CS480-580 - Homework 2

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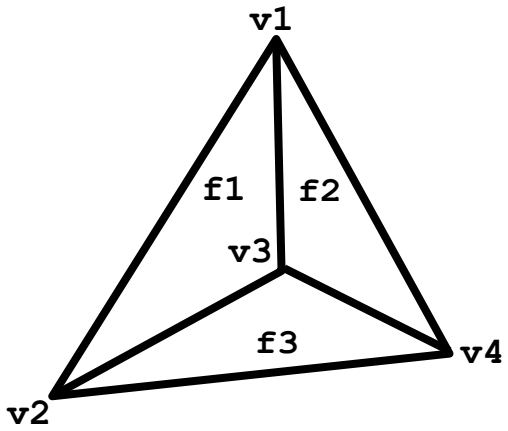
This Homework, **to be done individually**, carries 5% percent of the total grade. Please show all the work to get full credit.

Question 1: (20 points) For the following planar graph G=(V,E), give the doubly-connected-edge-list (DCEL) data structure. Describe a method to find all the edges for the polygon facet f2 when one of the edge of this polygon facet f2 is given.



Question 2: (20 Points) Given point P1(0,0,3), P2(0,3,0) and P1(3,3,3), calculate the equation of a plane which passes through these points. (See lecture notes).

Question 3: (30 points) Question 6-9.

Question 4: (10 points) Question 11-8 (Note a minor correction $n(t) = t^2$ - 1, t + 1).

Question 5: (10 points) Use the B-Spline formulation for curve segments given in Section 11.2.3 to show that curve segments Q_i and Q_{i+1} are C^0, C^1, and C^2 continuous at the point where they join.