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

struct Node
{
        int x;
        int y;
        struct Node* next;
};

void floodfill4 (int x, int y, int oldclr, int newclr);
void insert (int x, int y, struct Node** last);

int main()
{
        int i, j, seedx, seedy;;
        int pt[3][2]={50, 50, 50, 200, 200, 200};

        initwindow(320, 240, "fill");

        setcolor (WHITE);
        line (pt[0][0], pt[0][1], pt[1][0], pt[1][1]);
        line (pt[1][0], pt[1][1], pt[2][0], pt[2][1]);
        line (pt[2][0], pt[2][1], pt[0][0], pt[0][1]);

        seedx = (pt[0][0] + pt[1][0] + pt[2][0]) / 3;
        seedy = (pt[0][1] + pt[1][1] + pt[2][1]) / 3;

        floodfill4 (seedx, seedy, BLACK, BLUE);

        return EXIT_SUCCESS;
}

void floodfill4 (int x, int y, int oldclr, int newclr)
{
        struct Node* first, *last, *tmp;

        first = (struct Node*) malloc (sizeof (struct Node));
        if (first == NULL)
                exit (2);

        if (oldclr == newclr)
        {
                free (first);
                return;
        }

        first->x = x;
        first->y = y;
        first->next = NULL;
        last = first;

        while (first != NULL)
        {
                putpixel (x, y, newclr);

                if (getpixel (x, y-1) == oldclr)
                {
                        putpixel (x, y-1, newclr);
                        insert (x, y-1, &last);
                }

                if (getpixel (x, y+1) == oldclr)
                {
                        putpixel (x, y+1, newclr);
                        insert (x, y+1, &last);
                }

                if (getpixel (x-1, y) == oldclr)
                {
                        putpixel (x-1, y, newclr);
                        insert (x-1, y, &last);
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                }

                if (getpixel (x+1, y) == oldclr)
                {
                        putpixel (x+1, y, newclr);
                        insert (x+1, y, &last);
                }

                tmp = first;
                first = first->next;
                x = first->x;
                y = first->y;
                free (tmp);
                delay(1);
        }
}

void insert (int x, int y, struct Node** last)
{
        struct Node* p;
        p = (struct Node*) malloc (sizeof (struct Node));
        if (p == NULL)
                exit (2);

        p->x = x;
        p->y = y;
        p->next = NULL;
        (*last)->next = p;
        *last = (*last)->next;
}
```