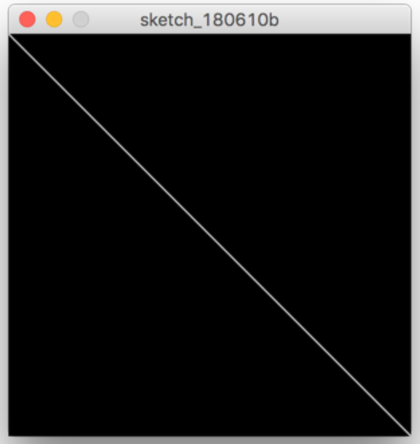
Programación Creativa · (2/3)

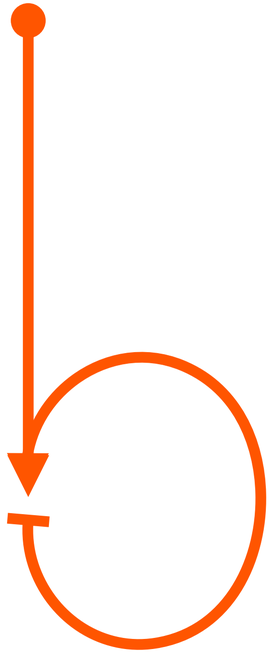
con Processing

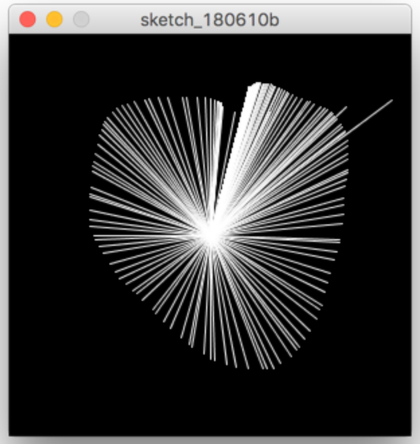
@hspencer

Estructuras de un programa




```
size(300, 300);
background(0);
stroke(255);
line(0, 0, width, height);
```

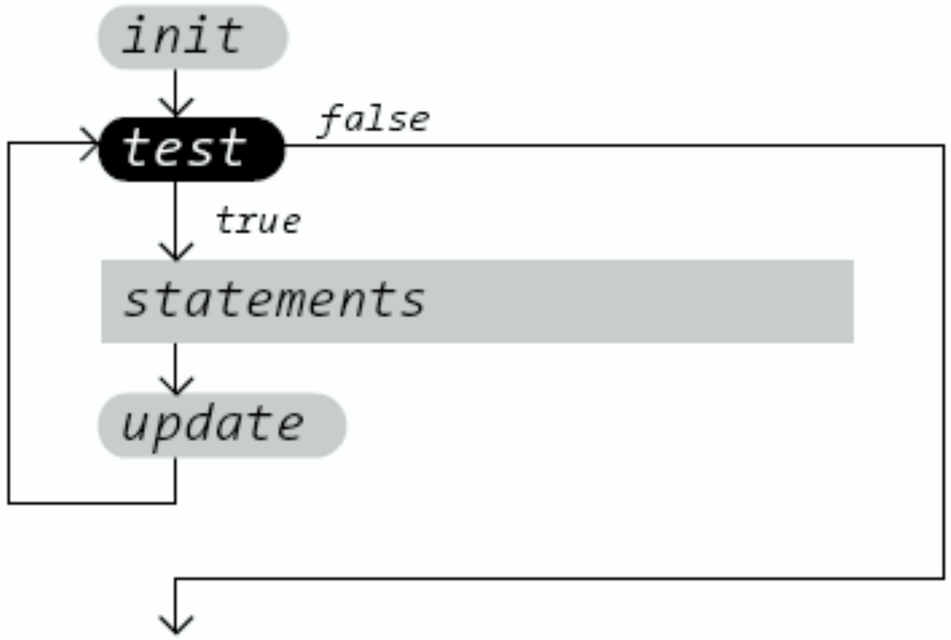





```
void setup() {
  size(300, 300);
  background(0);
  stroke(255);
}
void draw() {
  line(width/2, height/2, mouseX, mouseY);
}
```

