

Programming Assignment (optional)

due: June 2nd, 2019, 23:59

The assignment is Optimal Area Polygonalization as described in the Geometric Optimization Challenge (GOC, for short) 2019: <https://cgshop.ibr.cs.tu-bs.de/>. Given a finite set P of points in the plane, (1) find a simple polygon of *maximum* area, whose vertices are all the points in P , and (2) find a simple polygon of *minimum* area, whose vertices are all the points in P .

You will find ample input examples on the challenge's website. We will use the same input and output type (even integer coordinates) and format as in the GOC.

Your submission should include (i) a description of your algorithm(s) and their implementation, (ii) a discussion of the performance of your solution on a few (three is a good number) types of inputs, (iii) an executable of your program, and (iv) documented source code. You may write the program in C/C++, Java or Python.

You may submit this assignment in pairs—you are encouraged to do that. Feel free to discuss the project with your fellow students, but you are not allowed to share code across projects.

Additional information about the project, as needed, will be posted on the course's web site. Stay tuned.