

Write a program to implement the Bresenham's Line Algorithm.

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#include <graphics.h>
#include <conio.h>
#include <iostream.h>
#include <math.h>

void bresenham(int X0, int Y0, int X1, int Y1)
{
    float m = (Y1 - Y0) / (float)(X1 - X0);
    int dy, dx, pk, x = X0, y = Y0;

    dy = abs(Y1 - Y0);
    dx = abs(X1 - X0);

    if (abs(m) < 1)
    {
        pk = 2 * dy - dx;
        for (int i = 0; i < dx; i++)
        {
            x++;
            if (pk < 0)
                pk = pk + 2 * dy;
            else
            {
                y++;
                pk = pk + 2 * dy - 2 * dx;
            }
            putpixel(x, y, WHITE);
        }
    }
    else
    {
        pk = 2 * dx - dy;
        for (int i = 0; i < dy; i++)
        {
            x++;
            if (pk < 0)
                pk = pk + 2 * dx;
            else
            {
                y++;
                pk = pk + 2 * dx - 2 * dy;
            }
            putpixel(x, y, WHITE);
        }
    }
}

int main()
{
    clrscr();
    int gd = DETECT, gm;
    initgraph(&gd, &gm, "C:\\\\TURBOC3\\\\BGI");
    bresenham(30, 15, 240, 360);
    getch();
    return 0;
}
```

