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Course - BCA

U-Roll No - 18211221

subject - computer graphics practical

sec-A sem-6th

Ans-1 Algorithm

step1: start Algorithm

step2: Declare $x_1, y_2, x_2, y_2, dx, dy, x, y$ as integer variables.

step3: Enter value of x_1, y_1, x_2, y_2

step4: calculate $dx = x_2 - x_1$

step5: calculate $dy = y_2 - y_1$.

step6: if ABS(dx) > ABS(dy)

Then step = abs(dx)

Else

step7: $x_{inc} = dx/step$

$y_{inc} = dy/step$

assign $x = x_1$

assign $y = y_1$.

step8: setpixel (x, y)

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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;
```

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```
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;
    }
```

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```
        if(m>=1)
    {
        x = x+1 /m;
        y = y+1;
    }
        putpixel(10u(x), 10u(y), RED);
        step--;
    }
        getch();
        return 0;
}
```


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Ans -03

PROGRAM:-

```
#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);
set color (WHITE);
rectangle (150, 210, 260, 230);
floodfill (152, 220, WHITE);
rectangle (150, 270, 260, 290);
floodfill (152, 271, WHITE);
rectangle (150, 300, 260, 320);
floodfill (152, 301, WHITE);
rectangle (150, 330, 260, 350);
```

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```
floodfill (152, 331, WHITE);
 setcolor (WHITE);
rectangle (120, 200, 145, 130);
 rectangle (130, 130, 155, 70);
 setcolor (RED);
 circle (142, 82, 6);
 floodfill (142, 82, RED);
  setcolor (RED);
 circle (142, 82, 6);
 flood   set color (YELLOW);
         circle (142, 100, 6);
       floodfill (142, 100, YELLOW);
         setcolor (GREEN);
          circle (142, 118, 6);
          floodfill (143, 118, GREEN);
          setcolor (WHITE);
          getch();
```

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```
        closegraph();
        return 0;
}
```


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OUTPUT