CS 129 HW10

For this homework, use no arrays, only ArrayList. If you use an array or a different kind of list, you'll lose half the credit (50%)

Create a large quantity of circles (I used 200 with size 40) in random places around the screen with randomly generated colors.

- On click, remove the clicked circle
- When the "a" key is pressed, remove the bluest circle on the screen. The bluest circle is the one whose blue value (color.getBlue) is the highest. Only remove one circle if there's a tie.
- When the "s" key is pressed, remove a circle at random.
- When the "d" key is pressed, move all the circles to a new random location on the screen
- When the "f" key is pressed, any circle that is touching another circle becomes the same color.
  - This part is worth 50% of the assignment's overall credit
  - It's up to you which color they pick. For example, if an orange and green circle are touching, they may both become orange or green, it doesn't matter which.
  - Make sure this functionality still works after a circle is removed or the circles shuffle locations. Hint: ArrayList has a clear function.
  - It may require multiple key presses for the color to fully spread to all touching circles: you won't lose any credit if you have to hold the key for a bit, but make sure the colors don't continuously change when you hold the key.

Hint: It's not enough to see if two circles are touching. For the color to fully spread, if circle A is touching circle B, and we want to spread circle A's color, it also has to update all of the circles that are also touching B.

Extra credit (10%) Right click to add circles at the mouse's location. If the new circle is touching an existing one, spread the new circle's color to all connected circles (same as the f-key functionality).
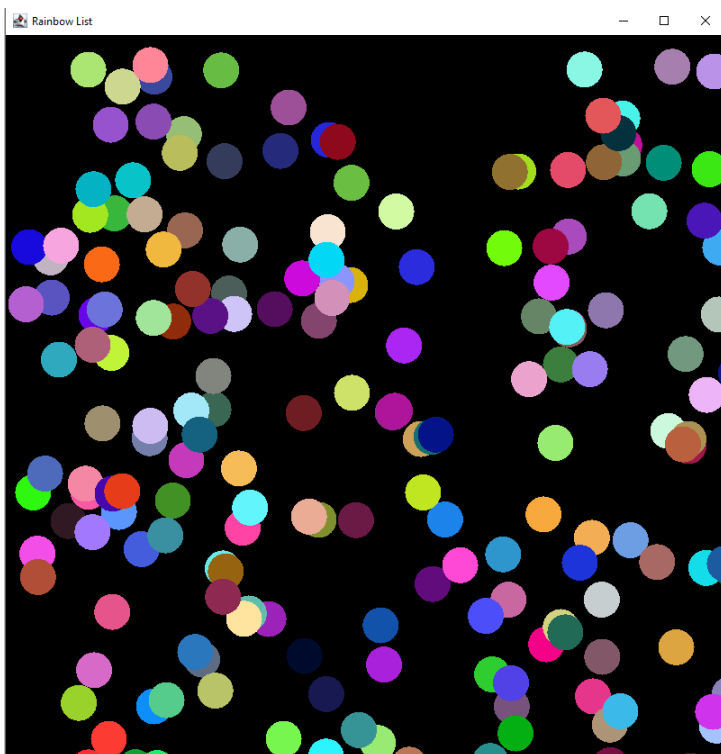
Extra credit (10%) Automatically shuffle the circles (like the d key does) and perform the f-key functionality until all circles are the same color. Wait 2 seconds between automatic shuffles.

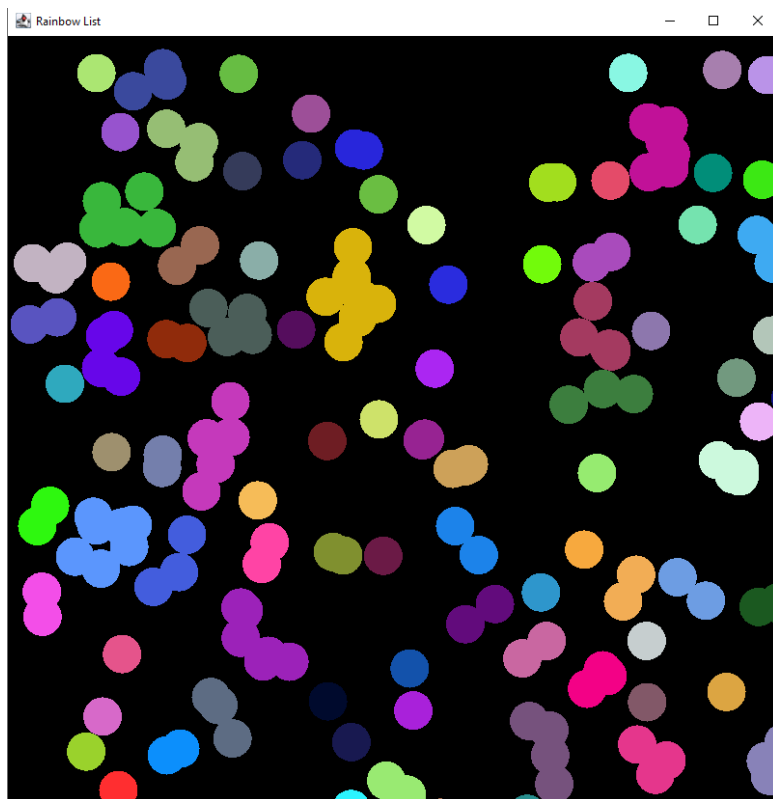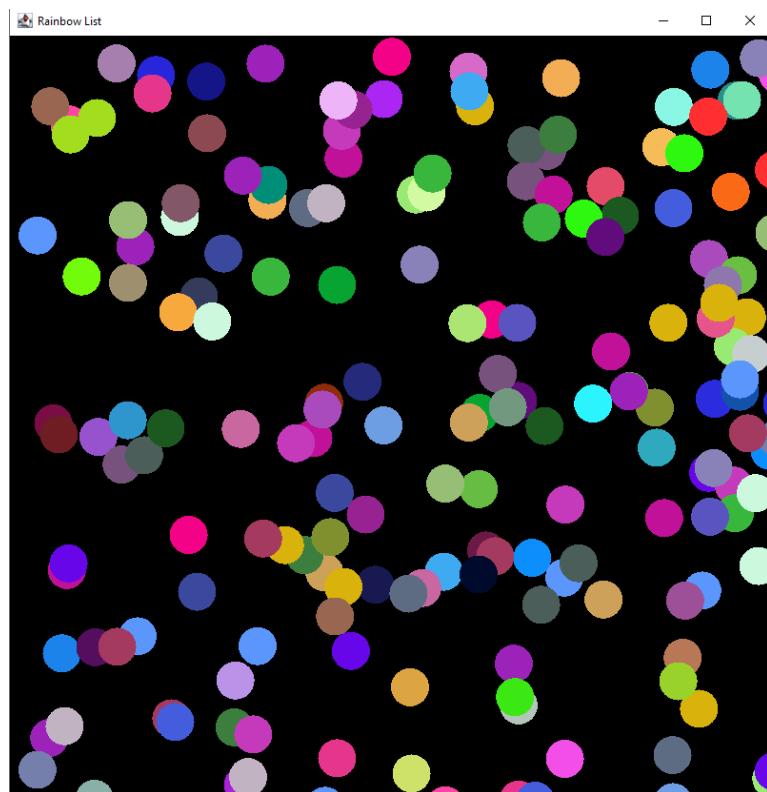As always, up to 5% extra credit for exceptional documentation.

