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> DDA Line Drawing algorithm :-

```c
#include <stdio.h>
#include <graphic.h>
int main()
{
    int rou(float num)
    {
        return num<0 ? num-0.5 : num +0.5;
    }
    int x1=100, x2=250, y1=100, y2= 250, step;
    int gd = DETECT, gm;
    float x,y,m;
    int dx = x2-x1;
    int dy = y2-y1;
    m = dy/dx;
    if (dx>dy)
        step = dx;
    else
        step = dy;
    initgraph (&gd, &gm, " ");
    outtextxy (x1, y1, "A");
    outtext xy (x2, y2, "B");
    putpixel (x1, y1, RED);
```

```
x = x1 , y = y1 ;
while (step > 0)
{
        if (m < 1)
        {
                x = x + 1;
          3     y = y + m;
        }
        if (m >= 1)
        {
                x = x + 1/m
          3     y = y + 1
        }
        putpixel (rou (x), rou(y), RED);
          3     step -- ;
    3
    getch ();
    return 0;
3
```

Algorithm for DDA :-

Step 1 : Start Algorithm

Step 2 : Declare $x_1, x_2, y_1, y_2, dx, dy$

Step 3 : Enter value of x_1, y_1, x_2, y_2

Step 4 : calculate $dx = x_2 - x_1$

Step 5 : calculate $dy = y_2 - y_1$

Step 6 : if $(dx > dy)$, Then Step $= dx$

Step 7 : $Xinc = dx / step$

$yinc = dy / step$

assign $x = x1$

assign $y = y1$

Step 8 : set pixel (x, y)

Step 9 : $x = x + xinc$

$y = y + yinc$

set pixels ($Round (x)$, $Round (y)$)

Step 10 : Repeat step 9 until $x = x_2$

Step 11 : End algorithm