NAME: AKASH COURSE: BCA-6 A ROLL No: 1121007

Q: DDA Algorithm

Step 1: Start

Step 2: Declare $x_1, y_1, x_2, y_2, dx, dy, x, y$ as Integer Variable

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: $x_{inc} = dx / step$

$y_{inc} = dy / step$

assign $x = x_1$

assign $y = y_1$

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

PROGRAM

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

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

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Q3 TRAFFIC LIGHT

```
#include <graphics.h>
#include <conio.h>
int main()
{
int graphicdriver = DETECT, graphicmode;
initgraph(&graphicdriver, &graphicmode, " ");
Outtextxy(50, 50, "Create Traffic Signal");
int middlex, middley;
middlex = getmaxx()/2;
middley = getmaxy()/2;
SetColor(WHITE);
SettextStyle(DEFAULT_FONT, HORIZ_DIR, 1);
rectangle(middlex-30, middley-80, middlex+30, middley+80);
Circle(middlex, middley-50, 22);
Setfillstyle(SOLID_FILL, YELLOW);
floodfill(middlex, middley, WHITE);
SetColor(BLUE);
Outtextxy(middlex-18, middley-3, "READY");
SetColor(WHITE);
rectangle(middlex-30, middley-80, middlex+30, middley+80);
Circle, (middlex, middley+50, 22),
```

```
Setfillstyle(SOLID_FILL,
floodfill(middlex, middley);
  SetColor(BLUE);
outtextxy(middlex-7, middley
    SetColor(RED);
  Settextstyle(SCRIPT_FONT, HORI
      getch());
      return 0;
}
```