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Course → BCA - 6'A'

University Roll-no → 1121069

Subject → Computer Graphics

Ans-1=)

Algorithm —

step 1 → start Algorithm.

step 2 → Declare x1, y1, x2, y2, dx, dy, x, y as integer variables.

step 3 → Enter value of x1, y1, x2, y2.

Step 4 → Calculate dx = x2 - x1.

Step 5 → Calculate dy = y2 - y1.

step 6 → If ABS(dx) > ABS(dy)
Then step = abs(dx)
Else

step 7 → $x_{inc} = dx / step$.

step 8 → $y_{inc} = dy / step$.
assign x = x1
assign y = y1.

step 8 → set pixel(x, y)

step 9 → x = x + x_{inc}
y = y + y_{inc}
set pixels(Round(x), Round(y))

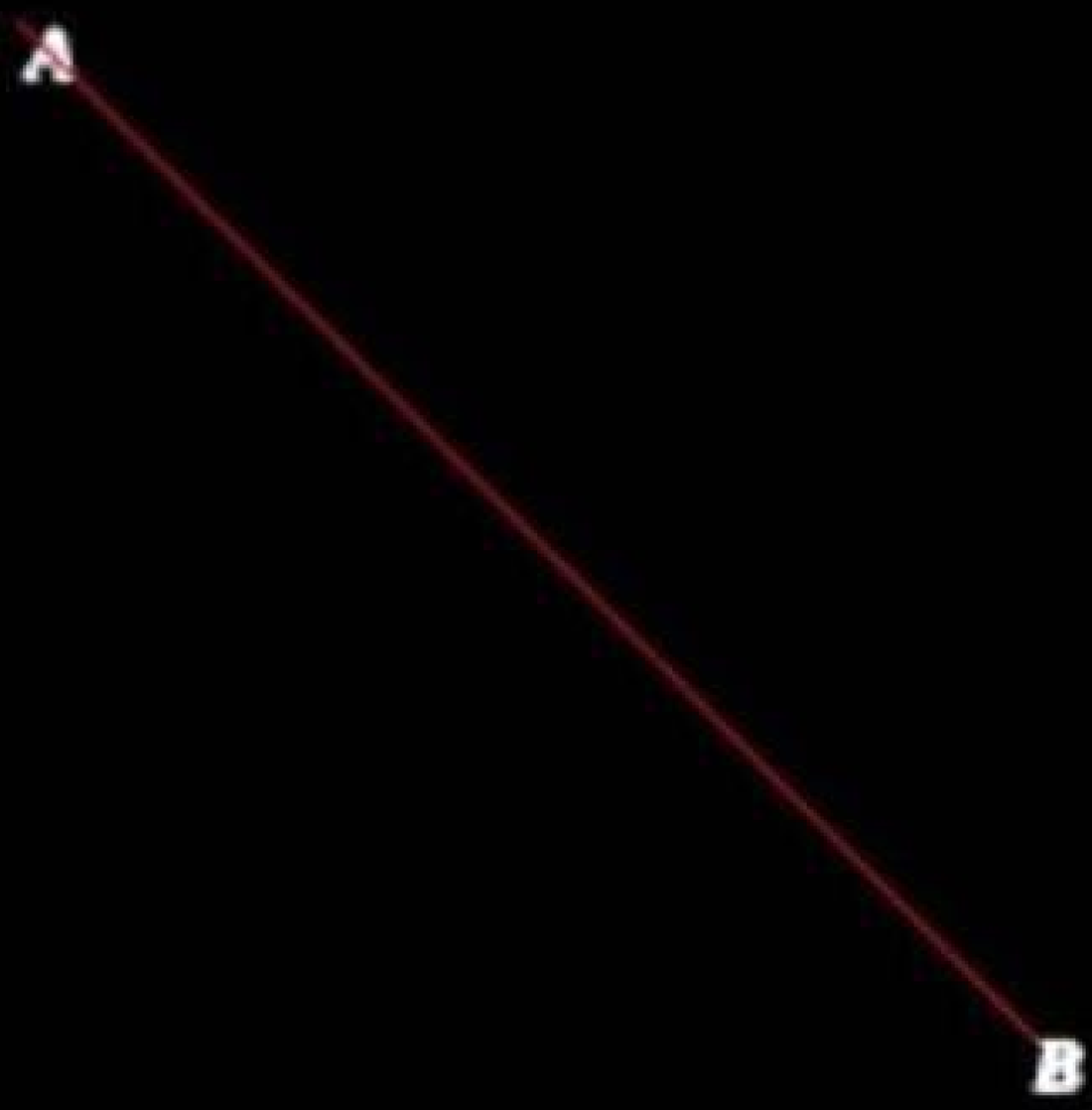
step 10 → Repeat step 9 until $x = x_2$.

step 11 → End Algorithm.

Program ——

```
#include<stdio.h>
#include<graphics.h>
int main()
{
    int rou(float num)
    {
        return num<0?num-0.5:num+0.5;
    }
    int x1=100, x2=250, y1=100, y2=250, step;
    int gd=DETECT, gm;
    float x, y, m;
    int dx=x2-x1;
    int dy=y2-y1;
    m=dy/dx;
    if (dx>dy)
        step=dx;
    else
        step=dy;
    initgraph(&gd,&gm,"");
    outtextxy(x1, y1,"A");
    outtextxy(x2, y2,"B");
    putpixel(x1,y1,RED);
    x=x1, y=y1;
    while(step>0)
    {
```

```
if (m<1)
{
    x=x+1;
    y=y+m;
}
if (m>=1)
    {
      x=x+1/m;
      y=y+1;
    }
putpixel(rou(x),rou(y),RED);
step--;
}
getch();
return 0;
}
```



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Ans-3 ⇒

```
#include<stdio.h>
#include<graphics.h>
int main()
{
    int gd= DETECT, gm;
    initgraph(&gd, &gm, "");
    line(0, 200, getmaxx(), 200);
    line(0, 360, getmaxx(), 360);
    setcolor(WHITE);
    rectangle(150, 200, 260, 230);
    floodfill(152, 220, WHITE);
    rectangle(150, 240, 260, 260);
    floodfill(152, 241, WHITE);
    rectangle(150, 270, 260, 290);
    floodfill(152, 271, WHITE);
    rectangle(150, 300, 260, 320);
    floodfill(152, 301, WHITE);
    rectangle(150, 330, 260, 350);
    floodfill(152, 331, WHITE);
    setcolor(WHITE);
```

```
rutangle (140,200,145,130);
rutangle (130,130,155,70);
Setcolor (RED);
circle (142, 82, 6);
floodfill (142, 82, RED);
setcolor (YELLOW);
circle(142, 100, 6);
floodfill (142, 100, YELLOW);
setcolor (GREEN);
circle (142, 118, 6);
floodfill (143, 118, GREEN);
setcolor (WHITE);
getch ();
closegraph ();
return 0;
}
```