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Course:- BCA VI sem 'A'

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Subject:- Computer Graphics.

① Algorithm for DDA line drawing

Step 1:- Start

step 2:- Declare x_1, y_1, x_0, y_0, as integers. dx, dy, x, y, steps as float.

Step 3:- Enter $x1, y1, x_0, y_0$ values.

step 4:- Calculate $dx = x_1 - x_0$

step 5:- Calculate $dy = y_1 - y_0$

step 6:- If ABS (dx) > ABS (dy), then

step = abs (dx)

Else

Step 7:- $x_{inc} = dx / step$

$y_{inc} = dy / step$

assign $x = x_0$

" $y = y_0$

Step 8:- set pixels (x, y)

Step 9:- $x = x + x_{inc}$

$y = y + y_{inc}$

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

Step 10:- Repeat step 9 until $x = x_1$

Step 11:- End

Program:-

```
#include <graphic.h>
#include <stdio.h>
#include <conio.h>
void main()
{
    int gd = DETECT, gm, i;
    int x0, x1, y0, y1;
    float dx, dy, x, y, steps;
    initgraph(&gd, &gm, "C:\\TC\\BGI");
    setbkcolor(WHITE);
    x0=100, y0=200;
    x1=500, y1=300;
    dx = (float)(x1-x0);
    dx = x1 - x0;
    dy = y1 - y0;
    if (dx >= dy)
        {
            steps = dx
        }
        else
        {
```

```
    steps = dy
}
dx = dx/step;
dy = dy/step;
x = x0
y = y0
i = 1;
while (i<=steps)
{ putpixels (x, y, RED)
x+ = dx
y+ = dy
i = i+1
}
getch ();
closegraph();
}
```