

```
-----  
Hello, world!  
-----
```

```
void setup() {  
  print("Hello, world"); //println("Hello, world");  
  text("Hello, world", 0, 30);  
}
```

```
void draw() {  
  // background(0);  
}
```

```
-----  
Joining strings / frameCount / millis()  
-----
```

```
void draw() {  
  println("Hello, " + "world");  
  println("frames " + frameCount);  
  text("Time elapsed " + millis(), 0, 30);  
}
```

```
-----  
comment1  
-----
```

```
//print("Hello world\n");  
print("Hello world");
```

```
-----  
comment2  
-----
```

```
/*print("Hello world\n");  
print("Hello world"); */
```

```
-----
```

beginShape - triangle

```
size(500, 500);
```

```
fill(255, 0, 0);
```

```
stroke(0,0,255);
```

```
beginShape();
```

```
vertex(250, 250);
```

```
vertex(150, 350);
```

```
vertex(350, 350);
```

```
endShape(CLOSE);
```

mouseX, mouseY

```
void setup()
```

```
{
```

```
  size(500,500);
```

```
}
```

```
void draw()
```

```
{
```

```
  background(0);
```

```
  ellipse(mouseX,mouseY,100,100);
```

```
  // ellipse(width - mouseX, mouseY, 100, 100);
```

```
}
```

움직이는 사각형 - 변수

```
int rectPosX = 0; // let's change it to float
```

```
void setup(){
```

```
  size( 500,500 );
```

```
}
```

```

void draw(){
    background(0);

    fill( 255,0,0 );
    rect( rectPosX,30,50,50);

    rectPosX = rectPosX + 1; // how to make it slower?
}

```

시계그리기

```

void draw() {
    background(0);

    noStroke();
    fill(255);
    pushMatrix();
    translate(width/2, height/2);
    rotate(frameCount * 0.01);
    //translate(-100, 0);
    //rect(width/2, height/2, 100, 2);
    rect(0, 0, 100, 2);
    popMatrix();

    ellipse(250, 250 - 100, 10, 10);
}

```

if- control animation 1

```

float ex = 250;

float speedX = random(-10,10);

void setup(){
    size(500,500);
}

```

```

void draw(){
  background(0);

  fill(255);
  ellipse( ex, 250, 30,30 );

  ex += speedX;

  if( ex > 500 ){
    ex = 500;
  }

  if( ex < 0 ){
    ex = 0;
  }
}

```

 if- control animation 2

```

float ex = 250;

float speedX = random(-10,10);

void setup(){
  size(500,500);
}

void draw(){
  background(0);

  fill(255);
  ellipse( ex, 250, 30,30 );

  ex += speedX;

  if( ex > 500 ){
    ex = 0;
  }
}

```

```
if( ex < 0 ){
    ex = 500;
}
}
```

conditionals 4 수식 + mouse

```
void setup(){
    size( 500,500 );
    rectMode(CENTER);
}
```

```
void draw(){

    background(0);

    if( mouseX > 250 ){
        rect( 350,250,100,100 );
    }else{
        rect( 150,250,100,100 );
    }
}
```

conditionals 5 mouse

```
void setup(){
    size( 500,500 );

    rectMode(CENTER);
}
```

```
void draw(){
    background( 0 );

    if( mousePressed ){
        rect( mouseX, mouseY, 50,50 );
    }
}
```

```
}  
}
```

mousePressed 와 void mousePressed() 차이

```
int point = 0;
```

```
void setup() {  
    size(500, 500);  
}
```

```
void draw() {  
    background(0);  
  
    textSize(30);  
    text("my point " + point, 100, 100);  
  
    //if (mousePressed) {  
    //    point += 1;  
    //}  
}
```

```
void mousePressed() {  
    point += 1;  
}
```

for loop 1

```
println("start");
```

```
for( int i=0; i< 100; i+=1 ){  
    println( i );  
}
```

```
println("out");
```

```
// 1~100을 프린트하고 싶다면?
```

```
// 50~149 를 프린트하고 싶다면?
```

for loop 2

size(500,500);

background(0);

stroke(255);
for(int i=0; i< 100; i++){
 line(i*5,0, i*5,height);
}

for loop 2

size(500,500);

background(0);

stroke(255);
for(int i=0; i< 100; i++){
 if(i%5==0) stroke(255,0,0);
 else stroke(255);
 line(i*5,0, i*5,height);
}

for loop 3

size(500,500);

background(0);

stroke(255);
for(int i=1; i< 100; i++){
 ellipse(random(width), random(height), 10, 10);
}

```
}
```

```
-----  
for loop 4 + if  
-----
```

```
size(500,500);
```

```
background(0);
```

```
stroke(255);  
strokeWeight(3);  
for( int i=0; i< 50; i++ ){  
  if( i<25 ) stroke(255,0,0);  
  else stroke(255);  
  line(i*10,0, i*10,height);  
}
```

```
-----  
for loop 4 + modulo  
-----
```

```
size(500,500);
```

```
background(0);
```

```
stroke(255);  
strokeWeight(3);  
for( int i=0; i< 50; i++ ){  
  if( i%5==0 ) stroke(255,0,0);  
  else stroke(255);  
  line(i*10, 0, i*10, height);  
}
```

```
-----  
for loop 5  
-----
```

```
size(500,500);
```



```
background(0);
```

```
stroke(255);
```

```
for( int i=0; i< 100; i++ ){
```

```
  //ellipse( random(width), random(height), 10, 10 );
```

```
  ellipse( random(width), random(height), random(10), random(10) );
```

```
}
```

```
-----
```

```
for loop 6
```

```
-----
```

```
size(500,500);
```

```
background(0);
```

```
fill(255);
```

```
for( int i=0; i< 100; i++ ){
```

```
  float r = random(10);
```

```
  ellipse( random(width), random(height), r, r );
```

```
}
```

```
-----
```

```
for loop 7
```

```
-----
```

```
size(500,500);
```

```
background(0);
```

```
noFill();
```

```
stroke(255);
```

```
for( int i=0; i< 30; i++ ){
```

```
  float r = i*15;
```

```
  ellipse( width/2, height/2, r, r );
```

```
}
```

```
-----
```

```
for loop 2D
```

```
-----  
size(500,500);
```

```
background(0);
```

```
stroke(255);  
for( int i=0; i< 10; i++){  
  for( int j=0; j< 10; j++){  
    ellipse( i*50, j*50, 5, 5 );  
  }  
}
```

```
-----  
for loop 3D  
-----
```

```
void setup() {  
  size(500, 500, P3D);  
}
```

```
void draw() {  
  background(0);
```

```
  
  translate(250,0);  
  rotateY( mouseX*0.1 );  
  translate(-250,0);  
  fill(255, 255, 255);  
  for ( int k=0; k < 10; k++ ) {  
    for ( int j=0; j< 10; j++ ) {  
      for ( int i=0; i< 10; i++ ) {  
        pushMatrix();  
        translate(i*40, j*40, k*30);  
        rect( 0,0, 30, 30 );  
        popMatrix();  
      }  
    }  
  }  
}
```