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 Bresenhams 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.

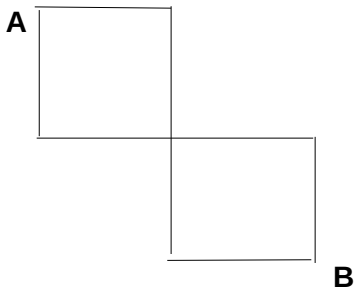


fig:-2 Circles with radius "r"

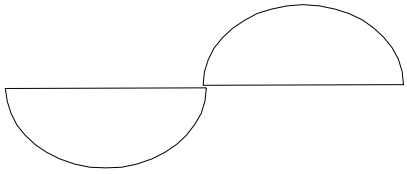


fig:-3 Circles with radius "r"

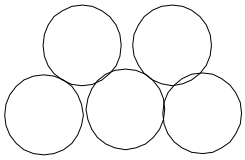
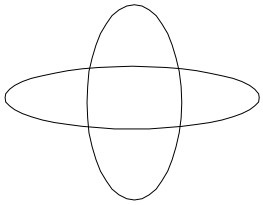


fig:-4 ellipse semimajor axis = rx and semminoraxis = ry



Unit 3

1. **What is the significance of homogeneous co-ordinates? Give the homogeneous co-ordinates fot 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.**