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Ques1- Algorithm

Step1 → Stard

Step2 → Delate variable $x_1, x_2, y_1, y_2, d, i_1, i_2, dx, dy$

Step3 → Enter value of $x_1, y_1, x_2, y_2$

Step4 → Calculate $dx = x_2 - x_1$

Calculate $dy = y_2 - y_1$

Calculate $i_1 = 2 * dy$

Calculate $d = i_1 - dx$

Step5 → Consider (x, y) as starting point and xend as maximum possible value of x

if $dx < 0$

then $x = x_2$

$y = y_2$

$xend = x_1$

if $dx > 0$

then $x = x_1$

$y = y_1$

$xend = x_2$

Step 6 → Generate point at (x, y) co-ordinates

Step 7 → Check if whole line is generated

if $x >= xend$

stop.

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Step 8 - Calculate co-ordinates of the next pixel
if $d < 0$
Then $d = d + i_1$
If $d >= 0$
Then $d = d + i_2$
Step 9: Increment $x = x + 1$
Step 10: Draw a point of latest $(x, y)$ co-ordinates
Step 11 → Goto Step 7
Step 12 → End.

Program →

```
#include <stdio.h>
#include <graphics.h>
void drawline (int x0, int y0, int x1, int y1)
{
int dx, dy, p, x, y;
dx = x1 - x0;
dy = y1 - y0;
x = x0;
y = y0;
p = 2 * dy - dx
while(x < x1)
{
if (p >= 0)
putPixel (x, y, 7);
y = y + 1;
p = p + 2 * dy - 2 * dx;
```

```
else
{
putpixel (x, y, 7);
    P = p + 2 * dy;
    }
x = x + 1
}
}

int main ()
{
int gd = DETECT , gm, x0, y0, x1, y1
initgraph (&gd, &gm, " ");
    x0 = 100;
    y0 = 100;
    x1 = 300;
    y1 = 200;
drawline (x0, y0, x1, y1);
    return 0;
}
```