

Laboratory practice No. 4: Greedy algorithms

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3) Practice for final project defense presentation

3.1 The structure used Stacks, and it works as follows: The algorithm starts in the first city and selects in each iteration a new city, without consulting, that the sea is closest to the previous one. Each iteration is stored in a stack, as the representation of having already visited that "city".

3.2 It does not always deliver the most optimal solution, that the graph is directed, does not have negative weights and is strongly connected because of having negative weights because the "distance" would be negative, it is illogical and in addition it would always go down that path and could end the travel with 0 or even negative, connected to travel through all the nodes.

3.3 The structure that was used was arrays, receives two arrays, one represents the day, another to those in the afternoon, another arrays is created that will represent the total hours per worker called amount hours, a cycle is made with a conditional of what if $\text{quantityHours} + \text{night hours} \leq \text{maximum hours}$, it will be given 10 hours at night, otherwise the night value will be added. It should be noted that the values of the hourly arrays will be those of the morning hours.

3.4 $O(n^2)$

3.5 n is the number of drivers

4) Practice for midterms

1.1 $i=j$

2.1 $\min > \text{adjacencyMatrix}[\text{element}][i]$

3.1

PASO	a	B	C	D	E	F	G	H
1	A	20,A	∞	80, A	∞	∞	90,A	∞
2	B	20,A	∞	80,A	∞	30,B	90,A	∞
3	C	20,A	40, F	50, C	∞	30,B	90,A	60, C
4	D	20,A	40, F	50, C	∞	30,B	70, D	60, C
5	E	20,A	40, F	50, C	∞	30,B	70, D	60, C
6	F	20,A	40, F	70, D	∞	30,B	90,A	∞
7	G	20,A	40, F	50, C	∞	30,B	70, D	60, C
8	H	20,A	40, F	50, C	∞	30,B	70, D	60, C

3.2 A-B-F-C-D-G

4.1 temp/2

4.2 temp + minimo

4.3 O(1)

5) Recommended reading (optional)

Additional PDF. (GitHub)

6) Team work and gradual progress (optional)

Juan Pablo Giraldo do 2.1

Juan Felipe Londoño do template, reading and 1.1



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