UCS505 Computer Graphics Lab Experiments

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| S. No | Description |
| 1 | Installation and basics of Basics of OpenGL (library  GLUT, GL, GLU) |
| 2 | Write a program to:   * Create empty window (Black, White and different Colors) * Draw a point of width 10 pixel * Draw a green color line from (10,10) to (50,50) * Draw a triangle on black background * Draw a rectangle on black background |
| 3 | Write a program to draw a line using:   * DDA algorithm * Bresenham’s line algorithm |
| 4 | Write a program to:   * Draw a circle using Midpoint circle algorithm * Draw an ellipse using Midpoint ellipse algorithm |
| 5 | Write a program to fill a polygon using scan line fill  algorithm. |
| 6 | Write a program to fill a polygon using boundary fill and flood fill  algorithm (4-connected and 8-connected) for various concave and convex polygons. |
| 7 | Write a program for drawing the following simple two dimensional objects using certain graphic functions available for drawing lines, rectangles, polygons, ellipses & circles which generates pixel activation list.  (i) House (ii) Car (iii) Fish (iv) Man |
| 8 | Write a program to perform basic 2D transformation (translation, rotation and scaling) about origin and about a fixed point without  using direct OpenGl functions for the transformations. |
| 9 | Write a program to perform:   1. Reflection about x-axis, y-axis and a line y = x+2 2. Shear about x-axis and y-axis |
| 10 | Write a program for performing the basic transformations such as  translation, Scaling, Rotation for a given 3D object. |
| 11 | Write a program to clip a line using Liang Barsky Algorithm and  Cohen Sutherland |
| 12 | Write programs for designing following simple animations using transformations.   1. Circle moving from left to right and vice versa 2. Wind mill rotation 3. Simple animation of football goal |