**Week 13**

**8.0** What are the conditions for checking whether a line-segment is completely inside or completely outside the clipping window using Cohen-Sutherland clipping algorithm. **The condition for the line-segment is completely inside is that both endpoints of line segment should be inside all four lines. However, if both endpoints of a line lie entirely to one side of the window, the line must lie entirely outside of the window.**

**8.18** Consider the edge of a polygon between vertices at (x1, y1) and (x2, y2). Derive

an efficient algorithm for computing the intersection of all scan lines with this edge.

Assume that you are working in window coordinates. **DDA Algorithm can solve this problem. It interpolates values in interval by computing for each xi the equations xi = xi−1+1/m, yi = yi−1 + m, where Δx = xend − xstart and Δy = yend − ystart and m =  Δy/Δx**

**8.19** Vertical and horizontal edges are potentially problematic for polygon-fill algorithms. How would you handle these cases for the algorithms that we have presented? **One solution is move half way pixel down or half way pixel up.**