Pygame Assignment - Ten Balls Edit

In class you saw a demo of ten bouncing balls, which utilize lists. For this assignment, you will edit that demonstration in various ways.

Edit #1: Different Velocities, Colors

Give each ball a different velocity and different color at the beginning of the program. Watch the change in the demo!

Edit #2: Eventual Removal

For each ball, count how many times it bounces off a wall. When a ball bounces of a wall 10 times, remove it from the screen.

Edit #3: Merging Balls (optional)

Whenever two balls intersect, merge them into one ball which has area equal to that of the sum of the two intersecting balls, roughly. (For example, dot of radius 30 and a dot of radius 40 would merge into a dot of radius 50, since $30^2 + 40^2 = 50^2$. When the merging radius isn't an integer, just use the int function to make it one.)

Edit #4: Simple Version of the Dot Game (optional)

In the dot game, you control a dot, trying to eat other dots. If you try to eat a dot bigger than you (by intersecting with it), you die. If you try to eat a dot your size or smaller, you succeed and your new size is the sum of your old size and the size of the dot you ate. For this version of the game, create an 11th dot that the user can control with arrows and make it a different color. For the 10 random dots, make them various sizes but all the same color, a different color than the dot the user controls.