Name - Divyanshu Semwal
Course - BCA 6th Sem Sec A
Roll No - 1121047

(1) DDA Line Drawing Algorithm

Step 1 Start Algorithm

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

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 Algorithm

Name - Divyanshu Semwal
Course - BCA 6th Sem Sec A
Roll No. - 11210+7

(1) DDA Line Drawing Program

```
#include <graphics.h>
#include <conio.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, "C:\\TC\\BGI");
   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;
      i = i+1;
   }
   getch()
   closegraph();
}
```