CSE-301 Computer Graphics

Final Exam

Question #1 (15 Marks)

1. What is ‘Eight Way Symmetry’ of a circle?
2. Write the 8 coordinates for representing 8-way symmetry in terms of (x, y).
3. How does it help minimize the calculations?

Question #2 (10 Marks)

1. What happens if Refresh Rate of a display is too slow? Explain.
2. What happens if Refresh Rate of a display is too fast? Explain.

Question #3 (10 Marks)

For plotting a line between two points, we can use algorithms such as

* Incremental Line Algorithm
* DDA Algorithm
* Midpoint Algorithm
* Bresenham’s Algorithm
1. Explain the method used in and TWO of the above algorithms in your own words.
2. Explain the drawbacks of these algorithms.

Question #4 (15 Marks)

When plotting a circle, the convention is to draw the arc of first quadrant and then impose the same values in all the other 7 quadrants. To plot the arc in first quadrant, we just need the radius of the circle.

1. Draw the first arc of the circle centered at (0, 0) and radius r = 13. (10 Marks)
2. Convert the (x, y) values determined in part ‘a’ to the second quadrant. (5 Marks)

1st Quadrant

2nd Quadrant