

Discrete and Algorithmic Geometry

Julian Pfeifle, UPC, 2013

Sheet 1

due on Monday, November 11, 2013

READING

- (1) Read Lectures 0,1,2 from Ziegler's *Lectures on Polytopes*.
- (2) Read Sections 5.1, 5.2, 5.3 from Matoušek's *Lectures on Discrete Geometry*.

WRITING

- (1) Let P be a 3-dimensional polytope with n vertices. Prove or disprove: If the graph of P is complete (i.e., between every pair of points there is an edge on the convex hull), then $n = 4$, so that P is a tetrahedron.

SOFTWARE

- (1) Create a `github` account, clone the repository
`git@github.com:julian-upc/discrete-geometry-lecture-notes.git` ,
and write around two paragraphs presenting yourself into the file `2013/scribes.tex` .
- (2) Install `polymake 2.12` from `polymake.org`.