Gumball Machine in Greenfoot & Processing

- **Starter Source code for the Lab:**

  - https://github.com/paulnguyen/cmpe202/tree/master/gumball/gumball-greenfoot

  - https://github.com/paulnguyen/cmpe202/tree/master/gumball/gumball-processing

- **Implement the following features in Greenfoot using the starter code provided:**

  - Dragging a coin over (i.e. touching) the gumball machine results in the gumball machine printing the message “have coin” to the screen. The coin should then disappear from the screen.
  - Clicking on the gumball machine (i.e. turn crank) will get the aliens started with their work.
  - Turning the crank should end with a gumball appearing on the screen if the coin inserted was a “real” quarter.

- **Implement the following features in Processing using the starter code provided:**

  - Add two buttons: “Insert Quarter” and “Turn Crank” with white background. When the mouse hovers over these button, change the background color to grey. When a user clicks inside the button, change the background color to black and also initiate the proper method to the Gumball Machine.
  - All Output can be to Console (i.e. count of gumballs in the machine, error/success messages, etc…)
  - Optional: Display the Inventory and Status of the Gumball Machine to the User (i.e. not just debug messages to Console)

- **Some Constraints**:

  - You may add additional classes to the project, but do not delete the existing classes.

  - The Inspector Alien must randomly pick one of the Picker Aliens. The RandomPicker Alien randomly picks and returns one of the three possible gumballs (blue, red or green). The GreenPicker Alien always picks the green gumball.

  - If the coin is not a quarter (i.e. a penny or fake quarter), the Inspector should reject the coin (either return the coin or just keep it) and not allow a gumball to be ejected from the gumball machine.

- **Hints:**

  - This Lab is not about how to write Java code in Greenfoot and Processing. Sample code in the Lab Hints shown in class will give you some ideas on which part of Greenfoot API to use.
  - The focus should be on the OO Concepts (as discussed in class) that are at play when you implemented your solution. Please make sure to discuss this in your report when discussing the Code.