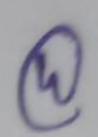Name – Ashish Dabral

Course – BCA '6' 'A'

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Subject :- Computer Graphics
Practical

Ashish

Q1

<u>Sol</u>

(1)

OD A 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 : $xinc = dx/step$

      $yinc = dy/step$

      assign $x = x_1$

      assign $y = y_1$

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 $x = x_2$

Step 11 : End Algorithm

Ashish

```c
#include <graphics.h>
#include <conio.h>
#include <stdio.h>
void main()
{
    intgd = 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(); closegraph();
}
```

Q3

Sol'
B'

Source Code

```c
#include <graphics.h>
int main()
{
    int gd = DETECT, gm;
    initgraph(&gd, &gm, "NULL");
    Line(0, 200, getmaxx(), 200);
    Line(0, 360, getmaxx(), 360);

    setcolor(WHITE);
    rectangle(150, 210, 260, 230);
    floodfill floodfill(152, 220, WHITE);
    rectangle(150, 240, 260, 260);
    floodfill(152, 241, WHITE);
    rectangle(150, 270, 260, 290);
    floodfill(152, 271, WHITE);
    rectangle(150, 300, 260, 320);
    floodfill(152, 301, WHITE);
    rectangle(150, 330, 260, 350);
    floodfill(152, 331, WHITE);
```

```
setcolor(WHITE);
rectangle(140,200,145,130);
rectangle(130,130,155,70);
setcolor(RED);
circle(142,82,6);
floodfill(147,82,RED);
Set color(Yelo YELLOW);
circle(142,100,6);
floodfill(142,100,YELLOW);
Se Set color(GREEN);
Circle(142,118,6);
floodfill(43,118,GREEN);
Set color(WHITE);
rectangle(150,180,250,300);
rectangle(250,180,420,300);
rectangle(160,250,270;300);
Line(200,100,150,180);
Line(200,100,250,180);
Line(200,100,370,100);
Line(370,100,420,180);

Setcolor(BROWN);
floodfill(152,182,WHITE);
floodfill(252,182,WHITE);

Setcolor(LIGHTRED);
```

```
floodfill (182,252, WHITE);
setcolor (LIGHTRED);
floodfill (200,105, WHITE);
floodfill (210,105, WHITE);
getch();
closegraph();
return 0;
}
```

Ashish