07.04.2021

HACETTEPE UNIVERSITY

FACULTY OF ENGINEERING

DEPARTMENT OF GEOMATICS ENGINEERING

GMT352 GEOGRAPHICAL INFORMATION SYSTEMS

MIDTERM PROJECT REPORT

STUDENT;

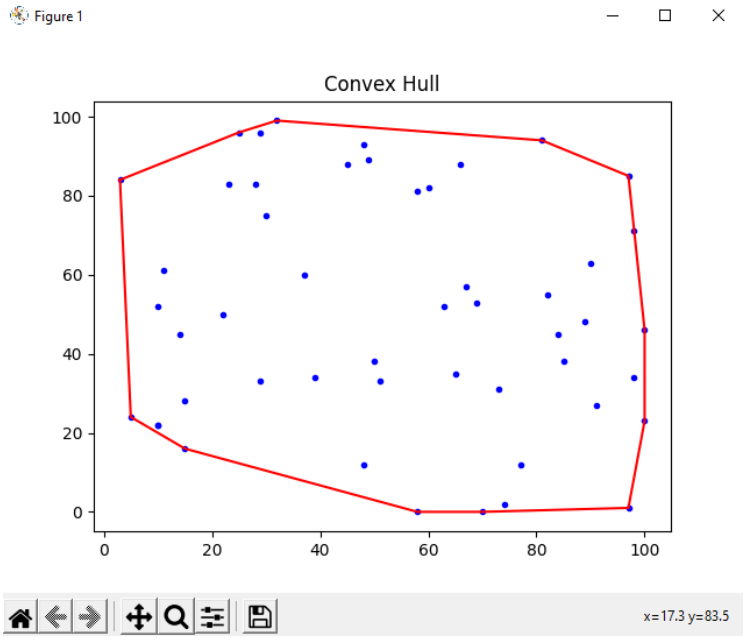
NAME : İREM

SURNAME : BAKIR

NUMBER : 21732881

QUESTION 1)

I created an algorithm by examining the jarvis-march algorithm and watching the reference video. I explained the steps I have made with the comment lines in the code I will send in the attachment.



As a result of the code I wrote, it turned out that I had received.

QUESTION 2)

I think the biggest factor in using convex-hull is that it allows collecting multiple data with the same properties in the point data we have and examining them with a common polygon. For example, in photogrammetry, we can define the roof of a house with a polygon or convex shape so that we can see the common colors from examining the satellite photo. This allows us to examine and classify objects that are similar to us or have the same properties in a shorter time. The data in vector format represents the real situation by joining points and lines. Polygons can also be created by combining these. Thus, complex shapes or features can be defined more easily in vector format since the necessary details can be created.

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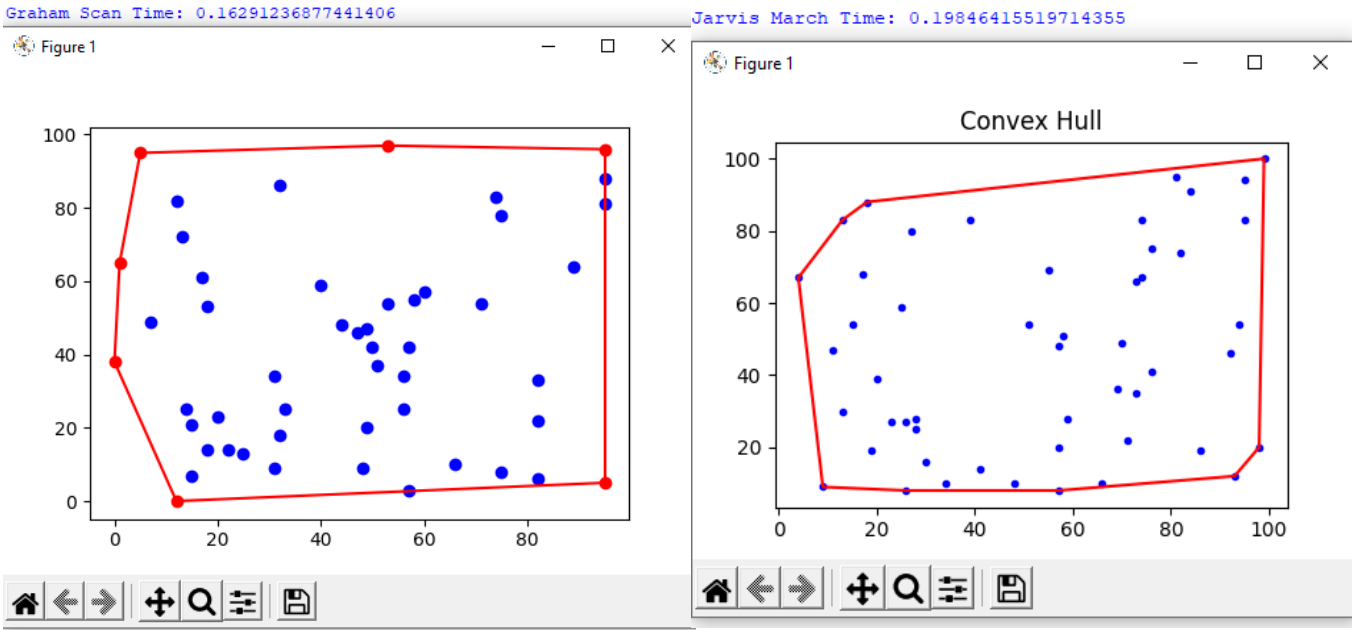
BONUS 1)

I have reviewed two articles on convex hull and these articles have gained some information about minimum convex hull. The purpose of my first article was to design a suitable CRP method to create 3D point clouds of individual trees and to study trees by processing this point cloud data.

The purpose of the second article is to examine the GPS densities of people and to follow the spread of epidemics in this way. The Minimum convex hull they used here is described as "the smallest polygon containing all daily GPS orbit points".

As a result, the convex hull algorithm is a part of the geomatic engineering majors and has often made our work easier.

BONUS 2)



References :

https://www.scopus.com/record/display.uri?eid=2-s2.0-85056382413&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=df9475c89bf2932205cec3cbb27a4bf8&sot=b&sdt=sisr&sl=26&s=TITLE-ABS-KEY%28convex+hull%29&ref=%28%28gis%29%29+AND+%28geodesy%29&relpos=0&citeCnt=17&searchTerm=

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