

5月29日の授業中に作成したサンプルプログラム

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```
//その1
size(200,200);
rect(50,60,50,60);
stroke(255,10,10);
line(0,0,width,0);
line(0,0,0,height);
fill(255,10,10);
ellipse(0,0,10,10);
```

```
//その2
size(200,200);
rotate(PI/6);//PIは円周率
//rotate(radians(30));//radiansは角度をラジアンに変換
rect(50,60,50,60);
stroke(255,10,10);
line(0,0,width,0);
line(0,0,0,height);
fill(255,10,10);
ellipse(0,0,10,10);
```

```
//その3
size(200,200);
rotate(PI/6);//PI:
//rotate(radians(30));
rect(50,60,50,60);
stroke(255,10,10);
line(0,0,width,0);
line(0,0,0,height);
fill(255,10,10);
ellipse(0,0,10,10);
```

```
//その4
size(200,200);
scale(0.5);
rect(50,60,50,60);
stroke(255,10,10);
line(0,0,width,0);
line(0,0,0,height);
fill(255,10,10);
ellipse(0,0,10,10);
```

```
//その5
size(200,200);
```

```
scale(0.5,1.5);
rect(50,60,50,60);
stroke(255,10,10);
line(0,0,width,0);
line(0,0,0,height);
fill(255,10,10);
ellipse(0,0,10,10);
```

```
//その6
size(400,400);
rect(0,0,100,100);
stroke(255,10,10);
line(0,-height,0,height);
line(width,0,-width,0);
```

```
//その7
size(400,400);
translate(width/2,height/2);
rotate(PI/4);
rect(0,0,100,100);
stroke(255,10,10);
line(0,-height,0,height);
line(width,0,-width,0);
```

```
//その8
void setup(){
  size(400,400);
}
```

```
void draw(){
  background(255);
  translate(width/2,height/2);
  stroke(0);
  line(0,height,0,-height);
  line(width,0,-width,0);
  rotate(2*PI*second()/60);
  stroke(255,10,10);
  line(0,0,0,-150);
  rotate(2*PI*minute()/60);
  stroke(10,10,255);
  line(0,0,0,-120);
}
```

```
//その9
void setup(){
  size(400,400);
```

```
}
```

```
void draw(){  
  background(255);  
  translate(width/2,height/2);  
  pushMatrix();  
  stroke(0);  
  line(0,height,0,-height);  
  line(width,0,-width,0);  
  rotate(2*PI*second()/60);  
  stroke(255,10,10);  
  line(0,0,0,-150);  
  popMatrix();  
  rotate(2*PI*minute()/60);  
  stroke(10,10,255);  
  line(0,0,0,-120);  
}
```

```
}
```

```
//その 10
```

```
void setup(){  
  size(400,400);  
}
```

```
}
```

```
void draw(){  
  background(255);  
  translate(width/2,height/2);  
  pushMatrix();  
  stroke(0);  
  line(0,height,0,-height);  
  line(width,0,-width,0);  
  rotate(2*PI*second()/60);  
  stroke(255,10,10);  
  line(0,0,0,-150);  
  popMatrix();  
  pushMatrix();  
  rotate(2*PI*minute()/60);  
  stroke(10,10,255);  
  line(0,0,0,-120);  
  popMatrix();  
  rotate(2*PI*(hour()%12)/12);  
  stroke(10,255,10);  
  line(0,0,0,-100);  
}
```

```
}
```

```
//その 11
```

```
float h; // BAD!!
```

```

float m;
float s;

void setup(){
  size(400,400);
  h = 0;
  m = 0;
  s = 0;
}

void draw(){
  background(255);
  translate(width/2,height/2);
  pushMatrix();
  stroke(0);
  line(0,height,0,-height);
  line(width,0,-width,0);
  s = 2*PI*second()/60;
  rotate(s);
  stroke(255,10,10);
  line(0,0,0,-150);
  popMatrix();
  pushMatrix();
  m = 2*PI*minute()/60;
  rotate(m);
  stroke(10,10,255);
  line(0,0,0,-120);
  popMatrix();
  h = 2*PI*(hour()%12)/12;
  rotate(h);
  stroke(10,255,10);
  line(0,0,0,-100);
}

```

```

//その 12
void setup(){
  size(400,400);
  h = 0;
  m = 0;
  s = 0;
}

void draw(){
  background(255);
  translate(width/2,height/2);
  pushMatrix();

```

