DDA Algorith implementation in C

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1.  #include <graphics.h>
2.  #include <stdio.h>
3.  #include <conio.h>
4.  #include <math.h>
5.  void drawLine(int x1, int y1, int x2, int y2);
6.  void main() {
7.  int gdriver = DETECT, gmode;
8.  int x1, y1, x2, y2;
9.  clrscr();
10. initgraph(&gdriver, &gmode, "C:\\TURBOC3\\BGI");
11. // Input the line coordinates
12. printf("Enter the coordinates of the start point (x1, y1): ");
13. scanf("%d%d", &x1, &y1);
14. printf("Enter the coordinates of the end point (x2, y2): ");
15. scanf("%d%d", &x2, &y2);
16. drawLine(x1, y1, x2, y2);
17. getch();
18. closegraph();
19. }

20. void drawLine(int x1, int y1, int x2, int y2)
21. {
22. int dx, dy, steps, k;
23. float x_increment, y_increment, x, y;
24. dx = x2 - x1;
25. dy = y2 - y1;
26. if (abs(dx) > abs(dy)) {
27. steps = abs(dx);
28. }
29. else
30. {
31. steps = abs(dy);
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32.  }
33.  x_increment = (float)dx / steps;
34.  y_increment = (float)dy / steps;
35.  x = x1;
36.  y = y1;
37.  putpixel(floor(x), floor(y), GREEN);
38.  for (k = 0; k < steps; k++) {
39.  x += x_increment;
40.  y += y_increment;
41.  putpixel(floor(x), floor(y), GREEN);
42.  delay(50); // Small delay to visualize the line drawing
43.  }
44.  }
```