

Lab 6- Stoplight

Reflection Questions

Q) What is a python library and how do you include on in your script?

A) a python library is variables imported into your script. To include them have "import ____ " at the top of your script. With the blank space being what you want imported.

Q) What does it mean for elements in a circuit to be in series vs. in parallel

A) A series circuit is a connections that is linear, there are no division between what is connected and they all share the same power. A parallel circuit divides the current and has multiple "layers" to the connections.

Q) Can you create a circuit of 3 light bulbs in series? Why or why not?

A) While it is possible to have 3 bulbs in a series circuit with each bulb, it acts as a resistor and dims the light for the bulbs that are further on the series circuit.

Q) The stoplight pattern is Green ON for 5 seconds, Yellow ON for 1 seconds, and Red ON for 4 seconds. Define the function $f(t)$ as a **piece wise** function that outputs 1 if the green light is on, 2 if the yellow light is on, and 3 if the red light is on over 10 seconds. The bounds of the function are $0 \leq t \leq 10$

A) $f(t) = 1 \{ 0 \leq t \leq 5 \}$

$f(t) = 2 \{ 5 \leq t \leq 6 \}$

$f(t) = 3 \{ 6 \leq t \leq 10 \}$

Q) Sketch a graph of $f(t)$ over 10 seconds using a step-like shape.

A)

