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19BCE1027

Program for DDA Line Drawing Algorithm in C

```
#include<stdio.h>
```

```
#include<stdlib.h>
```

```
#include<graphics.h>
```

```
#include<math.h>
```

```
void LineDDA(int x0,int y0,int x1, int y1)
```

```
{
```

```
double xIncrement,yIncrement,x,y;
```

```
int dx = x1 - x0,dy = y1-y0,steps,i;
```

```
if(abs(dx)>abs(dy)) steps = abs(dx);
```

```
else steps = abs(dy);
```

```
//one of these will be 1 or -1
```

```
xIncrement = (double)dx/(double)steps;
```

```
yIncrement = (double)dy/(double)steps;
```

```
x = x0;
```

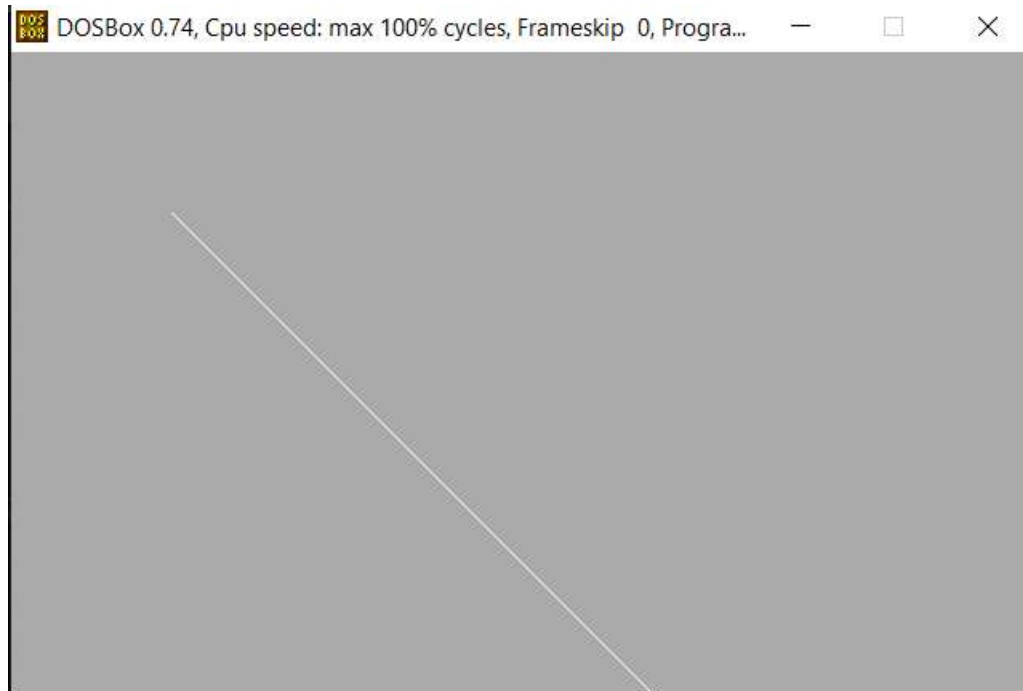
```
y = y0;
```

```
putpixel((int)x,(int)y,WHITE);
```

```
for(i = 0;i < steps; i++)
```

```
{  
x+=xIncrement;  
y+=yIncrement;  
putpixel((int)x,(int)y,WHITE);  
}  
}
```

```
void main()  
{  
int gd = DETECT, gm;  
int x0 = 100, y0 = 100;  
int x1 = 400, y1 = 400;  
initgraph(&gd, &gm, "c:\\turbo3\\bgi");  
clrscr();  
LineDDA(x0, y0, x1, y1);  
getch();  
closegraph();  
}
```



Program for Bresenham's Line Algorithm

Algorithm in C

```
#include<stdio.h>
```

```
#include<stdlib.h>
```

```
#include<graphics.h>
```

```
#include<math.h>
```

```
#include<conio.h>
```

```
void LineBres(int x0,int y0,int x1,int y1)
```

```
{
```

```
    int dx=abs(x1-x0),dy=abs(y1-y0);
```

```
    int d=2*dy-dx,twoDy=2*dy,twoDyMinusDx=2*(dy-dx);
```

```
    int x,y;
```

```
if(x0>x1)
{
    x=x1;
    y=y1;
    x1=x0;
}
else
{
    x=x0;
    y=y0;
}
putpixel((int)x,(int)y,RED);
while(x<x1)
{
    x++;
    if(d<0)d+=twoDy;
    else
    {
        y++;
        d+=twoDyMinusDx;
    }
    putpixel((int)x,(int)y,RED);
}
```

```
}  
  
void main()  
  
{  
  
    int gd = DETECT, gm;  
  
    int x0 = 220, y0 = 220;  
  
    int x1 = 380, y1 = 380;  
  
    initgraph(&gd, &gm, "C:\\TURBOC3\\BGI");  
  
    clrscr();  
  
    LineBres(x0, y0, x1, y1);  
  
    getch();  
  
    closegraph();  
  
}
```



DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Progra...

