

```

<stdlib.h>
#define HEIGHT 400
#define WIDTH 800
struct point
{
    char blue,#include <stdio.h>
};
#include
    char green;
    char red;
};
struct point truecolor[WIDTH][HEIGHT];
char color[HEIGHT*WIDTH*3];
void paint_point(int x, int y, struct point shade)
{
    truecolor[x][y].blue=shade.blue;
    truecolor[x][y].green=shade.green;
    truecolor[x][y].red=shade.red;
}
int main()
{
    //FILE *fp;
    //fp=fopen("image.txt","w");
    //fclose(fp);
    FILE *ty;
    ty=fopen("test1.bmp","rb");
    char mass[54];
    fread(mass, sizeof(char), 54, ty);
    FILE *ty2;
    ty2=fopen("result.bmp","wb");
    fwrite(mass, sizeof(char),54,ty2);
    int i;
    int g;
    //for(i=0;i<HEIGHT*WIDTH*3;i++)
    //{
    //    color[i]=255;
    //}
    for(i=0;i<WIDTH;i++)
    {
        for(g=0;g<HEIGHT;g++)
        {
            truecolor[i][g].blue=255;
            truecolor[i][g].green=0;
            truecolor[i][g].red=255;
        }
    }
    struct point mypoint;
    mypoint.blue=0;
    mypoint.green=0;
    mypoint.red=0;
    paint_point(120, 200, mypoint);

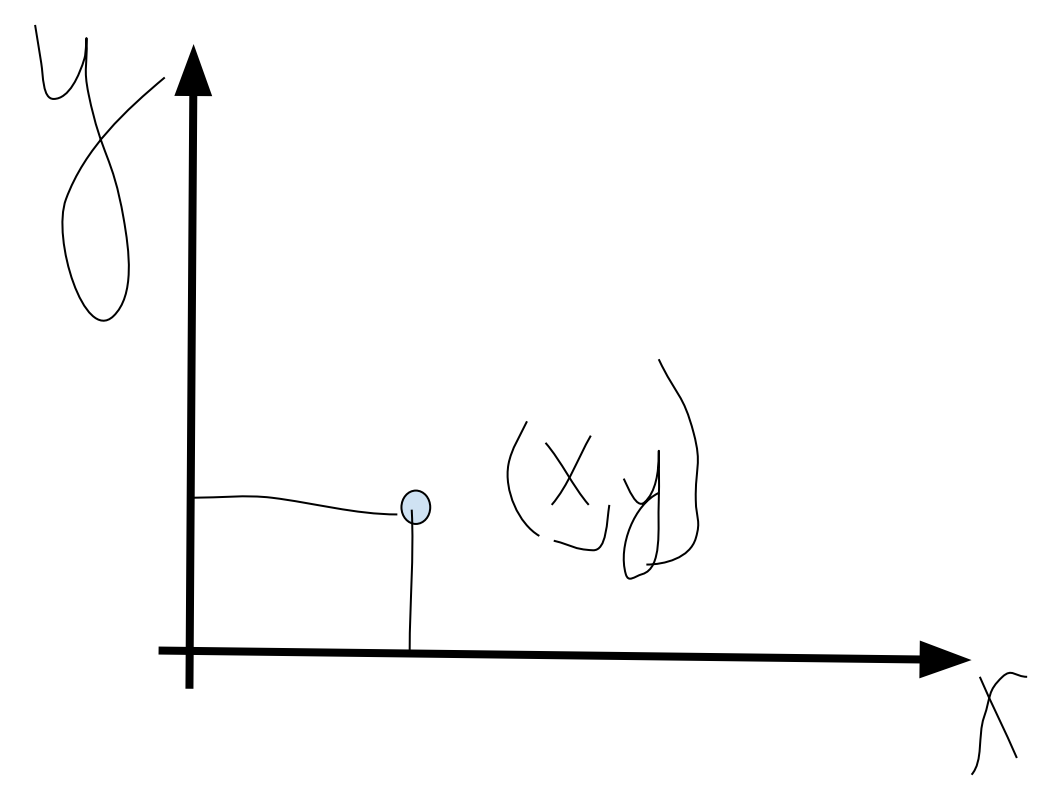
    int a=0;
    //for(i=WIDTH-1;i>=0;i--)
    for(g=0;g<HEIGHT;g++)
    {
        for(i=0;i<WIDTH;i++)
        {
            color[a]=truecolor[i][g].blue;
            color[a+1]=truecolor[i][g].green;
            color[a+2]=truecolor[i][g].red;
            a+=3;
        }
    }
    fwrite(color,sizeof(char),HEIGHT*WIDTH*3,ty2);
    fclose(ty);
    fclose(ty2);
}

