2019年6月25日
情報メディア学科佐藤尚

6月25日の授業中に作成したスケッチ

```
//その1
float y0; // 円の中心のY座標
float x0; // 円の中心のX座標
float v0; // 円の縦方向の移動速度
int radius;

void setup() {
  size(300, 400);
  radius = 10;
  v0 = random(1, 2);
  y0 = -random(radius, 2*radius);
  x0 = random(radius, width-radius);
}

void draw() {
  background(255);
  // 中心(x0,y0)の円の処理
  y0 = y0+v0;
  if (y0 -radius> height) {
    x0 = random(radius, width-radius);
    y0 = -random(radius, 2*radius);
  }
  stroke(255, 10, 10);
  fill(255, 10, 10);
  ellipse(x0, y0, 2*radius, 2*radius);
}
```

```
//その2
float y0, y1, y2; // 円の中心のY座標
float x0, x1, x2; // 円の中心のX座標
float v0, v1, v2; // 円の縦方向の移動速度
int radius;
void setup() {
  size(300, 400);

  radius = 10;

  v0 = random(1, 2);
  y0 = -random(radius, 2*radius);
  x0 = random(radius, width-radius);

  v1 = random(1, 2);
  y1 = -random(radius, 2*radius);
  x1 = random(radius, width-radius);

  v2 = random(1, 2);
  y2 = -random(radius, 2*radius);
  x2 = random(radius, width-radius);
}
void draw() {
  background(255);

  y0 = y0+v0;
```

```
  if (y0 -radius> height) {
    x0 =random(radius, width-radius);
    y0 = -random(radius, 2*radius);
  }
  stroke(255, 10, 10);
  fill(255, 10, 10);
  ellipse(x0, y0, 2*radius, 2*radius);

  y1 = y1+v1;
  if (y1 -radius> height) {
    x1 = random(radius, width-radius);
    y1 = -random(radius, 2*radius);
  }
  stroke(255, 10, 10);
  fill(255, 10, 10);
  ellipse(x1, y1, 2*radius, 2*radius);

  y2 = y2+v2;
  if (y2 -radius> height) {
    x2 =random(radius, width-radius);
    y2 = -random(radius, 2*radius);
  }
  stroke(255, 10, 10);
  fill(255, 10, 10);
  ellipse(x2, y2, 2*radius, 2*radius);
}
```

//その3

```
float[] x;// 円の中心のX座標
float[] y;// 円の中心のY座標
float[] v;// 円の縦方向の移動速度

int radius;
void setup() {
  size(300, 400);
  x = new float[3];
  y = new float[3];
  v = new float[3];

  radius = 10;

  v[0] = random(1, 2);
  y[0] = -random(radius, 2*radius);
  x[0] = random(radius, width-radius);

  v[1] = random(1, 2);
  y[1] = -random(radius, 2*radius);
  x[1] = random(radius, width-radius);

  v[2] = random(1, 2);
  y[2] = -random(radius, 2*radius);
  x[2] = random(radius, width-radius);
}
```

```
void draw() {
  background(255);

  y[0] = y[0]+v[0];
  if (y[0] -radius> height) {
    x[0] =random(radius, width-radius);
    y[0] = -random(radius, 2*radius);
  }
  stroke(255, 10, 10);
  fill(255, 10, 10);
  ellipse(x[0], y[0], 2*radius, 2*radius);

  y[1] = y[1]+v[1];
  if (y[1] -radius> height) {
    x[1] =random(radius, width-radius);
    y[1] = -random(radius, 2*radius);
  }
  stroke(255, 10, 10);
  fill(255, 10, 10);
  ellipse(x[1], y[1], 2*radius, 2*radius);

  y[2] = y[2]+v[2];
  if (y[2] -radius> height) {
    x[2] =random(radius, width-radius);
    y[2] = -random(radius, 2*radius);
  }
  stroke(255, 10, 10);
  fill(255, 10, 10);
  ellipse(x[2], y[2], 2*radius, 2*radius);
}
```

//その4

```
float[] x;// 円の中心のX座標
float[] y;// 円の中心のY座標
float[] v;// 円の縦方向の移動速度
int radius;

void setup() {
  size(300, 400);
  x = new float[5];
  y = new float[5];
  v = new float[5];
  radius = 10;
  for (int i=0; i<5; i++) {
    v[i] = random(1, 2);
    y[i] = -random(radius, 2*radius);
    x[i] = random(radius, width-radius);
  }
}

void draw() {
  background(255);
  for (int i=0; i<5; i++) {
    y[i] = y[i]+v[i];
```

```
    if (y[i] -radius> height) {
      x[i] =random(radius, width-radius);
      y[i] = -random(radius, 2*radius);
    }
    stroke(255, 10, 10);
    fill(255, 10, 10);
    ellipse(x[i], y[i], 2*radius, 2*radius);
  }
}
```

