

# Moving randomly



The asset moves around in a random direction and bounces back at the borders.

On top of the usual fields, a star that is bouncing around has a speed and a direction for both the x and y axis.

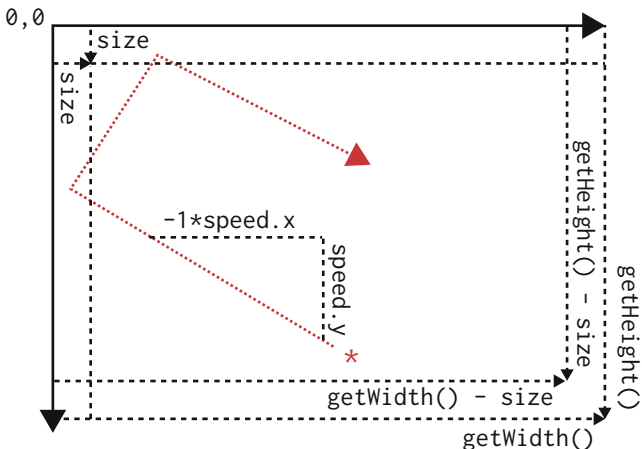
The horizontal and vertical speeds get a random value between 200 and 300; the directions are +1 or -1, making the asset go up, down, left or right.

In the `update(dt)` function:

- first, we calculate the next x and y position.
- if the next position is too close to the border of the window we invert the x and / or y direction.
- otherwise, we use the new values as the current coordinates.

```
star = {x = 175, y = 200,  
        speed = {x = 0, y = 0},  
        direction = {x = 1, y = 1},  
        char = '*', size = 5}
```

```
function love.load(arg)  
    love.graphics.setFont(love.graphics.newFont(36))  
  
    math.randomseed(os.time())  
    star.speed.x = love.math.random(200, 300)  
    star.speed.y = love.math.random(200, 300)  
end
```



```
function love.update(dt)
    newX = star.x + (star.speed.x * dt *
star.direction.x)
    newY = star.y + (star.speed.y * dt *
star.direction.y)

    if (newX > (love.graphics.getWidth() -
star.size)) or (newX < star.size) then
        star.direction.x = star.direction.x * -1
    else
        star.x = newX
    end

    if (newY > (love.graphics.getHeight() -
star.size)) or (newY < star.size) then
        star.direction.y = star.direction.y * -1
    else
        star.y = newY
    end
end

function love.draw()
    love.graphics.print(star.char, star.x, star.y)
end
```