```

stroke(0);
line(0,height,0,-height);
line(width,0,-width,0);
float s = 2*PI*second()/60;
rotate(s);
stroke(255,10,10);
line(0,0,0,-150);
popMatrix();
pushMatrix();
float m = 2*PI*minute()/60;
rotate(m);
stroke(10,10,255);
line(0,0,0,-120);
popMatrix();
float h = 2*PI*(hour()%12)/12;
rotate(h);
stroke(10,255,10);
line(0,0,0,-100);
}

```

```

//その 13
void setup(){
  size(400,400);
}

```

```

void draw(){
  background(255);
  translate(width/2,height/2);
  pushMatrix();
  stroke(0);
  line(0,height,0,-height);
  line(width,0,-width,0);
  float s = 2*PI*second()/60;
  rotate(s);
  stroke(255,10,10);
  line(0,0,0,-150);
  popMatrix();
  pushMatrix();
  float m = 2*PI*minute()/60;
  rotate(m);
  stroke(10,10,255);
  line(0,0,0,-120);
  popMatrix();
  float h = 2*PI*(hour()%12)/12;
  rotate(h);
  stroke(10,255,10);
}

```

```
    line(0,0,0,-100);  
}
```

```
//その 14  
void setup(){  
    size(200,200);  
}  
void draw(){  
    background(255);  
    fill(128);  
    int x = 0;  
    while(x < width){  
        x = x + int(random(10));  
        ellipse(x,height/2,10,10);  
    }  
}
```

```
//その 15  
void setup() {  
    size(400, 400);  
}
```

```
void draw(){  
    background(255);  
    for(int i=0;i<20;i++){  
        color r = color(255,10,10);  
        color g = color(10,255,10);  
        color b =color(10,10,255);  
        if(i % 15 == 0){  
            fill(r);  
        }else if(i % 3 == 0){  
            fill(g);  
        }else if(i % 5 == 0){  
            fill(b);  
        }else{  
            noFill();  
        }  
        rect(20*i,0,20,height);  
    }  
    /*  
    fill(r);  
    ellipse(width/2,height/2,10,10);  
    */  
}
```

```
//その 16
```

```
void setup() {  
  size(400, 400);  
}
```

```
void draw(){  
  background(255);  
  for(int i=0;i<20;i++){  
    color r = color(255,10,10);  
    color g = color(10,255,10);  
    color b =color(10,10,255);  
    if(i % 15 == 0){  
      fill(r);  
    }else if(i % 3 == 0){  
      fill(g);  
    }else if(i % 5 == 0){  
      fill(b);  
    }else{  
      noFill();  
    }  
    rect(20*i,0,20,height);  
  }  
  /*  
  fill(r);  
  ellipse(width/2,height/2,10,10);  
  */  
}
```

```
//その 17  
void setup(){  
  size(200,200);  
}
```

```
void draw(){  
  background(255);  
  fill(0);  
  ellipse(mouseX,mouseY,20,20);  
}
```

```
//その 18  
void setup(){  
  size(200,200);  
}
```

```
void draw(){  
  background(255);  
  fill(0);  
}
```

```

    drawDisk();
}

void drawDisk(){
    ellipse(mouseX,mouseY,20,20);
}

//その 19
void setup(){
    size(400,400);
}

void draw(){
    background(255);
    stroke(0);
    drawGraph();
}

void drawGraph(){
    float x0 = 0;
    float y0 = 0;
    float x1;
    float y1;
    for(int x=0;x<width;x++){
        x1 = float(x)/width;
        y1 = x1*x1;
        line(width*x1,height*y1,width*x0,height*y0);
        x0 = x1;
        y0 = y1;
    }
}

//その 20
void setup() {
    size(400, 400);
}

void draw() {
    background(255);
    stroke(0);
    translate(0,height);
    scale(1,-1);
    drawGraph();
}

void drawGraph() {

```



```
float x0 = 0;
float y0 = 0;
float x1;
float y1;
for (int x=0; x<width; x++) {
    x1 = float(x)/width;
    y1 = x1*x1;
    line(width*x1, height*y1, width*x0, height*y0);
    x0 = x1;
    y0 = y1;
}
}
```

```
//その 21
void setup(){
    size(400,400);
}
```

```
void draw(){
    background(255);
    fill(128);
    int x = 0;
    while(x >= 0){
        x = x + int(random(10));
        ellipse(x,height/2,10,10);
    }
}
```