MAI520 Computational geometry 2003
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Homework assignment — 2

1. Construct an algorithm to find the convex hull of a monotone polygon in linear time.
2. (Gauss-Bonnet theorem) Compute the total sum of the face angles at all the vertices of a few polyhedra of genus 0, and formulate a conjecture. Prove it.
3. Given two points P, Q in the plane. We say that P dominates Q if the $x-$ and $y-$coordinates of P are both greater than the $x-$ and $y-$coordinates of Q. Given a set S of n points in the plane, describe an $O(n \log n)$ time algorithm for finding every point in S that is not dominated by any other point in S.
4. Problem 2 on page 98-99 in the O'Rourke book.

Hand in your solutions at the latest on the 6/10.