Bouncing Ball

2) I changed the “radius” from a constant to a variable and everytime the ball hits the side in the if statement, its radius gets increased by 2 and similarly the radius gets decreased by max(2, radius) so that it doesn't disappear.

4) Changes made:

1. Added a ball class
    a. Added ball class for easy creation of balls
        i. constructor() -Initializes the ball’s position (x, y), velocity (dx, dy), size (radius), and color.
        ii. draw() - Uses the ball’s current properties to render it on the canvas.
        iii. update()
            1. Updates the ball’s position
            2. Checks for collisions with the walls and reverses direction if necessary
            3. Changes the ball’s color upon collision using getRandomColor()
2. Created an array of balls
3. Initialized 3 balls from the start
4. Changed the animate function to draw all three balls using a for loop instead of drawing only one.

Bouncing Box

1) Explanation
    a) ctx.clearRect… - Clears the entire canvas to prepare for drawing the next frame
    b) ctx.save(); - Saves the current state of the canvas context by pushing it onto the current stack of drawing states so that way we can apply transformations later.

c) ctx.translate… - : The translate method changes the position of the canvas's origin (0,0). By moving the origin to the center of the box so that rotations rotate around the box's center instead of its corner.
d) ctx.rotate(box.angle); - Rotates the canvas coordinate system by the box's current angle
e) Ctx.translate… - Adjusts the drawing position to account for the translation.
f) ctx.fillStyle - Sets the fill color for the box
g) ctx.fillRect - Draws the filled rectangle (the box) at the current origin
h) Ctx.restore - Restores the canvas to its previous state

2) Explanation of Modification:
   a) Added color property to rotation accumulator
   b) Modified the drawbox (ctx.fillstyle) to fill color with box.color instead of a fixed value.
   c) In the if statement that checks the rotationaccumulator, I changed the angle to pi/6 for 30 degrees instead in order to change the box color and i reset the rotationAccumulator right after to start counting to 30 degrees again.

3)