

Problem 1

Part A Writing a Button class

Write a class and call it Button in *Processing*. It represents a special button that looks like a square with a “smaller” circle pinned to its center. For an example, see the following picture.



The class must have the following properties

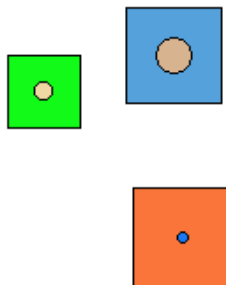
- Position: the center of the circle and the square (note it must be the same point for both).
- Circle radius (note that the circle must completely fit within the square)
- Square side.
- Inner color for the circle and inner color for the square.
- Contour color for the circle and inner color for the square.

The class must also have methods to do the following:

- Draw the Button object
- Detect if a point is within its boundaries.

Part B: Adding more buttons

Allow the user to add more buttons to the scene by right clicking the mouse. The circle and the square should be centered on the location mouse, and should be created to have random colors and random dimensions. *You must make sure the circle lies within the square.* The buttons should be added to an *ArrayList* and displayed as shown in the example below



Part C: Moving the buttons

Allow the user to move the created buttons by left clicking and dragging the mouse around the canvas. To avoid abrupt jumps, you will need to alter your Button class in a way similar to the square class we will develop in class.