Assignment no : 6

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Problem Statement : To draw a line using DDA Line Algorithm

Code :

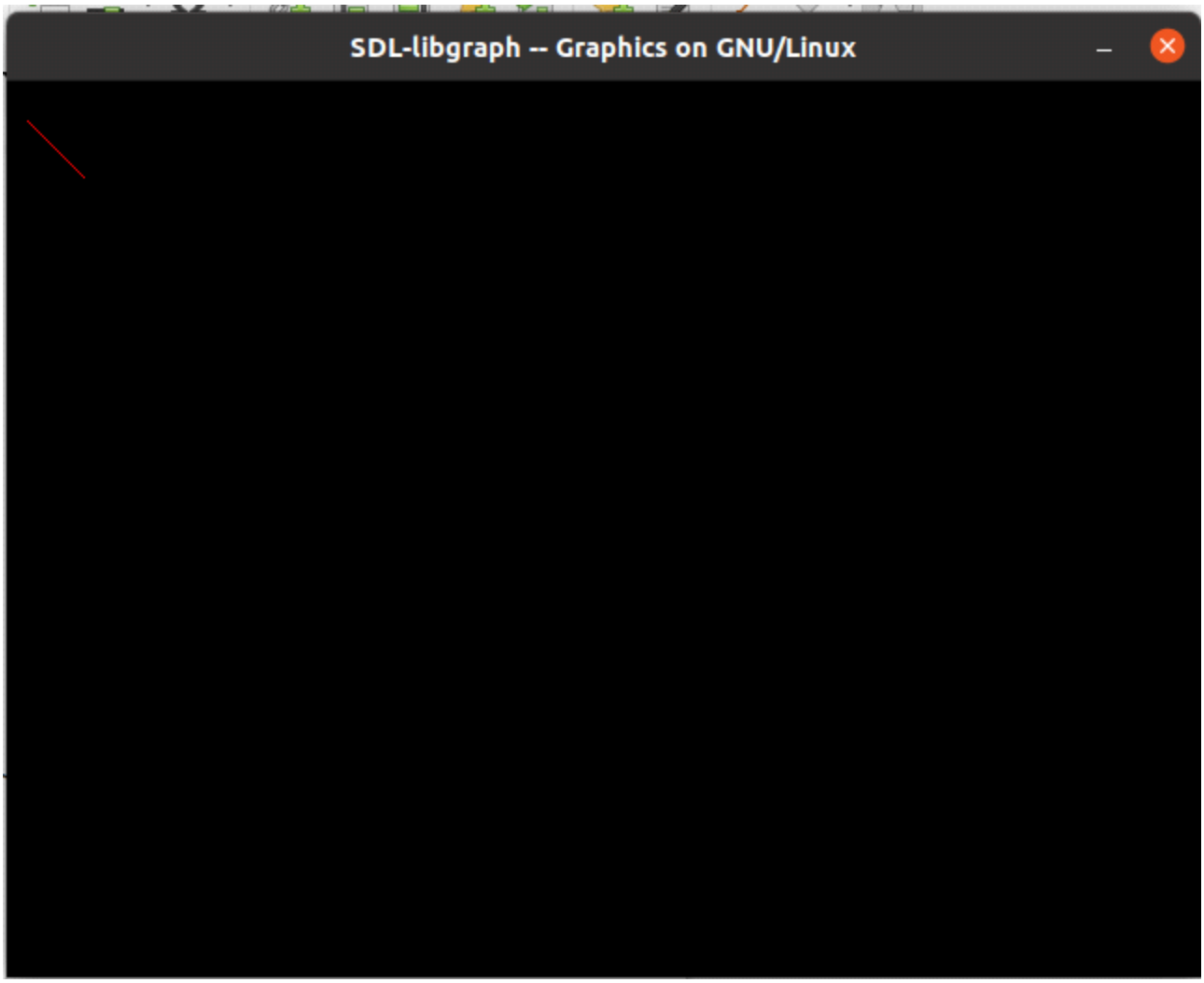
```
#include<iostream>
#include<graphics.h>
using namespace std;
class point {
public :
float x0, y0;

void accept() {
cin>>x0>>y0;
}

void display() {
cout<<"point is : ("<<x0<<","<<y0<<")"<<endl;
}

void DDALine (float x1, float y1, float x2, float y2) {
float x,y,dx,dy,xinc,yinc,steps;
dx = x2 - x1;
dy = y2 - y1;
x = x1;
y = y1;

while ((x <= x2) && (y <= y2)) {
if (dx > dy) {
steps = dx;
} else {
steps = dy;
}
xinc = dx/steps;
yinc = dy/steps;
x = x + xinc;
y = y + yinc;
```

```
cout<<"point is : ("<<x<<","<<y<<")"<<endl;
putpixel(x,y,RED);
}
}
};

int main() {
point P1, P2, P3;

int gd = DETECT, gm;
initgraph (&gd, &gm, NULL);

cout<<"Enter the start pt. coordinate : ";
P1.accept();
P1.display();
cout<<"Enter the end pt. coordinate : ";
P2.accept();
P2.display();

P3.DDALine(P1.x0, P1.y0, P2.x0, P2.y0);
delay(50000);
return 0;

}
```

Output :

```
^Cd_comp_pl_ii_11@d-comp-pl-ii-11:~$ g++ DDA_Algo.cpp -o d -lgraph
^[[Ad_comp_pl_ii_11@d-comp-pl-ii-11:~$ ./d
Enter the start pt. coordinate : [xcb] Unknown sequence number while processing queue
[xcb] Most likely this is a multi-threaded client and XInitThreads has not been called
[xcb] Aborting, sorry about that.
d: ../../src/xcb_io.c:260: poll_for_event: Assertion `!xcb_xlib_threads_sequence_lost' failed.
10
20
point is : (10,20)
Enter the end pt. coordinate : 40
50
point is : (40,50)
point is : (11,21)
point is : (12,22)
point is : (13,23)
point is : (14,24)
point is : (15,25)
point is : (16,26)
```

point is : (17,27)
point is : (18,28)
point is : (19,29)
point is : (20,30)
point is : (21,31)
point is : (22,32)
point is : (23,33)
point is : (24,34)
point is : (25,35)
point is : (26,36)
point is : (27,37)
point is : (28,38)
point is : (29,39)
point is : (30,40)
point is : (31,41)
point is : (32,42)
point is : (33,43)
point is : (34,44)
point is : (35,45)
point is : (36,46)
point is : (37,47)
point is : (38,48)
point is : (39,49)
point is : (40,50)
point is : (41,51)


SDL-libgraph -- Graphics on GNU/Linux