```
#include <iostream>
using namespace std;


const int INSIDE = 0; // 0000
const int LEFT = 1; // 0001
const int RIGHT = 2; // 0010
const int BOTTOM = 4; // 0100
const int TOP = 8; // 1000




const int x_max = 10;
const int y_max = 8;
const int x_min = 4;
const int y_min = 4;


int computeCode(double x, double y)
{

    int code = INSIDE;

    if (x < x_min) // to the left of rectangle
        code |= LEFT;
    else if (x > x_max) // to the right of rectangle
        code |= RIGHT;
    if (y < y_min) // below the rectangle
        code |= BOTTOM;
    else if (y > y_max) // above the rectangle
        code |= TOP;

    return code;
}



void cohenSutherlandClip(double x1, double y1,
                         double x2, double y2)
{

    int code1 = computeCode(x1, y1);
    int code2 = computeCode(x2, y2);


    bool accept = false;

    while (true) {
        if ((code1 == 0) && (code2 == 0)) {

            accept = true;
            break;
        }
        else if (code1 & code2) {

            break;
        }
        else {


            int code_out;
            double x, y;

            if (code1 != 0)
```

```
                code_out = code1;
            else
                code_out = code2;

            if (code_out & TOP) {

                x = x1 + (x2 - x1) * (y_max - y1) / (y2 - y1);
                y = y_max;
            }
            else if (code_out & BOTTOM) {

                x = x1 + (x2 - x1) * (y_min - y1) / (y2 - y1);
                y = y_min;
            }
            else if (code_out & RIGHT) {

                y = y1 + (y2 - y1) * (x_max - x1) / (x2 - x1);
                x = x_max;
            }
            else if (code_out & LEFT) {

                y = y1 + (y2 - y1) * (x_min - x1) / (x2 - x1);
                x = x_min;
            }

            if (code_out == code1) {
                x1 = x;
                y1 = y;
                code1 = computeCode(x1, y1);
            }
            else {
                x2 = x;
                y2 = y;
                code2 = computeCode(x2, y2);
            }
        }
    }
    if (accept) {
        cout << "Line accepted from " << x1 << ", "
            << y1 << " to " << x2 << ", " << y2 << endl;
    }
    else
        cout << "Line rejected" << endl;
}


int main()
{


    cohenSutherlandClip(5, 5, 7, 7);



    cohenSutherlandClip(7, 9, 11, 4);



    cohenSutherlandClip(1, 5, 4, 1);

    return 0;
}
```