```

```

void paint_rectangle(int x1,int y1,int x2,int y2,struct point shade)
{
    if(x1<=800 && x2<=800 && y1<=400 && y2<=400 && 0<=x1 && 0<=x2 && 0<=y1 && 0<=y2)
    {
        int i;
        int g;
        int minx;
        int miny;
        int maxx;
        int maxy;
        int situation;
        if(x1<x2 && y1<y2)
        {
            minx=x1;
            miny=y1;
            maxx=x2;
            maxy=y2;
            situation=1;
        }
        if(x1>x2 && y1>y2)
        {
            minx=x2;
            miny=y2;
            maxx=x1;
            maxy=y1;
            situation=1;
        }
        if(situation==1)
        {
            for(i=minx;i<=maxx;i++)
            {
                for(g=miny;g<=maxy;g++)
                {
                    truecolor[i][g].blue=shade.blue;
                    truecolor[i][g].green=shade.green;
                    truecolor[i][g].red=shade.red;
                }
            }
        }
        if(x1>x2 && y1<y2)
        {
            minx=x2;
            miny=y1;
            maxx=x1;
            maxy=y2;
            situation=0;
        }
        if(x1<x2 && y1>y2)
        {
            minx=x1;
            miny=y2;
            maxx=x2;
            maxy=y1;
            situation=0;
        }
        if(situation==0)
        {
            for(i=minx;i<=maxx;i++)
            {
                for(g=maxy;g>=miny;g--)
                {
                    truecolor[i][g].blue=shade.blue;
                    truecolor[i][g].green=shade.green;
                    truecolor[i][g].red=shade.red;
                }
            }
        }
    }
    else
    {
        printf("ERROR");
    }
}

```



opleft(x1,y1)



bottomright(x2,y2)

```

#include <iostream>

using namespace std;

#include <cstdlib>
#define HEIGHT 400
#define WIDTH 800
struct point
{
    char blue;
    char green;
    char red;
};
struct point truecolor[WIDTH][HEIGHT];
char color[HEIGHT*WIDTH*3];

int main()
{
    //FILE *fp;
    //fp=fopen("image.txt","w");
    //fclose(fp);
    FILE *ty;
    ty=fopen("test.bmp","rb");
    char mass[54];
    fread(mass, sizeof(char), 54, ty);
    FILE *ty2;
    ty2=fopen("result.bmp","wb");
    fwrite(mass, sizeof(char),54,ty2);
    int i;
    int g;
    //for(i=0;i<HEIGHT*WIDTH*3;i++)
    //{
    //    color[i]=255;
    //}
    for(i=0;i<WIDTH;i++)
    {
        for(g=0;g<HEIGHT;g++)
        {
            truecolor[i][g].blue=128;
            truecolor[i][g].green=128;
            truecolor[i][g].red= 0;
        }
    }
    struct point mypoint;
    mypoint.blue=0;
    mypoint.green=0;
    mypoint.red=255;
    //paint_point(150, 100, mypoint);
    paint_rectangle(250, 300, 100, 200, mypoint);

    int a=0;
    //for(i=WIDTH-1;i>=0;i--)
    for(g=0;g<HEIGHT;g++)
    {
        for(i=0;i<WIDTH;i++)
        {
            color[a]=truecolor[i][g].blue;
            color[a+1]=truecolor[i][g].green;
            color[a+2]=truecolor[i][g].red;
            a+=3;
        }
    }
    fwrite(color,sizeof(char),HEIGHT*WIDTH*3,ty2);
    fclose(ty);
    fclose(ty2);
}

```

```

void paint_point(int x, int y, struct point shade)
{
    truecolor[x][y].blue=shade.blue;
    truecolor[x][y].green=shade.green;
    truecolor[x][y].red=shade.red;
}

void paint_rectangle(int x1, int y1, int x2, int y2, struct point shade)
{
    int maxx, minx, maxy, miny;
    if(x1 > x2)
    {
        maxx = x1;
        minx = x2;
    }
    else
    {
        maxx = x2;
        minx = x1;
    }
    if(y1 > y2)
    {
        maxy = y1;
        miny = y2;
    }
    else
    {
        maxy = y2;
        miny = y1;
    }

    for(int i = minx; i <= maxx; i++)
    {
        for(int j = miny; j <= maxy; j++)
        {
            truecolor[i][j].blue = shade.blue;
            truecolor[i][j].green = shade.green;
            truecolor[i][j].red = shade.red;
        }
    }
}

```