Processing
P02

3- Structure conditionnelle

Cédric MASSART

Structure conditionnelle

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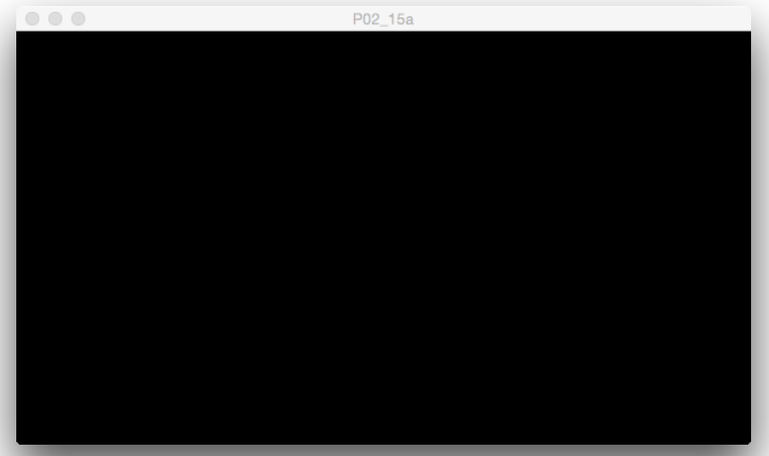
- On appelle structure conditionnelle les instructions qui permettent de tester si une condition est vraie ou non, c'est-à-dire si la valeur de son expression vaut false ou true

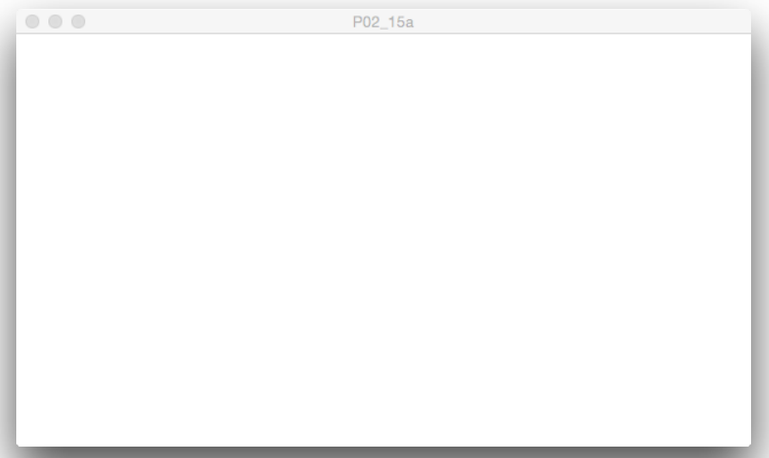
OPÉRATEUR	SIGNIFICATION
==	égal à
!=	différent de
>	supérieur à
>=	supérieur ou égal à
<	inférieur à
<=	inférieur ou égal à

Les opérateurs de comparaison

Structure conditionnelle

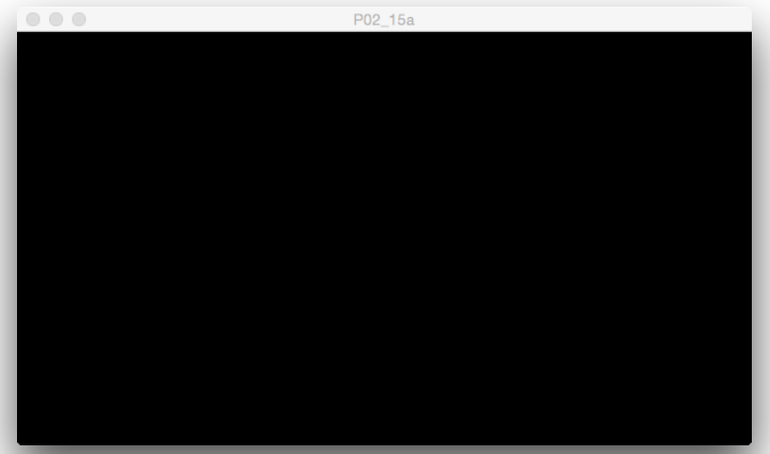
```
void setup() {
  size(640,360);
}

void draw() {

  if (mouseX < width/2) {
      background(255);
    } else {
      background(0);
  }
}
```

