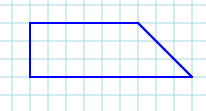
**CSI 403 – Spring 2018 - Project #4 – Points in Polygon**

Goal:

* Given an ordered list of points which represent a polygon, return the number of points with integer (x, y) coordinates enclosed by the polygon.

Problem:

* Provide a RESTful service which accepts as a POST of JSON an ordered list of points represented as (x, y) coordinates. The points define the perimeter of a polygon.
* Return the number of points with integer (x, y) coordinates which are fully enclosed by the polygon. Points on the polygon itself are not included in the count – the points to be included in the count must be wholly within the area bounded by the polygon.
* For example, assuming all points in the grid below are integers, the result would be “13”, as points on the polygon itself are not included.



* The grid is at maximum 19x19. You can assume all points on the polygon are positive integers between 0 and 18 inclusive.
* Example input:

{ “inList” : [ { “x” : 2, “y” : 1 } ,

{ “x” : 2, “y” : 4 } ,

{ “x” : 8, “y” : 4 },

{ “x” : 11, ”y” : 1 }

] }

Example output:

{ “count” : 13 }

* Erroneous input (e.g. malformed JSON) should be handled gracefully.

Deliverables:

Submit to the Blackboard by the due date:

* An HTTP URL to a RESTful service which must remain up and running 24/7 until grading is complete. Graders will invoke your service with a tool such as curl or Postman at a time of their choosing.
* A ZIP file containing your source code, written in any language you choose.