

PROBLEM STATEMENT: Write a program to draw a line using Bresenham's line generation algorithm.

Objective: This lab exercise implements the line drawing algorithm using decision parameter and pixel values.

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/*
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// program to draw a line using Bresenham's line generation algorithm.
*/

#include<stdio.h>
#include<graphics.h>
#include<math.h>
#include<conio.h>
void bresenhamline(int,int, int ,int );

int main()
{
int x1,x2,y1,y2,xn1,yn1,xn2,yn2,angle;
double s,c;
int gd=DETECT,gm;

initgraph(&gd,&gm," ");
cleardevice();

bresenhamline(100,150,200,180);

getch();
closegraph();
return 0;
}

//.....//

void bresenhamline(int x1 ,int y1, int x2 ,int y2 )
{
int dx=x2-x1;
int dy=y2-y1;

int x=x1;
int y=y1;
int p=2*dy-dx;

printf("x \t y \t p \n");
```

```
putpixel(x, y, 9);

while(x<x2)
{
    x=x+1;
    putpixel(x, y, 2);
    if(p<0) { y=y;    p=p+2*dy; }
    else{ y=y+1; p=p+2*(dy-dx); }
    printf("%d \t%d \t%d\n",x,y,p);
}
putpixel(x2, y2, 9);

}
```