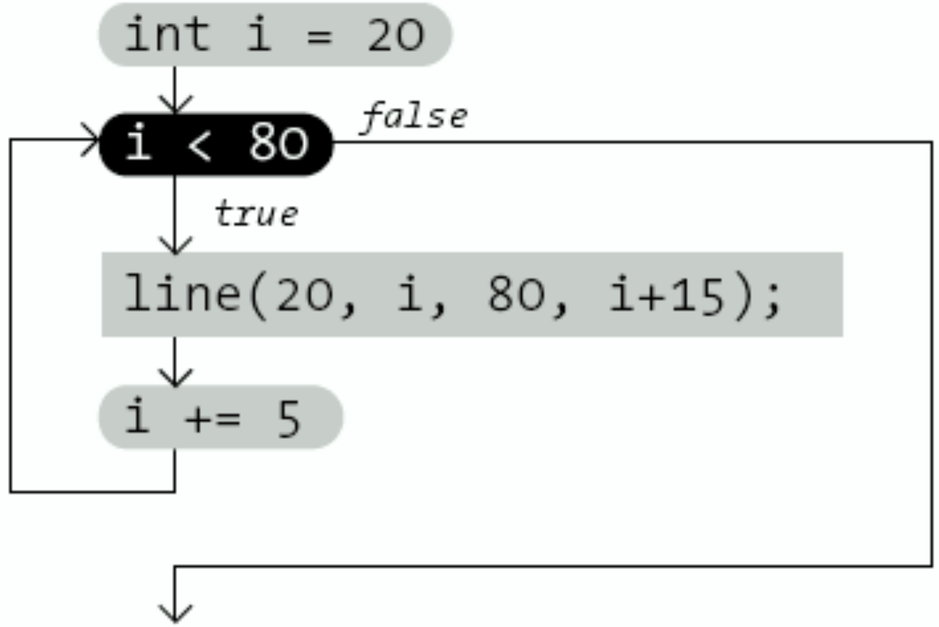
Estructura de un ciclo *for(){}*

```
for (init; test; update) {
   statements
}
```

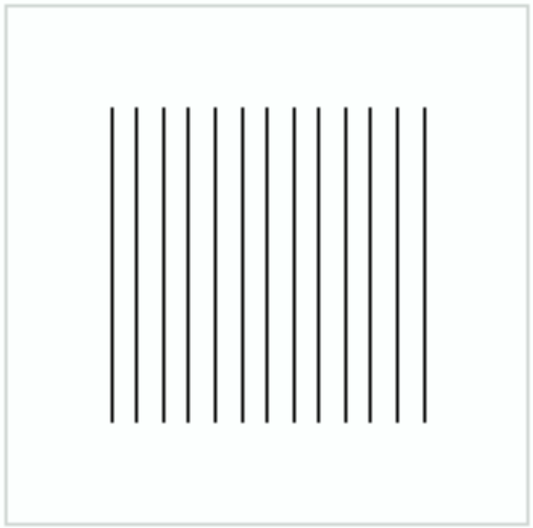


Estructura de un ciclo *for(){}*

```
for (int i = 20; i < 80; i += 5) {
  line(20, i, 80, i+15);
}
```

