'''

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#include <iostream>

#include <graphics.h>

using namespace std;

#define INSIDE 0 // 0000

#define LEFT 1 // 0001

#define RIGHT 2 // 0010

#define BOTTOM 4 // 0100

#define TOP 8 // 1000

float xmin = 100, ymin = 100, xmax = 300, ymax = 300;

int computeCode(float x, float y) {

int code = INSIDE;

if (x < xmin) // to the left of clip window

code |= LEFT;

else if (x > xmax) // to the right of clip window

code |= RIGHT;

if (y < ymin) // below the clip window

code |= BOTTOM;

else if (y > ymax) // above the clip window

code |= TOP;

return code;

}

// Cohen-Sutherland line clipping algorithm

void cohenSutherlandClip(float x0, float y0, float x1, float y1) {

int code0 = computeCode(x0, y0);

int code1 = computeCode(x1, y1);

bool accept = false;

while (true) {

if ((code0 == 0) && (code1 == 0)) {

accept = true;

break;

} else if (code0 & code1) {

break;

} else {

int codeOut;

float x, y;

if (code0 != 0) {

codeOut = code0;

} else {

codeOut = code1;

}

if (codeOut & TOP) {

x = x0 + (x1 - x0) \* (ymax - y0) / (y1 - y0);

y = ymax;

} else if (codeOut & BOTTOM) {

x = x0 + (x1 - x0) \* (ymin - y0) / (y1 - y0);

y = ymin;

} else if (codeOut & RIGHT) {

y = y0 + (y1 - y0) \* (xmax - x0) / (x1 - x0);

x = xmax;

} else if (codeOut & LEFT) {

y = y0 + (y1 - y0) \* (xmin - x0) / (x1 - x0);

x = xmin;

}

if (codeOut == code0) {

x0 = x;

y0 = y;

code0 = computeCode(x0, y0);

} else {

x1 = x;

y1 = y;

code1 = computeCode(x1, y1);

}

}

}

if (accept) {

line(x0, y0, x1, y1);

}

}

int main() {

int gd = DETECT, gm;

initgraph(&gd, &gm, NULL);

rectangle(xmin, ymin, xmax, ymax);

float x0 = 50, y0 = 150, x1 = 350, y1 = 250;

setcolor(RED);

line(x0, y0, x1, y1);

setcolor(GREEN);

cohenSutherlandClip(x0, y0, x1, y1);

getch();

closegraph();

return 0;

}