Name: shubhangi

Course: MCA

Section: 5 A

Subject : computer graphics lab

Lab Assignment 1

Q1.Write a program to implement DDA Line drawing algorithm

ALGORITHM:

Step 1: Start algrithm

Step 2: Declare x1,y1,x2,y2,dx,dy,x,y as integer variable

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 = Abs(dy)

Step 7: xinc = dx/step

yinc = dy/step

assign x = x1

assign y = y1

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 = x2

PROGRAM:

```
#include<stdio.h>
#include<graphics.h>
int abs (int n) {
return ( (n>0) ? n : ( n * (-1)));
}
void DDA(int X0, int Y0, int X1, int Y1)
{
   int dx = X1 - X0;
   int dy = Y1 - Y0;
   int steps = abs(dx) > abs(dy) ? abs(dx) : abs(dy);
   float Xinc = dx / (float) steps;
   float Yinc = dy / (float) steps;
   float X = X0;
   float Y = Y0;
   for (int i = 0; i <= steps; i++)
   {
     putpixel (X,Y,RED);
       X += Xinc;
       Y += Yinc;
       delay(100);
    } }
int main(){
    int gd=DETECT, gm;
    initgraph(&gd,&gm,"c:\turboc3\bgi");
  line(2,2,189,189);
return 0;
}
```

Output