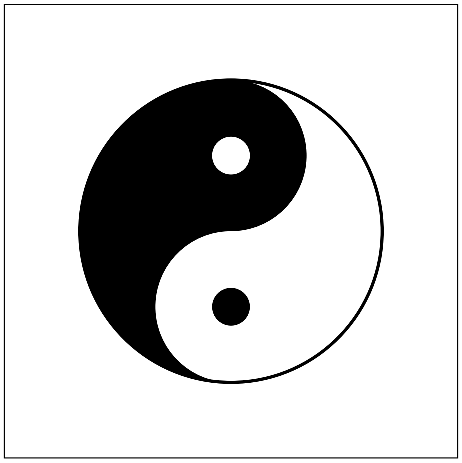
1. **Creating a Yin-Yang symbol:** Your task in this problem is to recreate the classic yin-yang symbol, centered in the middle of the screen, as seen below:

   Given the shapes we have introduced so far: rectangles, circles/ovals, and lines, recreating the above may seem impossible! But thinking through how you could overlay blocks of color atop one another should help you see a path forward. You can access an interactive visual here to help you. Once you have a plan and layering order figured out, implement it in code to recreate the above image. Doing so will mean carefully working out how to position the various shapes, so don't be afraid to draw it out on paper or a whiteboard!

2. **Shape Stamper:** Many art programs feature some sort of stamping tool, wherein a user can place the mouse at a desired location on the canvas and then click to "stamp" a predetermined shape to that location. The best implementations of this type of feature also move an image of the stamp that tracks with the mouse cursor, so that the user can line up exactly how the stamp will look once placed.

   In this problem, your task is to recreate a very basic stamping tool within PGL. When run, your program should:

   - Draw a black square to the screen to represent your "stamp". Whenever the mouse moves across the canvas window, this square should move along with the mouse, such that the mouse cursor remains centered in the square.
   - Upon clicking a random shape should be added to the canvas at the current location of the mouse. The shape should be a square 50% of the time, and a circle 50% of the time, and should be given a random color. When adding the shape to the canvas, it will initially appear on "top" of the stamp. This is non-ideal, as it breaks the illusion that we are stamping shapes onto the canvas. Consult the PGL documentation to see how you might be able to fix this.

   Once running, your program should be able to replicate the functionality of the online applet here.