Homework Project 3

Given 03/25/2015, Due 05/06/2015

Create a point location structure for triangulations of point sets with integer coordinates. The given triangulation has a triangular outer face, which is the first triangle in the triangle list.

The structure must support the following operations

- `ploc_t * create_ploc(int * points, int *triangles, int n, int m)` creates the point location structure. Here `n` is the number of points, `m` the number of triangles, `points` is a pointer to the $n \times 2$ array of point coordinates, and `triangles` is a pointer to the $m \times 3$ array of point numbers that make the triangles. So each triangle is given by three elements of the `points` array.

- `int query_ploc(ploc_t *pl, int x, int y)` returns the number of the triangle which contains the point (x,y), or -1 if the point is not contained in any triangle.