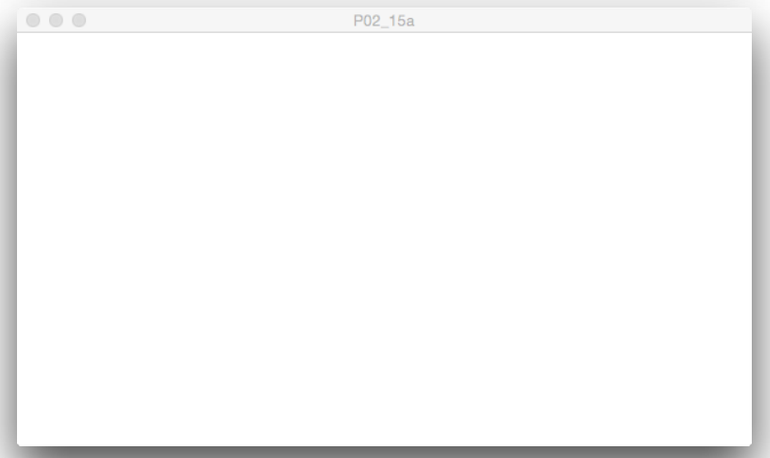




Exemple

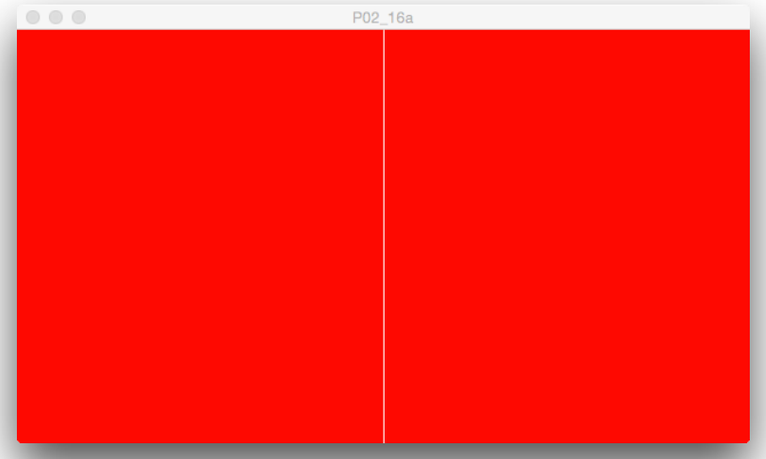
```
void setup() {
  size(640, 360);
}

void draw() {

  if (mouseX < width/3) {
    background(255);
  } else if (mouseX < 2*width/3) {
    background(127);
  } else {
    background(0);
  }

}
```





Exemple

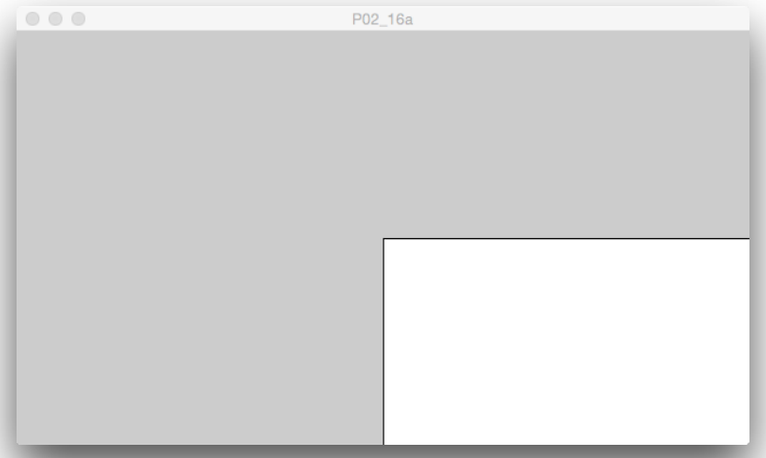
```
float r = 150;
float g = 0;
float b = 0;

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

void draw() {
  background(r,g,b);
  stroke(255);
  line(width/2,0,width/2,height);

  if(mouseX > width/2) {
    r = r + 1;
  } else {
    r = r - 1;
  }

  if (r > 255) {
    r = 255;
  } else if (r < 0) {
    r = 0;
  }
}
```



Les opérateurs logiques

OPÉRATEUR	TYPE DE LOGIQUE	UTILISATION
&&	ET	valeur1 && valeur2
||	OU	valeur1 || valeur2
!	NON	!valeur

