

## Sign Your Name

```
void setup() {
  size(640, 360);
  background(102);
}

void draw() {
  stroke(0);
  //strokeWeight(5);    //10 as well
  if (mousePressed == true) {
    line(mouseX, mouseY, pmouseX, pmouseY);
  }
}
```

---

## pMouseX & pmouseY

```
void draw() {

  background(204);

  line(mouseX, 20, pmouseX, 80);

  println(mouseX + " : " + pmouseX);

}
```

---

## Ball Moving and Bouncing

```
float x = 300;
float y = 300;
float xSpd = 10;
float ySpd = 10;

void setup() {
  size(800,600);
}
void draw() {
  x = x + xSpd;
  ellipse(x,y ,100,100);
}
```

---

## Part 2 of Ball Moving and Bouncing

```
void draw() {

  x = x + xSpd;
  if (x > width) {
    xSpd = xSpd * -1;
  }
  ellipse(x,y ,100,100);
}
```

### **Part 3 of Ball Moving and Bouncing so it Bounces both sides**

```
void draw() {
background(0);
x = x + xSpd;
if (x > width || x < 0) {
xSpd = xSpd * -1;
}
ellipse(x,y ,100,100);
}
```

### **Part 4 of Ball Moving and Bouncing so it Bounces diagonally**

```
void draw() {
//background(0);
fill(random(255),random(255),random(255)); // add later and comment background
x += xSpd; // short cut
if (x > width || x < 0) {
xSpd *= -1; //short cut
}
y += ySpd;
if (y > height || y < 0) {
ySpd *= -1; //short cut
}
ellipse(x,y ,100,100);
}
```

---

### **Basic Shapes & Quiz Challenge**

```
//fill(204);
//quad(100, 18, 200,18, 200, 340, 144, 360);
fill(204);
triangle(200, 50, 100, 300, 300, 300);

rectMode(CENTER); // Set rectMode to CENTER

fill(204);
quad(189, 18, 216, 18, 216, 360, 144, 360);
```

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### **Load and Use and Image**

```
PImage img; // Declare variable "a" of type PImage
void setup() {
size(703, 670);
img = loadImage("jarjar.jpg"); // Load the image into the program
}
void draw() {
// Displays the image at its actual size at point (0,0)
//image(img, 0, 0);
// Displays the image at point (0, height/2) at half of its size
image(img, 0, 0, img.width/2, img.height/2);
}
```

---

## for loop

```
int y = 40;
size(600, 360);
background(102);
noStroke();
fill(255); // White bars
for(int i = 0; i < 5; i++) {
  rect(50, y, 500, 50);
  y+=60;
}
```

---

## Cool Patterns

```
void setup() {
  size(640, 360);
  background(102);
}
```

```
void draw() {
  variableEllipse(mouseX, mouseY, pmouseX, pmouseY);
}
// It calculates the speed of the mouse
// and draws a small ellipse if the mouse is moving slowly
// and draws a large ellipse if the mouse is moving quickly
```

```
void variableEllipse(int x, int y, int px, int py) {
  float speed = abs(x-px) + abs(y-py);
  stroke(speed);
  fill(random(255),random(255),random(255)); // ad this in last
  ellipse(x, y, speed, speed);
}
```

---

## Draw Roses when Mouse Pressed

```
int angle = 0;
void setup() {
  size(640, 360);
  background(102);
  noStroke();
  fill(0, 102);
}
```

```
void draw() {
  // Draw only when mouse is pressed
  if (mousePressed == true) {
    angle += 5;
    float val = cos(radians(angle)) * 12.0;
    for (int a = 0; a < 360; a += 75) {
      float xoff = cos(radians(a)) * val;
      float yoff = sin(radians(a)) * val;
      fill(255,0,0);
      ellipse(mouseX + xoff, mouseY + yoff, val, val);
    }
    fill(0);
    ellipse(mouseX, mouseY, 5, 5);
  }
}
```