

创意建模工具 Part V

# Processing编程

## Workshop day 2

Variable 变量

Function 函数

For loop for 循环

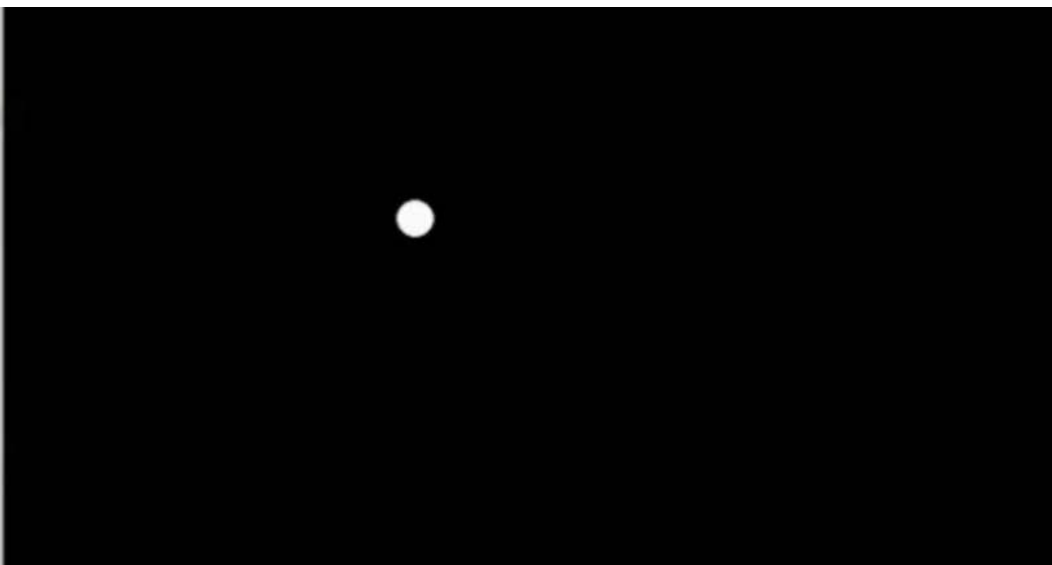
Conditional 条件语句

Class 类

Array 数组

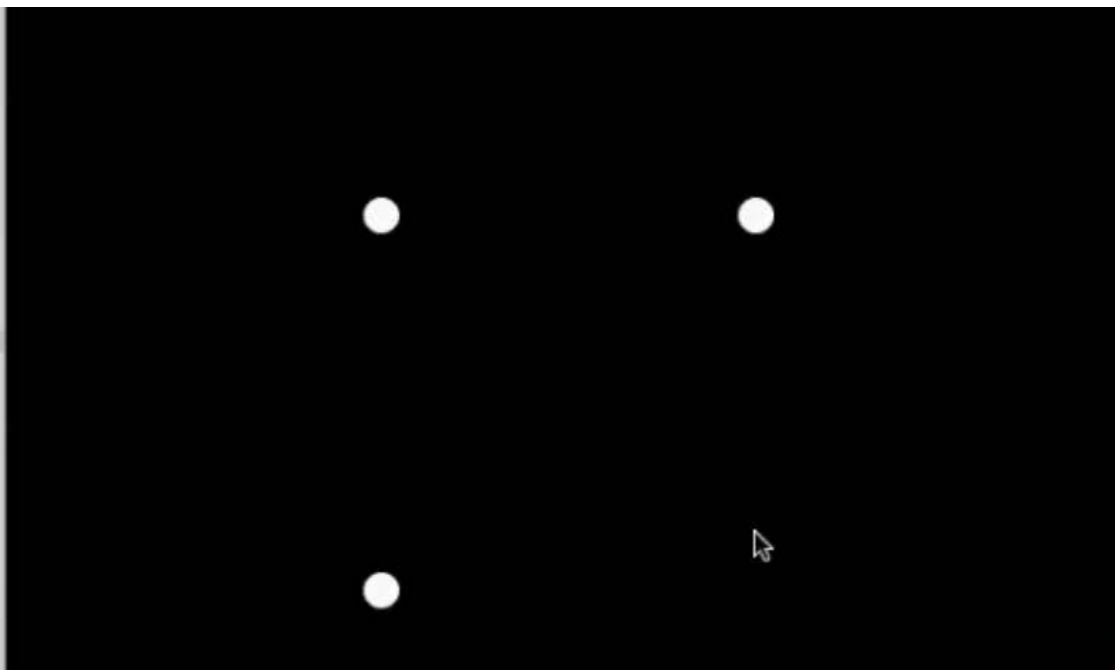
## Variables 变量

```
float x = 200;  
float y = 200;  
  
float speed = 2;  
  
void setup(){  
  size(600,600);  
  smooth();  
}  
  
void draw(){  
  background(0);  
  
  x = x + speed;  
  
  ellipse(x,y,20,20);  
}
```



