

Question: Write a program to draw a line with starting point (0,0) & endpoints (120,70) by using DDA algorithm.

Code:

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

void display(void)
{
    glClear(GL_COLOR_BUFFER_BIT);
    glColor3f(1.0, 1.0, 1.0);

    int x0 = 0, y0 = 0;
    int x1 = 120, y1 = 70;

    int dx = x1 - x0;
    int dy = y1 - y0;

    int steps = abs(dx) > abs(dy) ? abs(dx) : abs(dy);

    float x_inc = dx / (float) steps;
    float y_inc = dy / (float) steps;

    float x = x0;
    float y = y0;
```

```
glBegin(GL_POINTS);
```

```
    for (int i = 0; i <= steps; i++) {
```

```
        glVertex2f(x, y);
```

```
        x += x_inc;
```

```
        y += y_inc;
```

```
    }
```

```
glEnd();
```

```
glutSwapBuffers();
```

```
}
```

```
void init(void)
```

```
{
```

```
    glClearColor(0.0, 0.0, 0.0, 0.0);
```

```
    glMatrixMode(GL_PROJECTION);
```

```
    glLoadIdentity();
```

```
    glOrtho(0.0, 200.0, 0.0, 200.0, -200.0, 200.0);
```

```
}
```

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

```
{
```

```
    glutInit(&argc, argv);
```

```
    glutInitDisplayMode(GLUT_DOUBLE | GLUT_RGB);
```

```
    glutInitWindowSize(300, 300);
```

```
    glutInitWindowPosition(100, 100);
```

```
    glutCreateWindow("AAKA-231");
```

```
    init();
```

```
    glutDisplayFunc(display);
```

```

glutMainLoop();

return 0;

}

```

Screenshot:

