Fall 2021, Math 596: Week 8 Preliminary Problems
Due: Thursday, October 14th, 2021
Face Lattice Combinatorics

Preliminary problems. These problems should be completed before discussion on Thursday.

(P1) Draw the polytope

$$P = \operatorname{conv}\{(0,0,0), (1,0,0), (0,1,0), (1,1,0), (0,0,1)\} \subset \mathbb{R}^3.$$

(P2) Draw the face lattice of P, representing each face as a list of the vertices it contains (to save ink, name the vertices $v_1, \ldots, v_5$ in the order above).