Write a program that controls a traffic light.

Objectives:

- Control the COLOR LED to simulate a traffic light using a single bulb
- Create a sequence of statements with proper timing controls

---

Your task is to write a program that controls a traffic light. The light will be simulated using the COLOR LED on the TI-Innovator Hub.

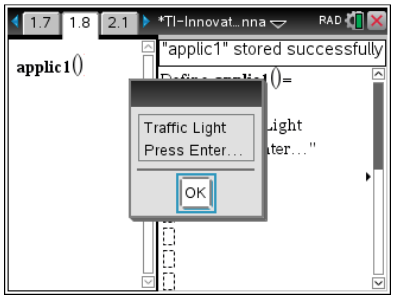
The COLOR LED should switch from green to yellow to red AND from red to yellow to green. Timing is up to you.

Your program will have a sequence of statements that simulate the change from RED to GREEN to YELLOW to RED. A sequence control structure in programming is a set of statements that are processed one after another, from top to bottom, without interruption.

Using *Text* as a pause

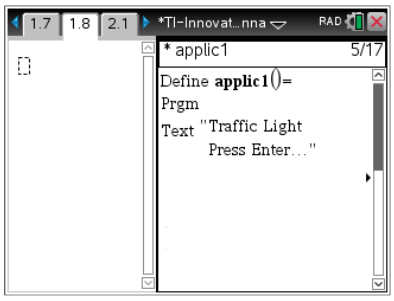
The **Disp** command displays a message on the HOME screen of the calculator. It can be used to display the value of a variable as in **Disp X,** or it can display a string. But it does not stop the program from continuing.

The **Text** statement on the **I/O** menu displays a dialog box and waits for the user to press enter or click the 'OK' button before processing the rest of the program.



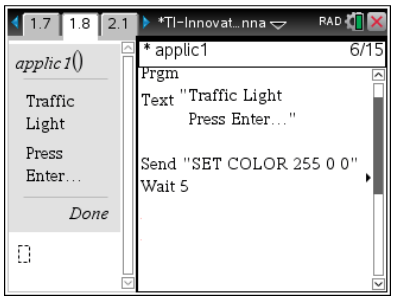
Setting up the title screen

1. Begin a new program, and call it APPLIC1.
2. Get the **Text** keyword from the **I/O** menu.
3. In quotation marks, add the message "*Traffic Light* <enter> *Press enter…"* as shown.



Teacher Tip: Why are there three different lights on a traffic signal rather than just one that could change color? People who are color blind can tell by the position of the light whether it is red or green. Green is always at the bottom or on the right.

Set the Colors



First, we set the color to red by sending the RGB values of 255 0 0.

In the example on the right, we use a **Wait** statement to tell the calculator to wait 5 seconds before sending the next command to the TI-Innovator Hub. The red light will stay on during this time.

Your task is to add the statements to make the light green, then yellow, then red again.

Challenge: Add SOUNDs so that a blind person (pedestrian, not driver!) can tell which color the light is.

Teacher Tip: Yellow's RGB value is 255 255 0.