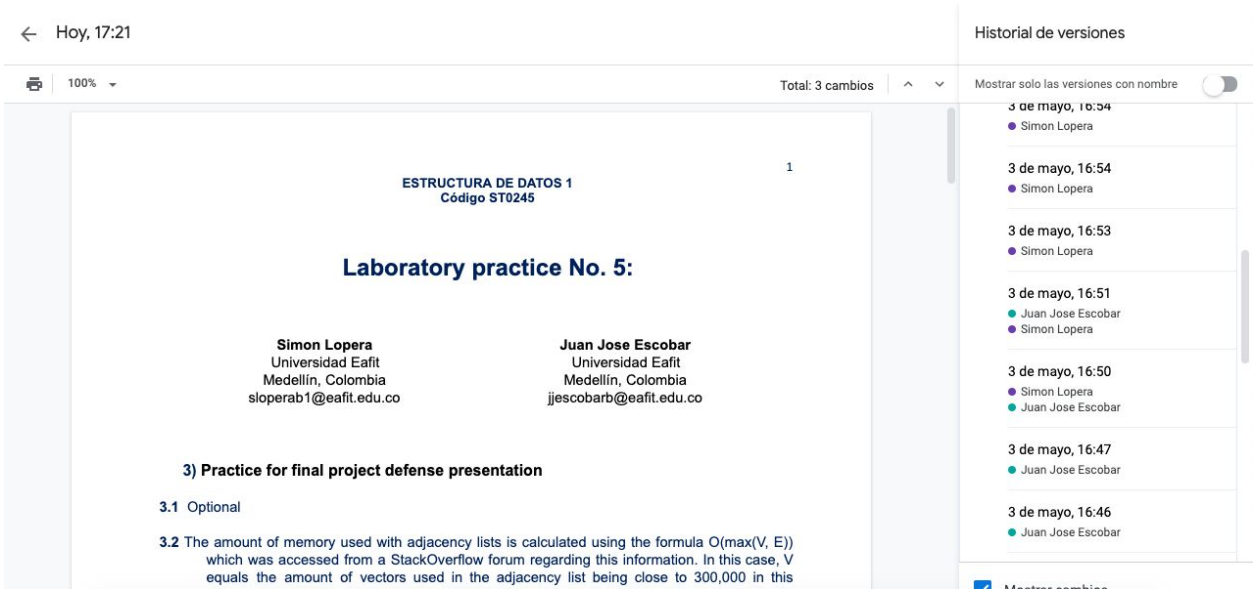
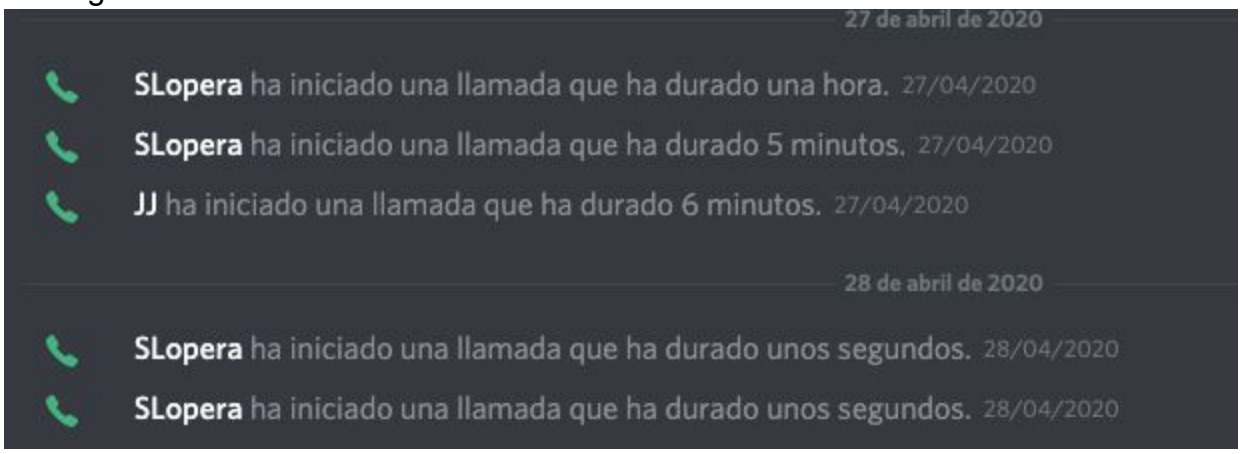


We worked simultaneously in the coding of Part 1 and 2 through a Discord call while sharing screen.



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