//その5

```
float[] xPos;

void setup(){
  size(400,200);
  xPos = new float[5];
  for(int i=0;i<xPos.length;i++){
    xPos[i] = random(i*width/xPos.length+10,(i+1)*width/xPos.length-
10);
  }
}

void draw(){
  background(255);

  noFill();
  for(int i=0;i<xPos.length;i++){
    ellipse(xPos[i],height/2,20,20);
  }
  for(int i=0;i<xPos.length;i++){
    if(dist(xPos[i],height/2,mouseX,mouseY) < 20.0/2){
      fill(255,10,10);
      ellipse(xPos[i],height/2,20,20);
    }
  }
}
```

//その6//その1

```
float[] y;// 円の中心のY 座標
float[] x;// 円の中心のX 座標
float[] v;// 円の縦方向の移動速度
color[] c;
int radius;

void setup() {
  size(300, 400);
  colorMode(HSB,359,99,99);
  radius = 10;
  x = new float[300];// x[0],x[1],x[2],...
  y = new float[300];// y[0],y[1],y[2],...
  v = new float[300];// v[0],v[1],v[2],...
  c = new color[300];// c[0],c[1],c[2],...
```

```
  for (int i=0; i<x.length; i++) {
    v[i] = random(1, 2); // 移動速度を乱数で決める
    x[i] = random(radius, width-radius); // 出現位置をずらす
    y[i] = -random(radius, 2*radius); // 出現タイミングをずらすため
    c[i] = color(random(360),99,99);
  }
}

void draw() {
  background(0,0,99);
  for(int i=0;i<x.length;i++){
  y[i] = y[i]+v[i];
  if (y[i] -radius> height) {
    x[i] = random(radius, width-radius); // 出現位置をずらす
    y[i] = -random(radius, 2*radius); // 出現タイミングをずらすため
  }
  stroke(c[i]);
  fill(c[i]);
  ellipse(x[i], y[i], 2*radius, 2*radius);
  }
  drawCircleAtBalance(x,y);
}

void drawCircleAtBalance(float[] xPos,
                         float[] yPos){
  float gx=0;
  float gy=0; //<>//
  for(int i=0;i < xPos.length;i++){
    gx = gx + xPos[i];
  }
  for(int i=0;i < yPos.length;i++){
    gy = gy + yPos[i];
  }
  gx = gx / xPos.length;
  gy = gy / yPos.length; //<>//
  fill(0,99,0);
  ellipse(gx,gy,2*radius,2*radius);
}
```

//その7

```
int pickedID = -1;
boolean picking=false;
float[] xBall = new float[10];
float[] yBall = new float[10];
color[] cBall = new color[10];
int radius = 10;

void setup() {
  size(400, 400);
  colorMode(HSB, 359, 99, 99);
  for (int i=0; i<xBall.length; i++) {
    xBall[i] = random(radius, width-radius);
    yBall[i] = random(radius, height-radius);
    cBall[i] = color(random(360), 99, 99);
```

```
  }
}
void mouseDragged() {
  if (picking) {
    xBall[pickedID] += (mouseX-pmouseX);
    yBall[pickedID] += (mouseY-pmouseY);
  }
}
void mouseReleased() {
  picking = false;
  pickedID = -1;
}
void mousePressed() {
  for (int i=0; i<xBall.length; i++) {
    if (dist(mouseX, mouseY, xBall[i], yBall[i]) <= radius) {
      picking = true;
      pickedID = i;
      break; // もう探す必要がないので、繰り返し処理を終了する
    }
  }
}

void draw() {
  background(0, 0, 99);
  for (int i=0; i < xBall.length; i++) {
    stroke(cBall[i]);
    fill(cBall[i]);
    ellipse(xBall[i], yBall[i], 2*radius, 2*radius);
  }
}
```

//その8

```
String [] names = {
  "Riho",
  "Tomoyo",
  "Asuna",
  "Serval Cat",
  "Fennec",
  "Common raccoon",
  "Jaguar",
  "Asuna",
  "Kirito"};
PFont font;

void fadeToWhite() {
  stroke(0, 0, 99, 20);
  fill(0, 0, 99, 20);
  rectMode(CORNER);
  rect(0, 0, width, height);
}

void setup() {
  size(400, 400);
  font = loadFont("Serif-48.vlw");
```

```
//  font = createFont("",48);
  colorMode(HSB, 359, 99, 99);
  textFont(font, 48);
}

void draw() {
  fadeToWhite();
  // 表示する文字列を選択する
  int idx = int(random(names.length));
  fill(color(random(360), 99, 99));
  text(names[idx], random(width), random(height));
}
```

//その9

```
PFont font;
String[]name;
/*
{"Akagi",
 "Kaga",
 "Souryu",
 "Hiryu",
 "Hokaku",
 "Zuikaku",
 "Suzuya"};
 */
void setup() {
  size(400, 300);
  font = loadFont("Serif-48.vlw");
  //font = createFont("", 48);
  textFont(font, 48);
  name = new String[7];
  name[0] = "Akagi";
  name[1] = "Kaga";
  name[2] = "Souryu";
  name[3] = "Hiryu";
  name[4] = "Hokaku";
  name[5] = "Zuikaku";
  name[6] = "Suzuya";
}

void draw() {
  background(255);
  fill(0);
  int idx = second() % name.length;
  textAlign(CENTER, CENTER);
  text(name[idx], 0, 0, width, height);
  //  text(name[idx]+"¥n"+second(), 0, 0, width, height);
}
```

