## DDA Algorithm

**Code:**

```
from OpenGL.GL import *;
from OpenGL.GLU import *;
from OpenGL.GLUT import *;

def init():
      glClearColor(0.0,0.0,0.0,0.0)
      gluOrtho2D(-300,300,-300,300)

def plotLine(x1,y1,x2,y2):
      deltaX=x2-x1
      deltaY=y2-y1
      steps=0
      if(abs(deltaX)>abs(deltaY)):
            steps=abs(deltaX)
      else:
            steps=abs(deltaY)
      Xincrement=deltaX/steps
      Yincrement=deltaY/steps
      glClear(GL_COLOR_BUFFER_BIT)
      glColor3f(0,1.0,1.0)
      glPointSize(5.0)
      glBegin(GL_POINTS)
      for step in range (1,steps+1):
            glVertex2f(round(x1),round(y1))
            x1=x1+Xincrement
            y1=y1+Yincrement
      glEnd()
      glFlush()

def main():
      print("Enter following coordinates for a line: ")
      x1=int(input("Enter x1: "))
```

```
    y1=int(input("Enter y1: "))
    x2=int(input("Enter x2: "))
    y2=int(input("Enter y2: "))
    glutInit(sys.argv)
    glutInitDisplayMode(GLUT_RGB)
    glutInitWindowSize(500,500)
    glutInitWindowPosition(0,0)
    glutCreateWindow("Plot Line using DDA")
    glutDisplayFunc(lambda:plotLine(x1,y1,x2,y2))
    glutIdleFunc(lambda:plotLine(x1,y1,x2,y2))
    init()
    glutMainLoop()
main()
```

**Output:**

```
Enter following coordinates for a line:
Enter x1: 10
Enter y1: 20
Enter x2: 100
Enter y2: 200
```