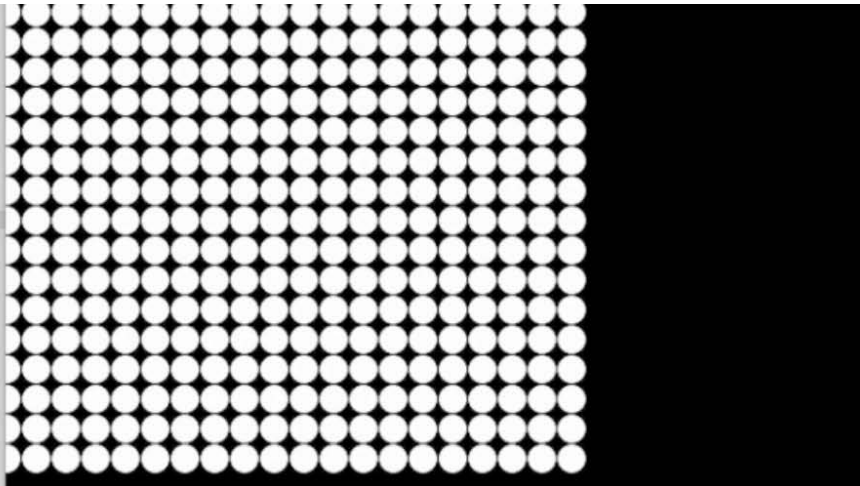
## Functions 函数

```
void setup() {  
  size(600,600);  
  smooth();  
}  
  
void draw() {  
  background(0);  
  
  drawEllipse(200,200);  
  drawEllipse(400,200);  
  drawEllipse(200,400);  
}  
  
void drawEllipse(float x, float y) {  
  ellipse(x,y,20,20);  
}
```



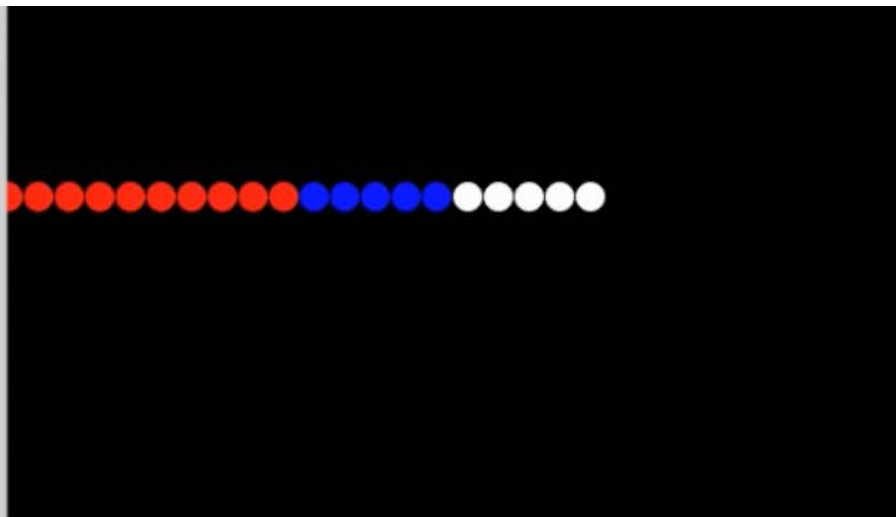
## For Loops for循环

```
void setup() {  
  size(600,600);  
  smooth();  
}  
  
void draw() {  
  background(0);  
  
  for(int i = 0; i < 20; i++) {  
    for(int j = 0; j < 20; j++) {  
      ellipse(i * 20, j * 20,20,20);  
    }  
  }  
}
```



## Conditionals 条件

```
void setup() {  
  size(600,600);  
  smooth();  
}  
  
void draw() {  
  background(0);  
  
  for(int i = 0; i < 20; i++) {  
    if(i < 10) {  
      fill(255,0,0);  
    }  
    else if(i >= 10 && i < 15) {  
      fill(0,0,255);  
    }  
    else {  
      fill(255);  
    }  
  
    ellipse(i * 20, 200,20,20);  
  }  
}
```