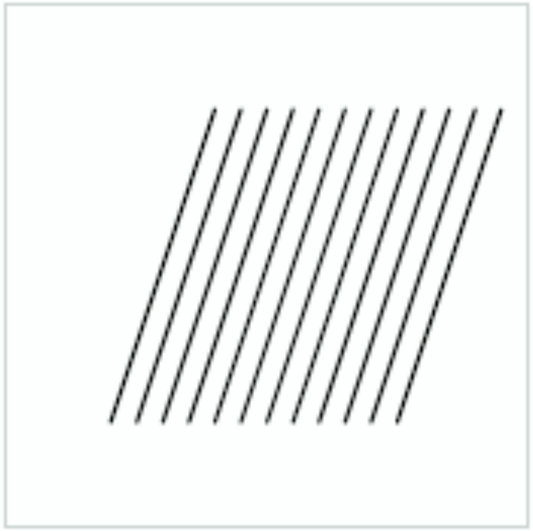


Estructura *for* unidimensional



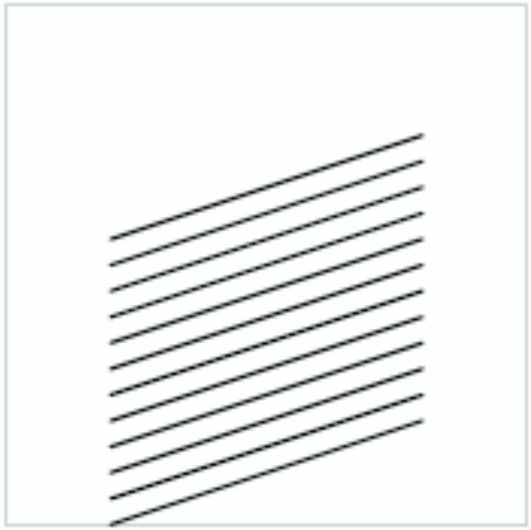
```
for (int x = 20; x <= 80; x += 5) {
  line(x, 20, x, 80);
}
```

Estructura *for* unidimensional



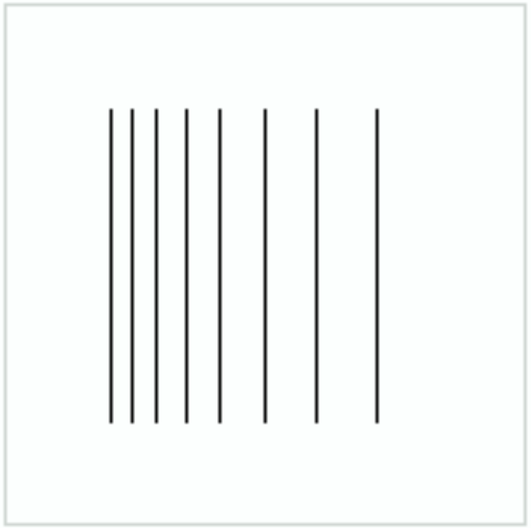
```
for (int x = 20; x < 80; x += 5) {
  line(x+20, 20, x, 80);
}
```

Estructura *for* unidimensional



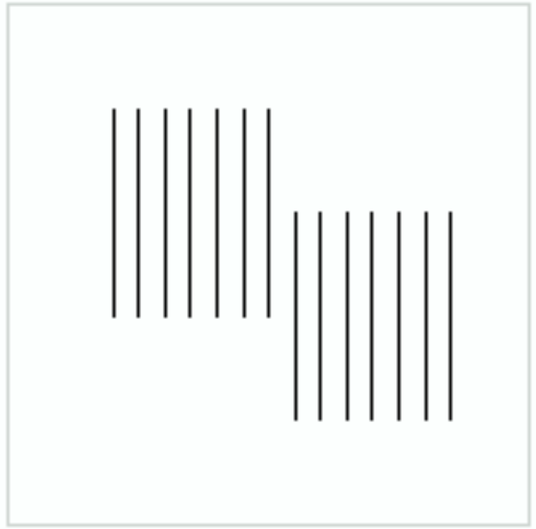
```
for (float x = 80; x > 20; x -= 5) {
  line(20, x+20, 80, x);
}
```

Estructura *for* unidimensional



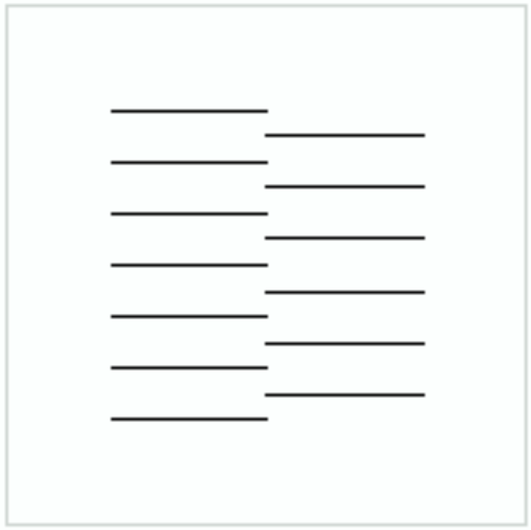
```
for (float x = 20; x < 80; x *= 1.2) {
  line(x, 20, x, 80);
}
```

