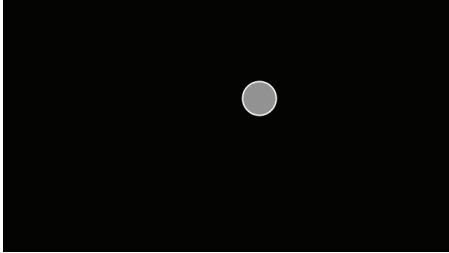


Bouncing Ball Physics

CODE



```
PVector location; // Location of shape
PVector velocity; // Velocity of shape
PVector gravity; // Gravity acts at the shape's acceleration
```

```
void setup() {
  size(640,360);
  smooth();
  location = new PVector(100,100);
  velocity = new PVector(1.5,2.1);
  gravity = new PVector(0,0.2);
}

void draw() {
  background(0);

  // Add velocity to the location.
  location.add(velocity);
  // Add gravity to velocity
  velocity.add(gravity);

  // Bounce off edges
  if ((location.x > width) || (location.x < 0)) {
    velocity.x = velocity.x * -1;
  }
  if (location.y > height) {
    // We're reducing velocity ever so slightly
    // when it hits the bottom of the window
    velocity.y = velocity.y * -0.95;
    location.y = height;
  }

  // Display circle at location vector
  stroke(255);
  strokeWeight(2);
  fill(127);
  ellipse(location.x,location.y,48,48);
}
```

```
/**
 * Bouncing Ball with Vectors
 * by Daniel Shiffman.
 *
 * Demonstration of using vectors to
 * control motion of body
 * This example is not object-oriented
 * See AccelerationWithVectors for an
 * example of how to simulate motion
 * using vectors in an object
 */
```