MAI520 Computational geometry 2003
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Homework assignment — 1

1. What is the sum of the exterior angles of a (simple) polygon of n vertices?
2. Prove that $\lfloor \frac{n}{4} \rfloor$ guards are sometimes necessary to cover an orthogonal polygon (all edges are horizontal or vertical) of n vertices. Try to prove that this number of guards are always sufficient.
3. Show that there exists a monotone polygon with a triangulation that has a dual graph which is not a chain, i.e. there are nodes of degree 3.
4. Give an algorithm that computes a diagonal that splits a (simple) polygon with n vertices into two (simple) polygons with at most $\lfloor \frac{3n}{4} \rfloor$ vertices.

Hand in your solutions at the latest on the 22/9.