

COT 4521: Intro. to Computational Geometry (Fall 2020)

Project 2: Polygon Diagonals

Ground Rules

This assignment is intended to be done alone. You may ask others for help with figuring out strategies. However, the code must be yours (MOSS will be used).

Submission

Compress your sketch into a single zip file and upload to canvas.

Assignment Instructions

In this assignment you will implement some of the basic polygon functionality.

- Download the provided skeleton code and complete the unfinished functions in `Polygon.pde`.
 - `boolean Polygon::isSimple()` — This function checks to see that the boundary of the polygon is simple.
 - `boolean Polygon::pointInPolygon(Point p)` — Returns true if the point `p` is inside of the polygon.
 - `ArrayList<Edge> Polygon::getDiagonals()` — Returns all of the valid diagonals for the polygon.
 - `boolean Polygon::ccw()` — Returns true if the polygon is oriented counterclockwise.
 - `boolean Polygon::cw()` — Returns true if the polygon is oriented clockwise.
 - `float Polygon::area()` — Returns the area, in pixel, of the polygon.
- To test your code the Processing skeleton provided gives visual feedback for creating polygons and testing your capabilities.