Problems for Lab 8

Learning Objectives:

- To Learn Interactive Computer Graphics
- To Understand the leaking in Boundary Fill algorithm with 8 neighbours and fixing it
- To Render colour attribute to the pixels in a region using Flood Fill algorithm

1. Implement Boundary Fill algorithm(with 4 neighbours) to display boundary of one rectangle and one triangle, given vertices, in red colour and then fill the rectangle with blue and triangle with yellow when the mouse click is done inside the regions.
   (Hint: Use (1) glutMouseFunc() to interface mouse with display system; (2) getPixel() to get the pixel colour at the given location from frame buffer)

2. Implement the Boundary Fill algorithm(with 8 neighbours) to display triangle with given vertices, and observe if leaking happens. To fix the leaking, For each boundary point, make all four neighbours of it as boundary points, and then run the Boundary fill algorithm

3. Draw Rectangle in Red colour, and implement the Flood Fill algorithm to replace the red colour region to green colour when a mouse click is done at a point inside the rectangle