Modul 10 : Processing untuk Pengolahan Data dan Tampilan

10.1 Tujuan

Mahasiswa mampu menggunakan software processing untuk Pengolahan Data dan Tampilan.

10.2 Alat & Bahan

1. Komputer/Laptop
2. Software Processing (download di processing.org)

10.3 Prosedur Praktikum

1. Increment Decrement

"a++" sama dengan menulis "a = a + 1".
"a--" sama dengan menulis "a = a - 1".

```
int a;
int b;
boolean direction;

void setup() {
  size(640, 360);
  colorMode(RGB, width);
  a = 0;
  b = width;
  direction = true;
  frameRate(30);
}

void draw() {
  a++;
  if(a > width) {
    a = 0;
    direction = !direction;
  }
  if(direction == true){
    stroke(a);
  } else {
    stroke(width-a);
  }
  line(a, 0, a, height/2);

  b--;
  if(b < 0) {
    b = width;
  }
  if(direction == true) {
    stroke(width-b);
  } else {
    stroke(b);
  }
  line(b, height/2+1, b, height);
}
```

2. Menggambarkan sebuah gambar dalam processing

```
// The highest precedence is at the top of the list and
// the lowest is at the bottom.
// Multiplicative: * / %
// Additive: + -
// Relational: < > <= >=
// Equality: == !=
// Logical AND: &&
// Logical OR: ||
// Assignment: = += -= *= /= %=

size(640, 360);
background(51);
noFill();
stroke(51);

stroke(204);
for(int i=0; i< width-20; i+= 4) {
  // The 30 is added to 70 and then evaluated
  // if it is greater than the current value of "i"
  // For clarity, write as "if (i > (30 + 70)) {"
  if (i > 30 + 70) {
    line(i, 0, i, 50);
  }
}

stroke(255);
// The 2 is multiplied by the 8 and the result is added to the 4
// For clarity, write as "rect(5 + (2 * 8), 0, 90, 20);"
rect(4 + 2 * 8, 52, 290, 48);
rect((4 + 2) * 8, 100, 290, 49);

stroke(153);
for (int i = 0; i < width; i+= 2) {
  // The relational statements are evaluated
  // first, and then the logical AND statements and
  // finally the logical OR. For clarity, write as:
  // "if(((i > 20) && (i < 50)) || ((i > 100) && (i < width-20))) {"
  if (i > 20 && i < 50 || i > 100 && i < width-20) {
    line(i, 151, i, height-1);
  }
}
```

3. Sine

```
float diameter;
float angle = 0;

void setup() {
  size(640, 360);
```

```
  diameter = height - 10;
  noStroke();
  noStroke();
  fill(255, 204, 0);
}

void draw() {

  background(0);

  float d1 = 10 + (sin(angle) * diameter/2) + diameter/2;
  float d2 = 10 + (sin(angle + PI/2) * diameter/2) + diameter/2;
  float d3 = 10 + (sin(angle + PI) * diameter/2) + diameter/2;

  ellipse(0, height/2, d1, d1);
  ellipse(width/2, height/2, d2, d2);
  ellipse(width, height/2, d3, d3);

  angle += 0.02;
}
```

4. Sine Cosine

```
float x1, x2, y1, y2;
float angle1, angle2;
float scalar = 70;

void setup() {
  size(640, 360);
  noStroke();
  rectMode(CENTER);
}

void draw() {
  background(0);

  float ang1 = radians(angle1);
  float ang2 = radians(angle2);

  x1 = width/2 + (scalar * cos(ang1));
  x2 = width/2 + (scalar * cos(ang2));

  y1 = height/2 + (scalar * sin(ang1));
  y2 = height/2 + (scalar * sin(ang2));

  fill(255);
  rect(width*0.5, height*0.5, 140, 140);

  fill(0, 102, 153);
  ellipse(x1, height*0.5 - 120, scalar, scalar);
  ellipse(x2, height*0.5 + 120, scalar, scalar);
```

```
  fill(255, 204, 0);
  ellipse(width*0.5 - 120, y1, scalar, scalar);
  ellipse(width*0.5 + 120, y2, scalar, scalar);

  angle1 += 2;
  angle2 += 3;

}
```