Start
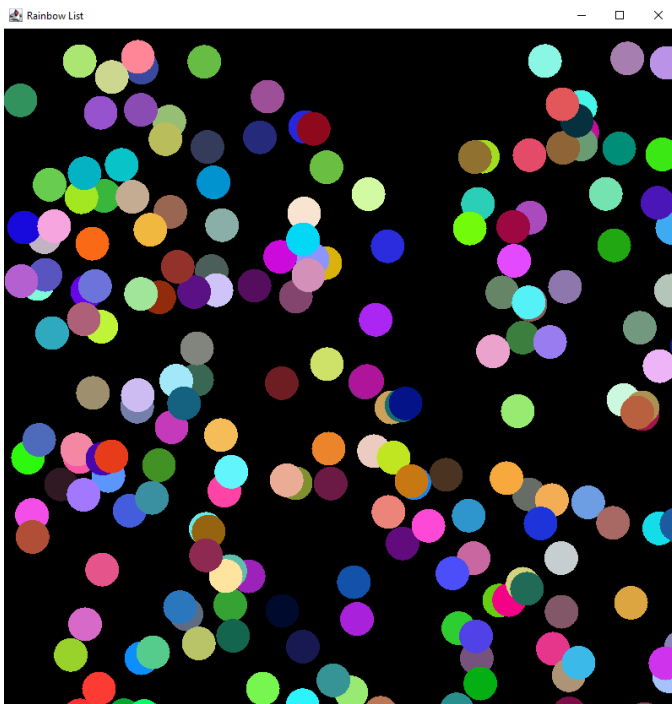
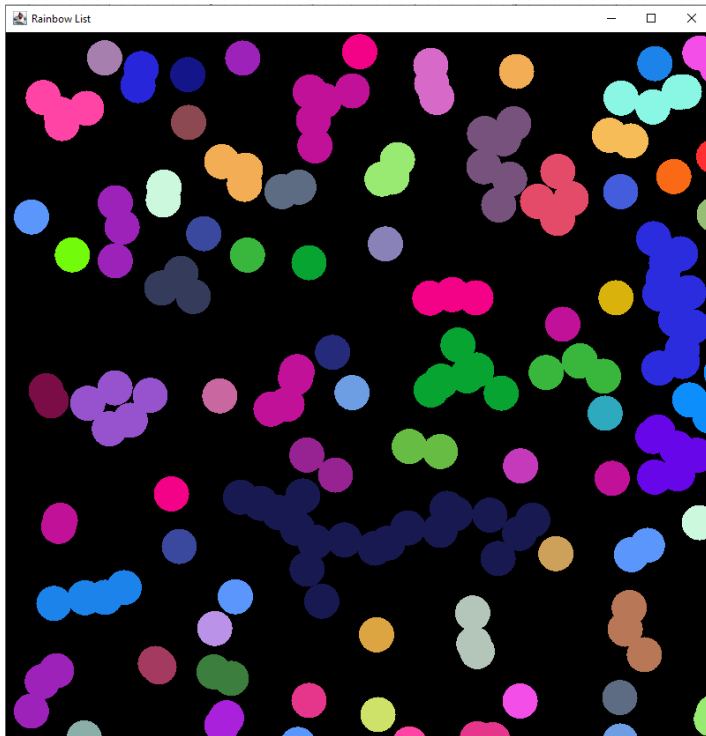Removed circles with click, "a", and "s"

Held down the "f" key

Shuffled with the "d" key

Held "f" again:

By shuffling with "d" and holding "f", you'll have fewer and fewer colors on the screen, and eventually everything is the same color (this takes a long time)