

Date:- 16 feb 2005

Question bank

Subject:- Computer Graphics

Unit:-1,2, and 3.

Unit 1

1. What are the characteristics of Video Display Devices?
2. Compare and contrast the operating characteristics of Raster Refresh Systems, Plasma Panels and LCDs.
3. Compare Refresh type and Storage type CRT display.
4. Explain different types of kernel systems
5. Application of CG in Education and Training
6. Write detailed note on frame buffer organization.
7. Write short note on different input devices.

Unit 2

1. What are the advantages of Bresenham's algorithm over DDA algorithm.
2. Modify the BRESENHAM algorithm so that it will produce a dashed-line pattern. Dash length should be independent of slope.
3. Write a procedure to scan the interior of a specified ellipse into a solid color.
4. Modify the 4-connected boundary fill algorithm to avoid excess stacking.
5. Write the Scan line filling algorithm
6. Write a program to draw the following figure:-

fig 1:- All sides are equal, points A and B are the inputs.

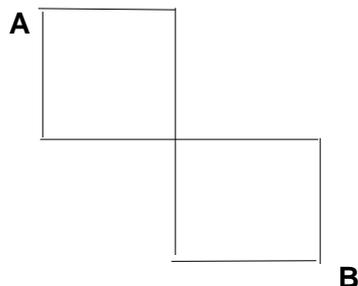


fig:-2 Circles with radius “r”

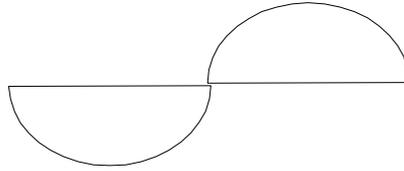


fig:-3 Circles with radius “r”

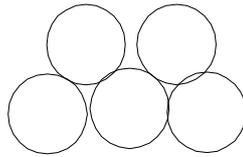
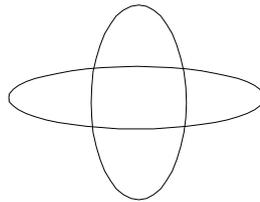


fig:-4 ellipse semimajor axis = rx and semiminor axis = ry



Unit 3

1. What is the significance of homogeneous co-ordinates? Give the homogeneous co-ordinates for the basic transformations.
2. Why are matrices used for implementing transformations.
3. Show that two successive reflections about any line passing through the coordinate origin is equivalent to single rotation about the origin.
4. Determine the sequence of basic transformations that are equivalent to the x-direction and y-direction shearing matrix.
5. Show that transformation matrix for a reflection about the line $y=x$, is equivalent to a reflection relative to the x axis followed by a counterclockwise rotation of 90 degrees.
6. Find a transformation of triangle (*coordinates will be given*) by Rotating 45degree about the origin and then translating one unit in X and Y direction

7. Examples on Rotation with respect to arbitrary point.

8. Derived transformation matrix for the following figure.