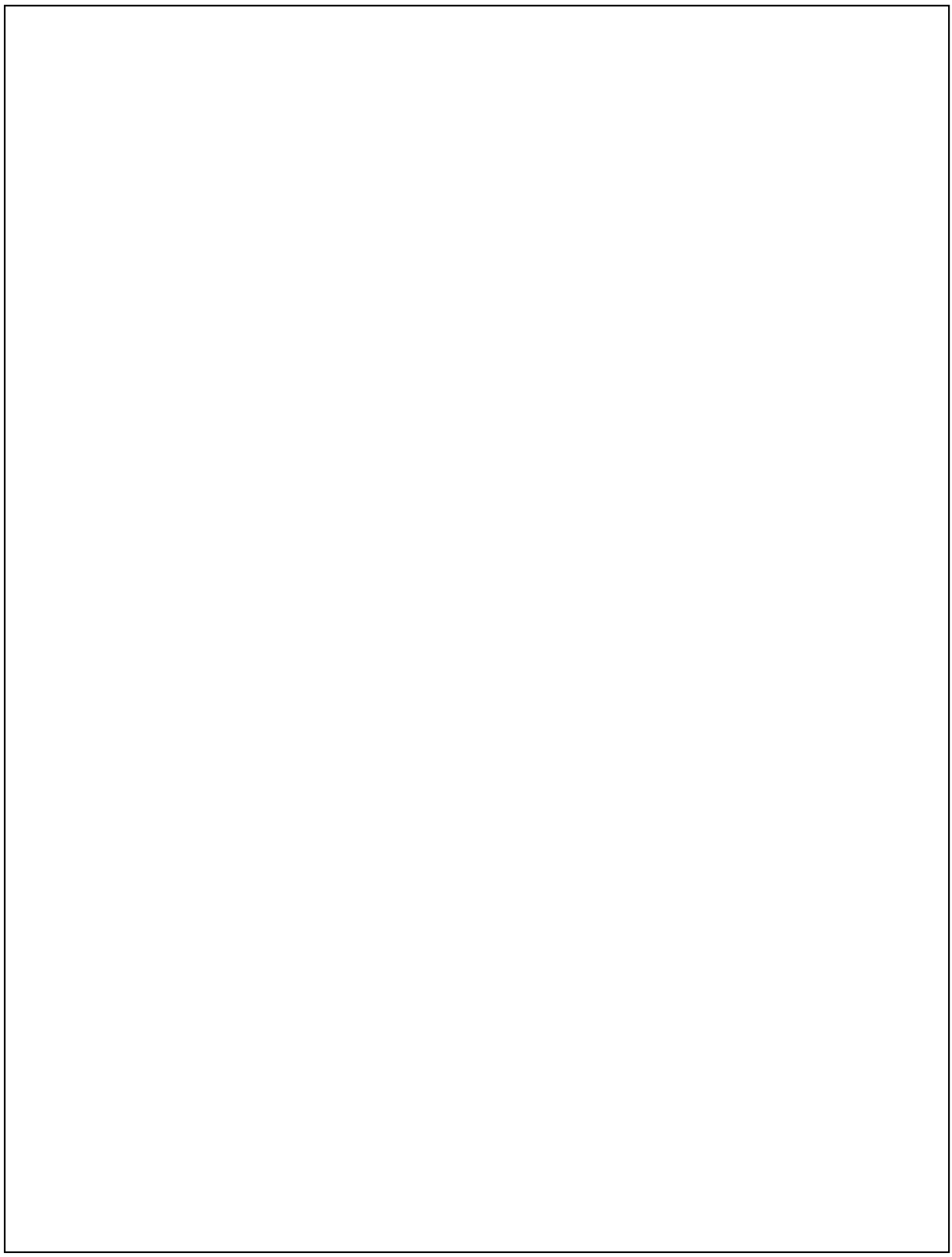
5. Random

```
void setup() {
  size(640, 360);
  background(0);
  strokeWeight(20);
  frameRate(2);
}

void draw() {
  for (int i = 0; i < width; i++) {
    float r = random(255);
    stroke(r);
    line(i, 0, i, height);
  }
}
```

10.4 Jurnal

Capture dan dan beri komentar dan keterangan Hasil Eksekusi syntax:



DAFTAR PUSTAKA

- https://processing.org/