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Course : BCA

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Subject : Computer Graphics Practical

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Amisha Rawat

1. DDA Algorithm

Step 1 : Start

Step 2 : Declare $x_1, y_1, x_2, y_2, dx, dy, x, y$ as integer values.

Step 3 : Enter value of x_1, y_1, x_2, y_2.

Step 4 : Calculate $dx = x_2 - x_1$

Step 5 : Calculate $dy = y_2 - y_1$

Step 6 : if ABS(dx) > ABS(dy)
then step = abs(dx)
else

Step 7 : xinc = dx/step , yinc = dy/step
assign $x = x_1$ & $y = y_1$

Step 8 : set pixel (x, y)

Step 9 : x = x + xinc
y = y + yinc
Set pixels (Round(x), Round(y))

Step 10 : Repeat step 9 until $x = x_2$

Step 11 : Stop

Amishal Rawat

1.

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

void main()
{
int gd = DETECT, gm, i;
float x, y, dx, dy, steps;
int x0, x1, y0, y1;
initgraph(&gd, &gm, "");
setbkcolor(WHITE);
x0 = 100, y0 = 200, x1 = 500, y1 = 300;
dx = (float)(x1 - x0);
dy = (float)(y1 - y0);
if (dx >= dy)
{
steps = dx;
}
else
{
steps = dy;
}
dx = dx/steps;
dy = dy/steps;
```

Anshul Rawat

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

Anirudh Rawat

3. ~~#include <graphics.h>~~ Traffic Light

```
#include <graphics.h>
int main()
{
    int gd = DETECT, gm;
    initgraph (&gd, &gm, "NULL");

    line (0, 200, getmaxx(), 200);
    line (0, 360, getmaxx(), 360);

    set color (WHITE);
    rectangle (140, 200, 145, 130);
    rectangle (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 (142, 118, GREEN);
```

Anisha Rawat

```
setcolor (WHITE);
rectangle (150, 180, 250, 300);
rectangle ( 250, 180, 420, 300);
rectangle( 180, 250, 220, 300);
    line ( 200, 100, 150, 180);
    line ( 200, 100, 250, 180);
    line ( 200, 100, 370, 100 );
    line ( 370, 100, 420, 180);
    setcolor (BROWN);
    floodfill (152, 182, WHITE);
    floodfill (252, 182, WHITE);
     setcolor (LIGHTRED);
    floodfill (182, 252, WHITE);
     setcolor (LIGHTRED);
    floodfill (200, 105, WHITE);
    floodfill (210, 105, WHITE);
     getch ();
```

Anisha Rawat