Estructura *for* unidimensional + condicional *if*



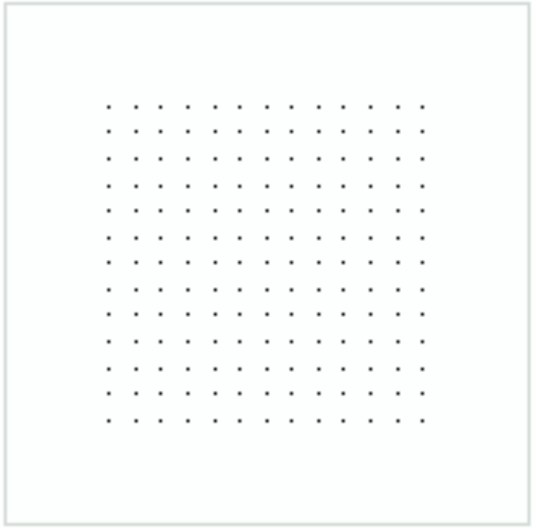
```
for (int x = 20; x <= 85; x += 5) {
  if (x <= 50) {
    line(x, 20, x, 60);
  } else {
    line(x, 40, x, 80);
  }
}
```

Estructura *for* unidimensional + condicional *if*



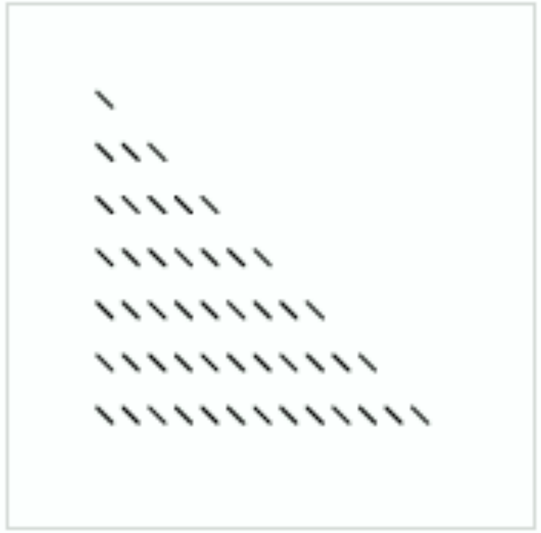
```
for (int x = 20; x <= 80; x += 5) {
  if ((x % 10) == 0) {
    line(20, x, 50, x);
  } else {
    line(50, x, 80, x);
  }
}
```

Estructura *for* bidimensional



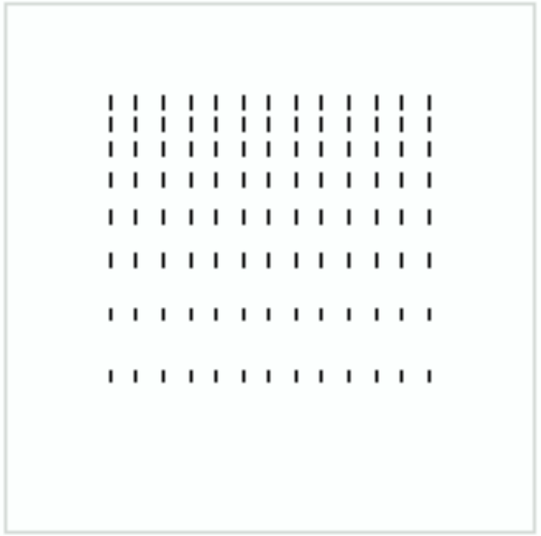
```
for (int y = 20; y <= 80; y += 5) {
  for (int x = 20; x <= 80; x += 5) {
    point(x, y);
  }
}
```

