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#include <stdio.h>
#include <stdlib.h>
#include <graphics.h>

void floodfill4(int, int, int, int);
void floodfill8(int, int, int, int);
void boundaryfill4(int, int, int, int);
void boundaryfill8(int, int, int, int);

void floodfill4(int x, int y, int fill_color, int old_color)
{
    if(getpixel(x,y) == old_color)
    {
        putpixel(x,y,fill_color);

        floodfill4(x+1,y,fill_color,old_color);
        floodfill4(x-1,y,fill_color,old_color);
        floodfill4(x,y+1,fill_color,old_color);
        floodfill4(x,y-1,fill_color,old_color);
    }
}

void floodfill8(int x, int y, int fill_color, int old_color)
{
    if(getpixel(x,y) == old_color)
    {
        putpixel(x,y,fill_color);

        floodfill8(x+1,y,fill_color,old_color);
        floodfill8(x-1,y,fill_color,old_color);
        floodfill8(x,y+1,fill_color,old_color);
        floodfill8(x,y-1,fill_color,old_color);

        floodfill8(x+1,y+1,fill_color,old_color);
        floodfill8(x+1,y-1,fill_color,old_color);
        floodfill8(x-1,y+1,fill_color,old_color);
        floodfill8(x-1,y-1,fill_color,old_color);
    }
}

void boundaryfill4(int x, int y, int fill, int boundary)
{
    int current;
    current = getpixel(x,y);
    if(current!=boundary && current!=fill)
    {
        putpixel(x,y,fill);

        boundaryfill4(x+1,y,fill,boundary);
        boundaryfill4(x-1,y,fill,boundary);
        boundaryfill4(x,y+1,fill,boundary);
        boundaryfill4(x,y-1,fill,boundary);
    }
}

void boundaryfill8(int x, int y, int fill, int boundary)
{
    int current;
    current = getpixel(x,y);

    if(current!=boundary && current!=fill)
    {
        putpixel(x,y,fill);

        boundaryfill8(x+1,y,fill,boundary);
        boundaryfill8(x-1,y,fill,boundary);
        boundaryfill8(x,y+1,fill,boundary);
        boundaryfill8(x,y-1,fill,boundary);

        boundaryfill8(x+1,y+1,fill,boundary);
        boundaryfill8(x-1,y+1,fill,boundary);
        boundaryfill8(x-1,y-1,fill,boundary);
        boundaryfill8(x+1,y-1,fill,boundary);
    }
}

```

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}

int main()
{
    initwindow(400,400,"window");
    setbkcolor(WHITE);
    setcolor(BLACK);

    //FLOOD FILL 4
    rectangle(10,10,50,50);
    floodfill4(30,30,BLUE,WHITE);

    //FLOOD FILL 8
    rectangle(110,10,150,50);
    floodfill8(130,30,GREEN,WHITE);

    //BOUNDARY FILL 4
    circle(50,200,30);
    boundaryfill4(50,200,RED,BLACK);

    //BOUNDARY FILL 8
    rectangle(200,20,250,50);
    boundaryfill8(230,30,YELLOW,BLACK);

    while(!kbhit())
        delay(50);

    return EXIT_SUCCESS;
}

```

