

MAL 754: Principles of Computer Graphics

Minor Test 1

Date: 6th February 2014

Time: 13:00 to 14:00 Hrs.

Marks: $(6+4+(1+1+2+2+2))=20$

1. Draw an ellipse with major axis 8 and minor axis 6 centered at $(0, 0)$ till for first quadrant using midpoint ellipse algorithm.
2. A line A $(10, 5)$, B $(50, 20)$ is rotated about its midpoint by an angle 90° . Find the coordinates of transformed point.
3. Complete the following as desired:
 - a. For loading the frame buffer with size defined from $(0,0)$ to (x_{max}, y_{max})
 $addr(x+1, y+1)=addr(x, y)+\dots\dots\dots$
 - b. If M1 and M2 are distinct fundamental transformations, when is $M1.M2 = M2.M1$ or M1 and M2 are commutative?
 - c. If perpendicular distance d from a line joining (x_1, y_1) to (x_2, y_2) to a pixel with coordinates (x_0, y_0) is given by $d=Ax +By +C$, Write values of A, B, C.
 - d. The cross product of two vectors is _____ to both vectors and also magnitude is equal to the area _____. (Complete the sentence).
 - e. Define and give an example of each: emissive and non-emissive displays.
 - f. Discuss the way how efficiency can be achieved when the object will appear to be rotating dynamically
or
any method of reducing the aliasing effect.