Exercise 4

Triangulate a set of points

For triangulating a set of points I first built a DCEL data structure made of Vertices, Edges and Faces. A Vertex stores its position and an edge that starts from it. An Edge stores the Vertex from which it starts, the Face that it has to the right, its next Edge and its twin Edge (the same edge but starting from the other Vertex). Finally, A Face stores one of the Edges that have it to the right. All instances are stored in vectors of pointers and each structure has pointers to the data referenced. In the end all instances are deleted.

The algorithm implemented is the incremental algorithm with auxiliary point explained in class.