//その10

```
float[] x;// 円の中心のX座標
float[] y;// 円の中心のY座標
float[] v;// 円の縦方向の移動速度
```

```
int radius;
void setup() {
  size(300, 400);
  x = new float[5];
  y = new float[5];
  v = new float[5];

  radius = 10;

  v[0] = random(1, 2);
  y[0] = -random(radius, 2*radius);
  x[0] = random(radius, width-radius);

  v[1] = random(1, 2);
  y[1] = -random(radius, 2*radius);
  x[1] = random(radius, width-radius);

  v[2] = random(1, 2);
  y[2] = -random(radius, 2*radius);
  x[2] = random(radius, width-radius);

  v[3] = random(1, 2);
  y[3] = -random(radius, 2*radius);
  x[3] = random(radius, width-radius);

  v[4] = random(1, 2);
  y[4] = -random(radius, 2*radius);
  x[4] = random(radius, width-radius);
}

void draw() {
  background(255);

  y[0] = y[0]+v[0];
  if (y[0] -radius> height) {
    x[0] =random(radius, width-radius);
    y[0] = -random(radius, 2*radius);
  }
  stroke(255, 10, 10);
  fill(255, 10, 10);
  ellipse(x[0], y[0], 2*radius, 2*radius);

  y[1] = y[1]+v[1];
  if (y[1] -radius> height) {
    x[1] =random(radius, width-radius);
    y[1] = -random(radius, 2*radius);
  }
  stroke(255, 10, 10);
  fill(255, 10, 10);
  ellipse(x[1], y[1], 2*radius, 2*radius);

  y[2] = y[2]+v[2];
  if (y[2] -radius> height) {
    x[2] =random(radius, width-radius);
```

```
    y[2] = -random(radius, 2*radius);
  }
  stroke(255, 10, 10);
  fill(255, 10, 10);
  ellipse(x[2], y[2], 2*radius, 2*radius);

  y[3] = y[3]+v[3];
  if (y[3] -radius> height) {
    x[3] =random(radius, width-radius);
    y[3] = -random(radius, 2*radius);
  }
  stroke(255, 10, 10);
  fill(255, 10, 10);
  ellipse(x[3], y[3], 2*radius, 2*radius);

  y[4] = y[4]+v[4];
  if (y[4] -radius> height) {
    x[4] =random(radius, width-radius);
    y[4] = -random(radius, 2*radius);
  }
  stroke(255, 10, 10);
  fill(255, 10, 10);
  ellipse(x[4], y[4], 2*radius, 2*radius);
}

//その11
float[] x;// 円の中心のX座標
float[] y;// 円の中心のY座標
float[] v;// 円の縦方向の移動速度
int radius;

void setup() {
  size(300, 400);
  x = new float[1000];
  y = new float[1000];
  v = new float[1000];
  radius = 10;
  for (int i=0; i<x.length; i++) {
    v[i] = random(1, 2);
    y[i] = -random(radius, 2*radius);
    x[i] = random(radius, width-radius);
  }
}

void draw() {
  background(255);
  for (int i=0; i<x.length; i++) {
    y[i] = y[i]+v[i];
    if (y[i] -radius> height) {
      x[i] =random(radius, width-radius);
      y[i] = -random(radius, 2*radius);
    }
    stroke(255, 10, 10);
    fill(255, 10, 10);
```

```
    ellipse(x[i], y[i], 2*radius, 2*radius);
  }
}
```

//その12

```
PFont font;
String[]name = {"Akagi", "Kaga","Souryu","Hiryu", "Hokaku", "Zuikaku",
"Suzuya","Atago","Yukikaze"};

void setup() {
  size(400, 300);
  font = loadFont("Serif-48.vlw");
  //font = createFont("", 48);
  textFont(font, 48);
}

void draw() {
  background(255);
  fill(0);
  int idx = second() % name.length;
  textAlign(CENTER, CENTER);
  text(name[idx], 0, 0, width, height);
  //  text(name[idx]+"¥n"+second(), 0, 0, width, height);
}
```

//その13

```
float[] xPos;

void setup(){
  size(600,200);
  xPos = new float[20];
  for(int i=0;i<xPos.length;i++){
    xPos[i] = random(i*width/xPos.length+10,(i+1)*width/xPos.length-
10);
  }
}

void draw(){
  background(255);

  noFill();
  for(int i=0;i<xPos.length;i++){
    ellipse(xPos[i],height/2,20,20);
  }
  for(int i=0;i<xPos.length;i++){
    if(dist(xPos[i],height/2,mouseX,mouseY) < 20.0/2){
      fill(255,10,10);
      ellipse(xPos[i],height/2,20,20);
      break;
    }
  }

}
```