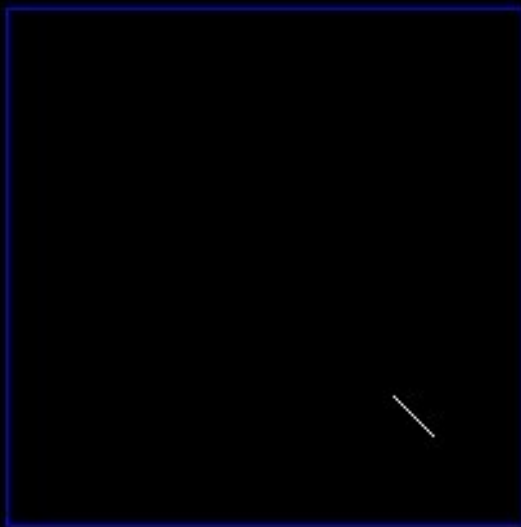


```
1 #include <iostream>
2 #include <graphics.h>
3 using namespace std;
4 static int LEFT = 1, RIGHT = 2, BOTTOM = 4, TOP = 8, xl, yl, xh, yh;
5 int getcode(int x, int y)
6 {
7     int code = 0;
8     // Perform Bitwise OR to get outcode
9     if (y > yh)
10         code |= TOP;
11     if (y < yl)
12         code |= BOTTOM;
13     if (x < xl)
14         code |= LEFT;
15     if (x > xh)
16         code |= RIGHT;
17     return code;
18 }
19 int main()
20 {
21     int gdriver = DETECT, gmode;
22     initgraph(&gdriver, &gmode, NULL);
23     setcolor(BLUE);
24     cout << "Enter bottom left and top right co-ordinates of window: ";
25     cin >> xl >> yl >> xh >> yh;
26     rectangle(xl, yl, xh, yh);
27     int x1, y1, x2, y2;
28     cout << "Enter the endpoints of the line: ";
29     cin >> x1 >> y1 >> x2 >> y2;
30     line(x1, y1, x2, y2);
31     getch();
32     int outcode1 = getcode(x1, y1), outcode2 = getcode(x2, y2);
33     int accept = 0; // decides if line is to be drawn
34     while (1)
35     {
36         float m = (float)(y2 - y1) / (x2 - x1);
37         // Both points inside. Accept line
38         if (outcode1 == 0 && outcode2 == 0)
39         {
40             accept = 1;
41             break;
42         }
43         // AND of both codes != 0. Line is outside. Reject line
44         else if ((outcode1 & outcode2) != 0)
45         {
46             break;
47         }
48         else
49         {
50             int x, y;
51             int temp;
52             // Decide if point1 is inside, if not, calculate intersection
53             if (outcode1 == 0)
54                 temp = outcode2;
55             else
56                 temp = outcode1;
57             // Line clips top edge
58             if (temp & TOP)
59                 {
```

```
60         x = x1 + (yh - y1) / m;
61         y = yh;
62     }
63     else if (temp & BOTTOM)
64     { // Line clips bottom edge
65         x = x1 + (y1 - y1) / m;
66         y = y1;
67     }
68     else if (temp & LEFT)
69     { // Line clips left edge
70         x = x1;
71         y = y1 + m * (x1 - x1);
72     }
73     else if (temp & RIGHT)
74     { // Line clips right edge
75         x = xh;
76         y = y1 + m * (xh - x1);
77     }
78     // Check which point we had selected earlier as temp, and replace its
coordinates
79     if (temp == outcode1)
80     {
81         x1 = x;
82         y1 = y;
83         outcode1 = getcode(x1, y1);
84     }
85     else
86     {
87         x2 = x;
88         y2 = y;
89         outcode2 = getcode(x2, y2);
90     }
91     }
92 }
93 setcolor(WHITE);
94 cout << "After clipping:";
95 if (accept)
96     line(x1, y1, x2, y2);
97 return 0;
98 closegraph();
99 }
```

## SDL-libgraph -- Graphics on GNU/Linux



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