# Classes 类

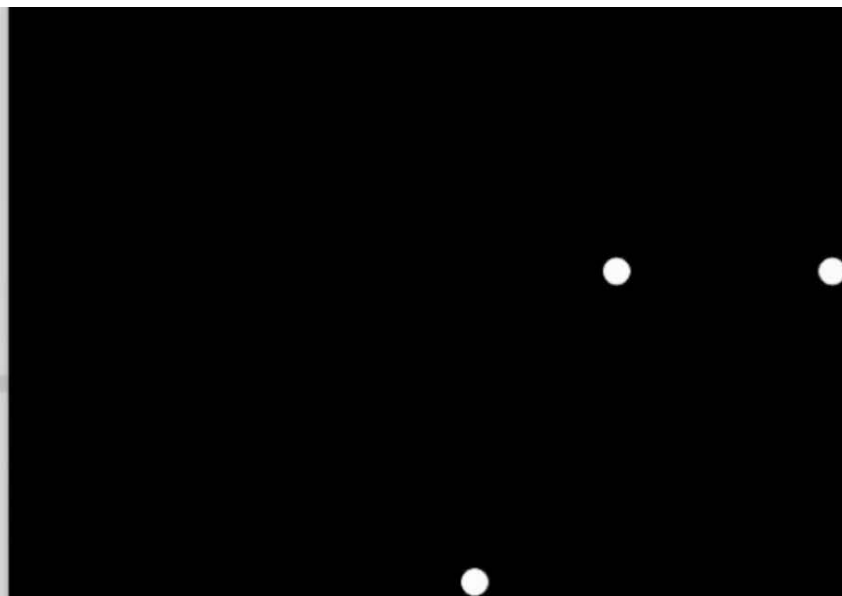
```
//DECLARE
Ball myBall;
Ball myBall2;
Ball myBall3;

void setup() {
  size(600,600);
  smooth();

  //INITIALIZE
  myBall = new Ball(200,200);
  myBall2 = new Ball(100,400);
  myBall3 = new Ball(400,200);
}

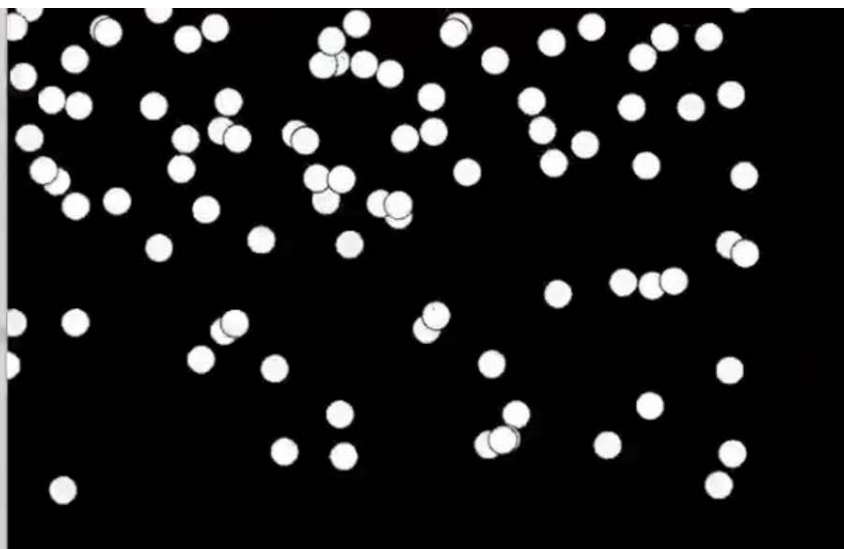
void draw() {
  background(0);

  //CALL FUNCTIONALITY
  myBall.run();
  myBall2.run();
  myBall3.run();
}
```



## Array数组

```
//DECLARE  
Ball [] ballCollection = new Ball [100];  
  
void setup() {  
  size(600,600);  
  smooth();  
  
  //INITIALIZE  
  for( int i = 0; i < ballCollection.length; i++) {  
    ballCollection[i] = new Ball(random(0,width),random(0,200));  
  }  
  
  void draw() {  
    background(0);  
  
    //CALL FUNCTIONALITY  
    for (int i = 0; i < ballCollection.length; i++) {  
      ballCollection[i].run();  
    }  
  }  
}
```





## Workshop day 3

ArrayList 可变数组  
VECTOR MATH 矢量数学  
VECTOR Class 矢量类  
PImage 类

## Workshop day 4

EXTERNAL LIBRARIES 外部库

DataVis 数据可视化

Serial Lib 串口通信库

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Final Project 课程设计