MAC0331 - Lista 6

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May 21, 2020

Q 4:
The Voronoy diagram of a regular polygon with n vertices consists of a vertex v in the circumcenter of the polygon and n rays that start in v, cross the midpoint of each edge, on towards infinity. The Delaunay graph is equal to the original regular polygon. **Q 6:**
If P consists of $n-1$ co-linear points, with adequate distance, and a point v non co-linear, then the Delaunay diagram of P is such that $d(v) = n-1$.
Proof by induction:
· Any two points in a line will be such that $d(v) = 2$. This is simple if you consider that v and p_i will split a semi-plane in the Voronoi diagram.
· Consider a collection C of k co-linear points such that the Voronoy diagram of $C + \{v\}$ is such that $d(v) = k$. · Take u the most distant point to v and z any other point. We can add w, more distant to v than u in the direction $\overrightarrow{zu}$