Write a compound object *DarkeningCircle* that contains a white filled-in circle centered at the compound object's hotspot. (You can choose the size.) Include a method *darken()* that makes the circle become a shade darker. It should take 255 calls to *darken()* to fully make the circle black. (Further calls to *darken()* should *not* cause a crash.)

Then, write a program. Every click should create a new *DarkeningCircle*. Each circle should darken every 5 milliseconds. Note that each circle has its own shade of gray.

Once you've gotten that working, make it so that every time you click on an existing *DarkeningCircle*, it resets to white again. (Don't just make a new *DarkeningCircle* on top of the old one.) This will require adding a new method to your compound object.