ESTRUCTURA DE DATOS 2
Código ST0247

Laboratory practice No. 4
Ravenous algorithms

Juan Camilo Jiménez Rojas
Universidad Eafit
Medellín, Colombia
jcjimeneszr@eafit.edu.co

Santiago Espinoza
Universidad Eafit
Medellín, Colombia
sespinosav@eafit.edu.co

3) Practice for final project defense presentation

3.1 To solve the problem 1.1 we use an adjacency-matrix graph.
The argorithm takes the structure and the initial vertex and
for this one, it asks for its adjacenct vertices.
After, it's found the nearest vertex without considering
previous vertices. The vertex found
is stored in the list to be returned, and now,it is the new initial. This process is executed
cyclically until every vertex's been visited.

3.2 The solution delivered by the algorithm is not
always better. Moreover, for a right execution of the algorithm, the graph
taken as parametre must be COMPLETE. That is
because this is the only way to garantize that
there is a return to the initial vertex.

3.3 In this case it would be better to just get the places were the deliver will be made, but also we need to calculate first the best route to that first deliver. Then, we can get the arco of those delivers by taking its geographic coordinates and calculating the distance with a mathematical formula for vectors in 2 dimensions.

3.4 After trying to do an ravenous algorithm we found out that it was enough with sorting the routes that were given in two groups: morning and afternoon ascendently. We decided to do an standard sort. With those rouotes we assigned the first route of the group to the morning and the first route of the group of the afternoon, to the first dricer. and so on for every driver. Finally we calculated the cost of the extra hours done by every driver and we add those to get a total or hours.

3.5 The complexity of the algorithm is: O(m n log n)
Because we have to do a sort and add all the routes.
3.6 m represent the number of drivers and n the number of available paths.

PhD. Mauricio Toro Bermúdez
Professor | School of Engineering | Informatics and Systems
Email: mtorobe@eafit.edu.co | Office: Building 19 – 627
Phone: (+57) (4) 261 95 00 Ext. 9473

4) Practice for midterms

4.1 ++*i*

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Professor | School of Engineering | Informatics and Systems
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Phone: (+57) (4) 261 95 00 Ext. 9473

4.2 *adjacencyMatrix[element][i+i]>adjacencyMatrix[element][i]*
4.4.1 temp/2
4.4.2 temp+minimo
4.4.3 b) O(1)

4.6.1 i+1
4.6.2 res+1
4.6.3 i
4.6.4 The answer is 2 for {1,0,0,4,0,0,0,0,0,0,11} and k=3

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