

Name : Virendra Singh

Code : PBC-602

Course : BCA VI 'C'

Roll No : 55

Univ. Roll NO : 1121170

Q1

Ans

```
void main()
{
    float x, y, x1, y1, x2, y2, dx, dy, steps, p;
    printf ("Enter (x1, y1) : ");
    int i = 1, gd = DETECT, gm;
    scanf ("%f %f", &x1, &y1);
    printf ("Enter (x2, y2) : ");
    scanf ("%f %f", &x2, &y2);
    initgraph (&gd, &gm, "");
    dx = x2 - x1;
    dy = y2 - y1;
    steps = dx - 1;
    int pk = (2 * dy) - dx;
    p = pk;
    x = x1;
    y = y1;
    while (i <= steps)
    {
        if (p < 0)
        {
            putpixel (x, y, BLUE);
            x = x + 1;
            y = y;
            p = p + (2 * dy);
            delay (50);
        }
    }
```

```

else { putpixel (x, y, BLUE);
      x = x + 1;
      y = y + 1;
      b = b + (2 * dy) - (2 * dx);
      delay (50);
      i++;
      getch();
      closegraph();
}

```

Algorithm :- Step 1: Start

Step 2: Declare variable  $x_1, y_1, x_2, y_2, d,$   
 $i, i_1, i_2, dx, dy$ .

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

Step 4: Calculate  $dx = x_2 - x_1$   
 $dy = y_2 - y_1$   
 $i_1 = 2 * dy$   
 $i_2 = 2 * (dy - dx)$

Step 5: Consider  $(x, y)$  as starting point &  
 $x_{end}$  as maximum possible value of  $x$

if  $dx < 0$ , then  $x = x_2$

$y = y_2$ ,  $x_{end} = x_1$

if  $dx > 0$  then  $x = x_1$

Step 6:  $y = y_1$ ,  $x_{end} = x_2$

Step 7: Generate point at  $(x, y)$  coordinates  
Check if whole lines generated



if  $x \geq x_{end}$

stop.

Step 8: Calculate co-ordinates of the Next pixel if  $d < 0$

then  $d = d + 1$

if  $a > 0$  then  $d = d + 1$

increment  $y = y + 1$

Step 9 :- Increment  $x = x + 1$

Step 10 :- Draw a point of  $(x, y)$   
Coordinates

Step 11 :- Go to Step 7

Step 12: End.

SDL-libgraph — Graphics on GNU/Linux