Estructura *for* bidimensional con interdependencia



```
for (int y = 20; y <= 80; y += 10) {
  for (int x = 20; x <= y; x += 5) {
    line(x, y, x-3, y-3);
  }
}
```

Estructura *for* bidimensional con progresión geométrica



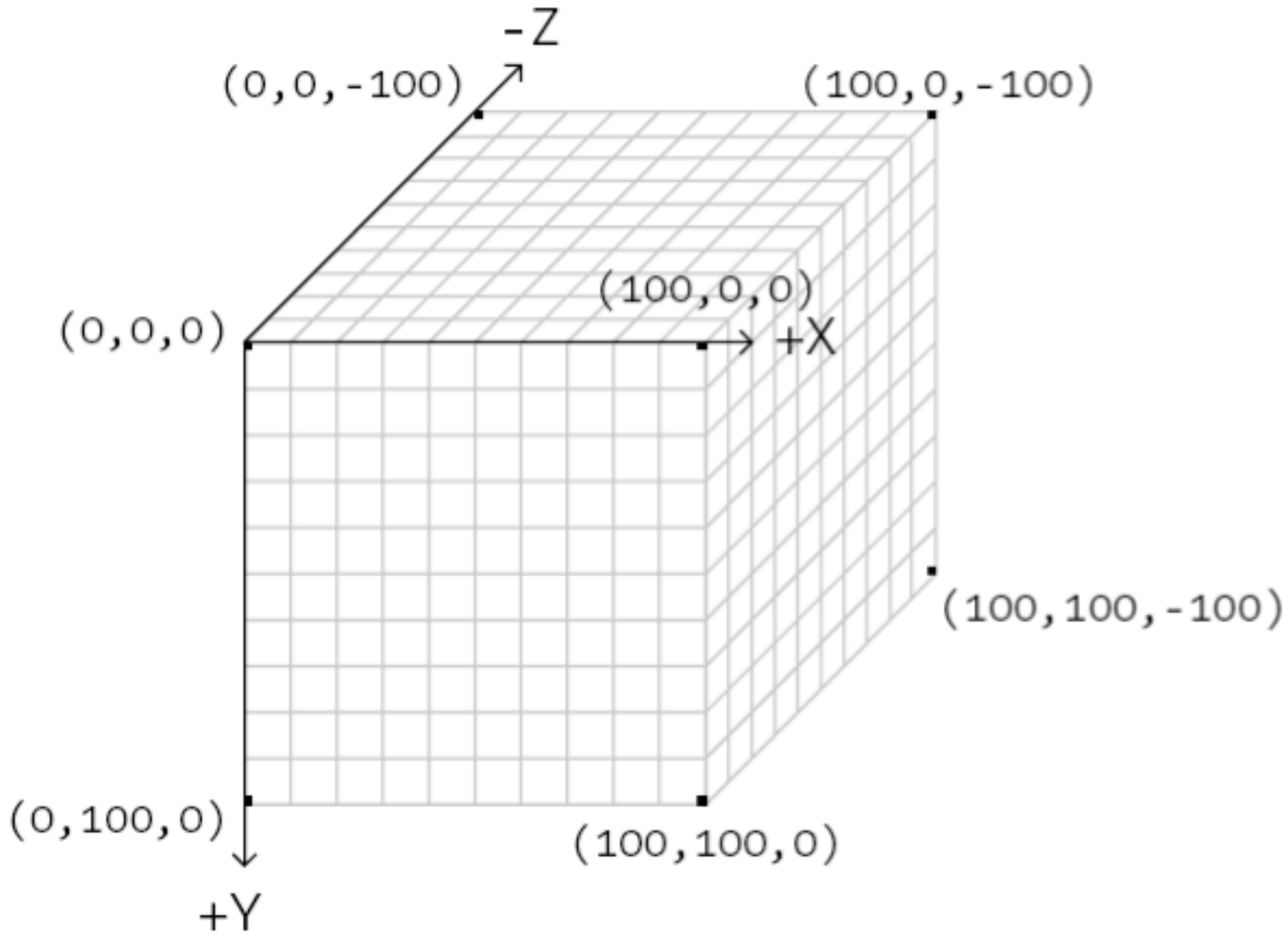
```
for (float y = 20; y <= 80; y *= 1.2) {
  for (int x = 20; x <= 80; x += 5) {
    line(x, y, x, y-2);
  }
}
```

