Take Home Test CSE 356, F05
Due 9/15/05, 9am

Responses should be emailed, attached as .pdf files.

1. (5 pts) Consider the 2D taxi-cab d_T and Euclidean metrics d_E. Consider also the following code fragment on two points p_1 and p_2:

if $(dist(p_1, p_2) < 1)$ then, true,
else, false.

Suppose that p_1 is the origin.

Describe, with a specific example for values of p_2 the difficulties that would be caused in executing consistency of two implementations of this code, if one implementation used d_T for $dist$, but another used d_E.

2. (5 pts) In the Bresenham line drawing algorithm, what is the critical property of the line that is used when incrementing along the x-axis to determine the new value for y? How is this generalized into an algorithm for circles? Namely, what is the generalization of the critical line property that is used for circles?

3. Create new design plan, as described in outline on home page (10 pts)