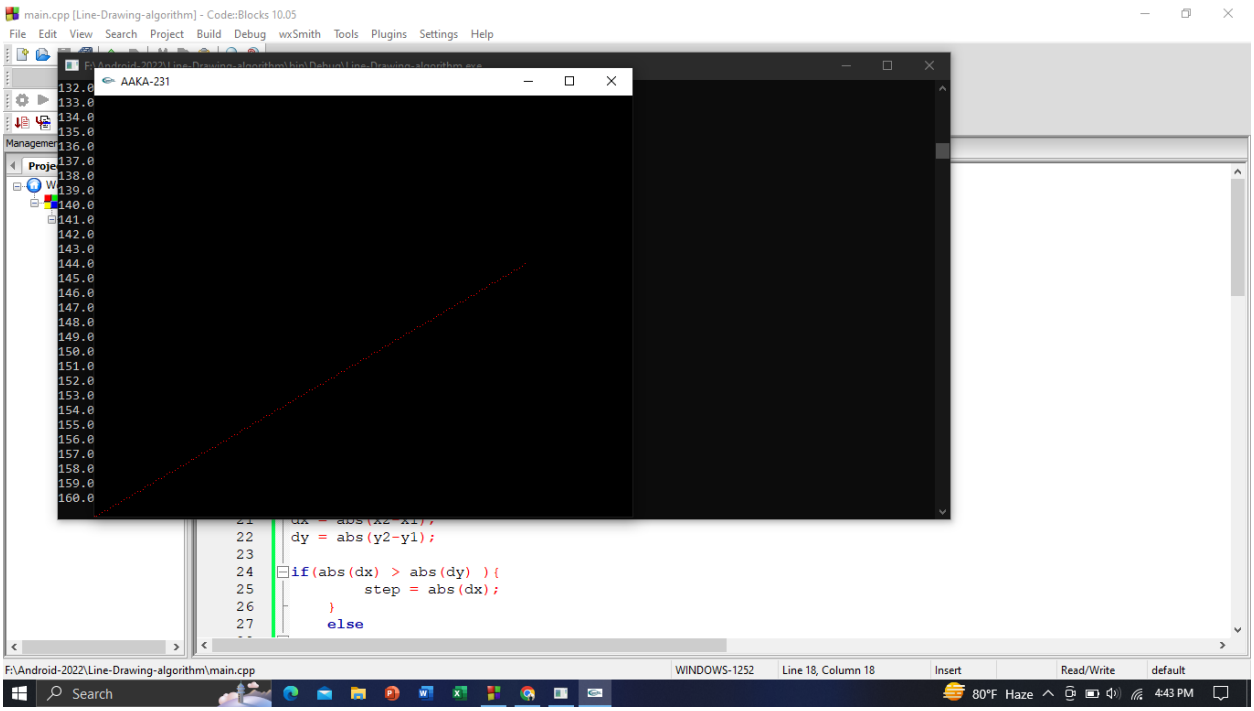
```
#include <GL/gl.h>
#include <GL/glut.h>
#include <stdlib.h>
#include<stdio.h>



// Initialize all the global variables here

int x1,y1,x2,y2,dx,dy;
float ix, iy, step;

void display(void)
{



glClear (GL_COLOR_BUFFER_BIT);
glColor3f (1.0, 0.0, 0.0);

//Write down the algorithm here
dx = abs(x2-x1);
dy = abs(y2-y1);

if(abs(dx) > abs(dy) ){
      step = abs(dx);
   }
   else
```

```
  {
     step = abs(dy);
  }

  ix = dx/step;
  iy = dy/step;

  float x=x1, y=y1;

  glBegin(GL_POINTS);
  glVertex2i (abs(x), abs(y));
 int i;
  for (i = 0; i<step; i++)
  {
     x = x + ix;
     y = y + iy;

     printf("%.1f %.1f %.1f %.1f %.1f", x, y, step, ix, iy);
     printf("\n");

     glVertex2i (abs(x), abs(y));
     // then again here you can't use glEnd() here otherwise it will stop drawing after one loop
  }



glEnd();
```

```
glutSwapBuffers();
}
void init (void)
{

glClearColor (0.0, 0.0, 0.0, 0.0);   /* select clearing (background) color */
glMatrixMode(GL_PROJECTION);       /* initialize viewing values */
glLoadIdentity();
glOrtho(0.0, 200.0, 0.0, 200.0, -200.0, 200.0);

}


int main(int argc, char** argv)
{


  //Scan all the values from here
   printf("Enter the value of x1: ");
   scanf("%d", &x1);
   printf("Enter the value of y1: ");
      scanf("%d", &y1);
   printf("Enter the value of x2: ");
      scanf("%d", &x2);
   printf("Enter the value of y2: ");
      scanf("%d", &y2);
```

```
glutInit(&argc, argv);
glutInitDisplayMode (GLUT_DOUBLE | GLUT_RGB);
glutInitWindowSize (300, 300);
glutInitWindowPosition (100, 100);
glutCreateWindow ("AAKA-231");
init ();
glutDisplayFunc(display);
glutMainLoop();
return 0; /* ISO C requires main to return int. */
}
```


main.cpp [Line-Drawing-algorithm] - Code::Blocks 10.05
File Edit View Search Project Build Debug wxSmith Tools Plugins Settings Help
AAKA-231
dy = abs(y2-y1);
if(abs(dx) > abs(dy)){
step = abs(dx);
}
else
F:\Android-2022\Line-Drawing-algorithm\main.cpp
WINDOWS-1252
Line 18, Column 18
Insert
Read/Write
default
Search
80°F Haze
4:43 PM