Problems for Lab 11

Objective:

1) To understand clipping of parameterized objects in OpenGL
2) To understand the difference between clipping(in object space) and cropping(in image space)

1. Given n 2D points (xi, yi), for 1<=i<=n, and a clipping rectangle with diagonal vertices, (xmin, ymin) and (xmax, ymax), display(in red) the points that are inside the rectangle(2 Marks)
2. Given n lines segments with end points (xi, yi) for 1<=i<=n, and a clipping rectangle with diagonal vertices, (xmin, ymin) and (xmax, ymax), display(in green) the portions of the line segments that are inside the rectangle, using Cohen-Sutherland Line Clipping Algorithm(6 Marks)
3. Download Lena image, and write code in Python/Matlab to crop and display the middle half of the image(2 Marks)

Note: For clipping and cropping built-in functions are not to be used