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#include<GL/glut.h>
#include<GL/glu.h>
#include<GL/gl.h>
#include<math.h>
#include<stdio.h>

void display();

int xmin,ymin,xmax,ymax;
int xd1,yd1,xd2,yd2;
const int a=8,b=4,r=2,l=1;

void init(void)
{
    glClearColor(0.0,0,0,0);
    gluOrtho2D(0,600,0,600);
}

int calcode (int x,int y)
{
    int code =0;
    if(y> ymax) code |=a;
    else if(y<ymin) code |= b;
    else if(x>xmax) code |= r;
    else if(x<xmin) code |= l;
    return(code);
}

void cohen_line(int x1,int y1,int x2,int y2)
{
    unsigned int code1,code2,codeout;
    int accept = 0, done=0;
    code1 = calcode(x1,y1);
    code2 = calcode(x2,y2);
    do
    {
        if(!(code1 | code2))
        {
            accept=1;
            done =1;
        }
        else if(code1 & code2)
            done = 1;
        else
        {
            float x,y;

            codeout = code1 ? code1 : code2;
            if(codeout & a)
            {

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        x = x1 + (x2-x1)*(ymax-y1)/(y2-y1);
        y = ymax;
    }
    else if(codeout & b)
    {
        x=x1+(x2-x1)*(ymin-y1)/(y2-y1);
        y=ymin;
    }
    else if (codeout & r)
    {
        y=y1+(y2-y1)*(xmax-x1)/(x2-x1);
        x=xmax;
    }
    else
    {
        y=y1+(y2-y1)*(xmin-x1)/(x2-x1);
        x=xmin;
    }
    if(codeout == code1)
    {
        x1 = x;
        y1 = y;
        code1=calcode(x1,y1);
    }
    else
    {
        x2 = x; y2 = y;
        code2 = calcode(x2,y2);
    }
}
}while(done == 0);
if(accept)
{
    glColor3f(0.0,1.0,0.0);
    glBegin(GL_LINES);
        glVertex2i(x1,y1);
        glVertex2i(x2,y2);
    glEnd();
}
glColor3f(1.0,0.0,0.0);
glBegin(GL_LINE_LOOP);
    glVertex2i(xmin,ymin);
    glVertex2i(xmin,ymax);
    glVertex2i(xmax,ymax);
    glVertex2i(xmax,ymin);
glEnd();
glFlush();
}

void display()

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{
    glClear(GL_COLOR_BUFFER_BIT);
    cohen_line(xd1,yd1,xd2,yd2);
}

int main(int argc,char** argv)
{
    glutInit(&argc,argv);
    printf("Enter clipping Window's Bottom left and top right co-ordinates:");
    scanf("%d%d%d%d",&xmin,&ymin,&xmax,&ymax);
    printf("Enter line co-ordinates:");
    scanf("%d%d%d%d",&xd1,&yd1,&xd2,&yd2);
    glutInitDisplayMode(GLUT_SINGLE|GLUT_RGB);
    glutInitWindowPosition(0,0);
    glutInitWindowSize(600,600);
    glutCreateWindow("Clipping");
    init();
    glutDisplayFunc(display);
    glutMainLoop();
    return 0;
}

```