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#include<graphics.h>
#include<stdlib.h>
#include<bits/stdc++.h>
using namespace std;

int Round(float p)
{
    float a;
    a = p - int(p);
    if(a>=0.5)
        return int(p)+1;
    else return int(p);
}

int main()
{
    initwindow(300,300,"Draw a Line");

    int X,Y;
    float x_new,y_new;
    X = getmaxx();
    Y = getmaxy();

    rectangle(0,0,X,Y);
    line(X/2,0,X/2,Y);
    line(0,Y/2,X,Y/2);
    x_new = X/2;
    y_new = Y/2;

    int x1, y1, x2, y2, dx, dy;
    cout << "Enter the value of x1 and y1: ";
    cin >> x1 >> y1;
    cout << "Enter the value of x2 and y2: ";
    cin >> x2 >> y2;

    if(x2<x1)
    {
        int temp;
        temp = x1;
        x1 = x2;
        x2 = temp;
    }
    if(y2<y1)
    {

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    int temp;
    temp = y1;
    y1 = y2;
    y2 = temp;
}

int x, y;
float yin,xin, m,minv;
m = float(y2-y1)/float(x2-x1);
if(m<=1)
{
    cout << "For m<=1" << endl;
    x = x1;
    yin = y1;
    while(x<=x2)
    {
        y = Round(yin);
        putpixel((x_new+x),(y_new-y),15);
        delay(100);
        yin = yin + m;
        x++;
    }
}
else
{
    cout << "For m>1" << endl;
    y = y1;
    xin = x1;
    minv = 1/m;
    while(y<=y2)
    {
        x = Round(xin);
        putpixel(x_new+x,y_new-y,15);
        delay(100);
        xin = xin + minv;
        y++;
    }
}

while(!kbhit())
{
    delay(200);
}
getch();
return 0;
}

```