Anchal Tonk
Course : BCA 6th A
Roll No : 1121017
Subject : Computer Graphics & Animation (lab)

Set A

Q1:

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

```
#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;
  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(x1, y1, RED);
  x=x1, y=y1;
  while (step>0)
  {
    if (m<1)
    {
      x=x+1;
      y=y+m;
    }
```

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