Les opérateurs logiques



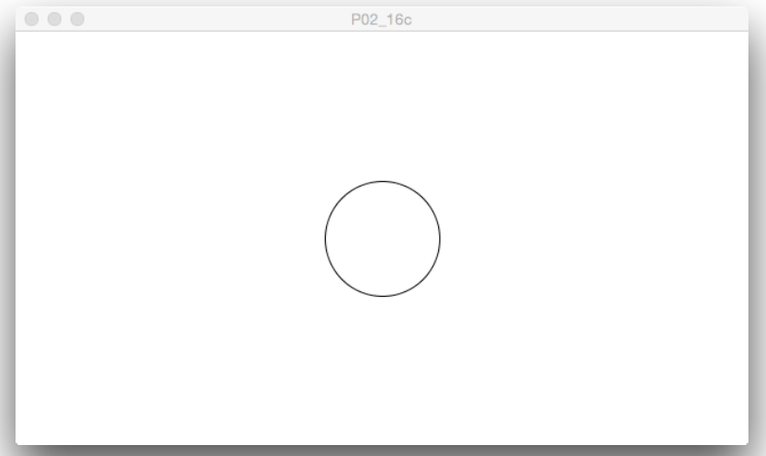

```
void setup() {
  size(640, 360);
}

void draw() {
  if (mouseX > width/2) {
    if (mouseY > height/2) {
      fill(255);
      rect(width/2, height/2, width/2, height/2);
    }
  }
}
```

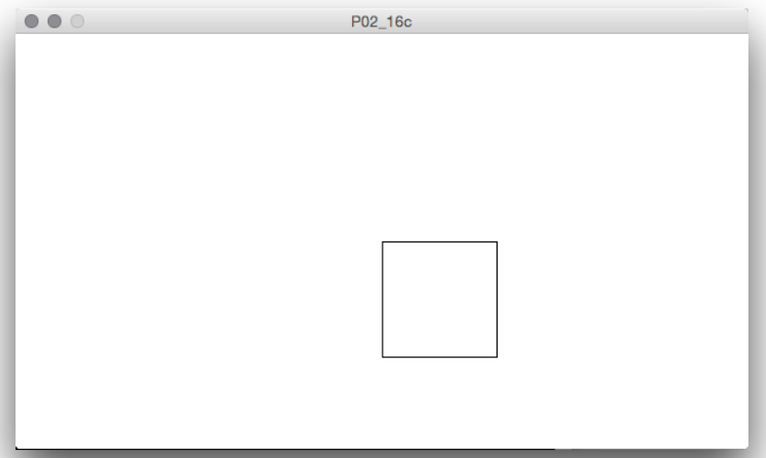
```
void setup() {
  size(640, 360);
}

void draw() {
  if (mouseX > width/2 && mouseY > height/2) {
    fill(255);
    rect(width/2, height/2, width/2, height/2);
  }
}
```


P02_16a.pde et P02_16b.pde

Les opérateurs logiques

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

void draw() {
  background(255);

  if (!mousePressed) {
    ellipse(width/2, height/2, 100, 100);
  } else {
    rect(width/2, height/2, 100, 100);
  }
}
```

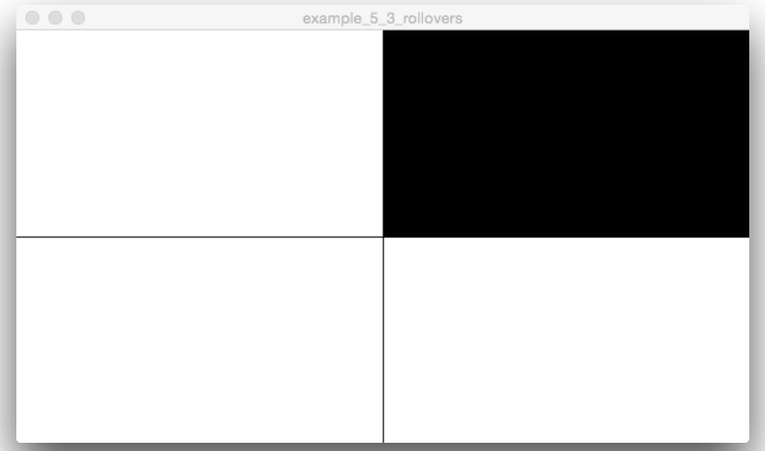




P02_16c.pde

Exemple : survol

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

void draw() {
  background(255);
  stroke(0);
  line(320,0,320,360);
  line(0,180,640,180);

  noStroke();
  fill(0);

  if (mouseX < 320 && mouseY < 180) {
    rect(0,0,320,180);
  } else if (mouseX > 320 && mouseY < 180) {
    rect(320,0,320,180);
  } else if (mouseX < 320 && mouseY > 180) {
    rect(0,180,320,180);
  } else if (mouseX > 320 && mouseY > 180) {
    rect(320,180,320,180);
  }
}
```



Exemple : animation avec rebond

```
int x = 0;
int speed = 2;

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

void draw() {
  background(255);

  x = x + speed;

  if ((x > width) || (x < 0)) {
    speed = speed * -1;
  }

  stroke(0);
  fill(175);
  ellipse(x,100,32,32);
}
```