演習課題 04 (04月26日）レポート

交換留学(文学部)　ES19-0013 ジョユンサン  
課題 4

発展課題4

*// Created by Jho on 26/04/2019.*

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#include <stdio.h>

#include <stdlib.h>

#include "cglec.h"

#include <math.h>

#define PI 3.14

#define WIDTH 400

#define HEIGHT 400

**double** radian;

**void** PaintCircle(Image img, **int** x0, **int** y0, **int** r, **int** g)

{

**int** i, j;

**for** (i = 0; i < img.Nx; i++)

**for** (j = 0; j < img.Ny; j++)

**if** ((i - x0) \* (i - x0) + (j - y0) \* (j - y0) <= r \* r)

\*(img.Data + i \* img.Ny + j) = g; *//color of circle*

**else**

\*(img.Data + i \* img.Ny + j) = 0; *//rest of circle*

}

**int** rotating\_x(**int** x, **int** y)

{

**return** ((x - 199) \* cos(radian) - (y - 199) \* sin(radian) + 199); *//(199,199) <-* 円の中心

}

**int** rotating\_y(**int** x, **int** y)

{

**return** ((x - 199) \* sin(radian) + (y - 199) \* cos(radian) + 199);

}

**int** main(**void**)

{

**unsigned** **char** RED[WIDTH][HEIGHT];

**unsigned** **char** GREEN[WIDTH][HEIGHT];

**unsigned** **char** BLUE[WIDTH][HEIGHT];

Image img\_RED = { (**unsigned** **char**\*)RED,WIDTH,HEIGHT};

Image img\_GREEN = { (**unsigned** **char**\*)GREEN,WIDTH,HEIGHT};

Image img\_BLUE = { (**unsigned** **char**\*)BLUE,WIDTH,HEIGHT};

**int** x0, x1, x2, y0, y1, y2;

x0 = WIDTH/2-1; y0 = HEIGHT/2+69;

radian = -120 \* PI / 180;

x1 = rotating\_x(x0, y0); *//rotate 120*

y1 = rotating\_y(x0, y0); *//rotate 120*

x2 = rotating\_x(x1, y1); *//rotate 120*

y2 = rotating\_y(x1, y1); *//rotate 120*

PaintCircle(img\_RED, x0, y0, 100, 255);

PaintCircle(img\_BLUE, x1, y1, 100, 255);

PaintCircle(img\_GREEN, x2, y2 ,100, 255);

CglSaveColorBMP(img\_RED, img\_GREEN, img\_BLUE, "circle.bmp");

}