Estructura *for* bidimensional + condicional *if*

```
for (int y = 20; y <= 80; y += 5) {
  for (int x = 20; x <= 80; x += 5) {
    if ((x % 10) == 0) {
      line(x, y, x+3, y-3);
    } else {
      line(x, y, x+3, y+3);
    }
  }
}
```

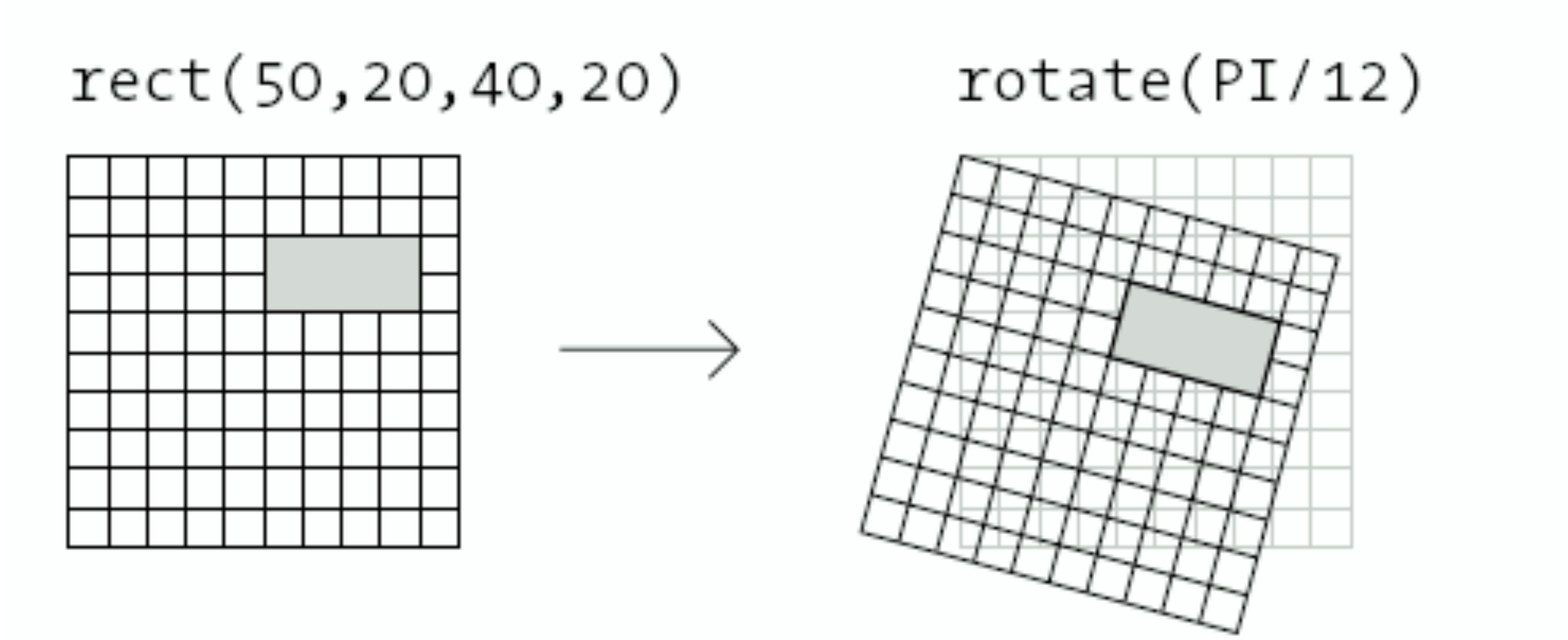
Espacio

Sistema de coordenadas



```
pushMatrix();
{
  translate(x,y);
  rotate(t);
  scale(sc);
}
popMatrix();
```

rotate();



La no-conmutabilidad de las transformaciones