Solar-Powered Traffic Lights

- Single Traffic Light Design
- Connecting External LED’s
- Challenges

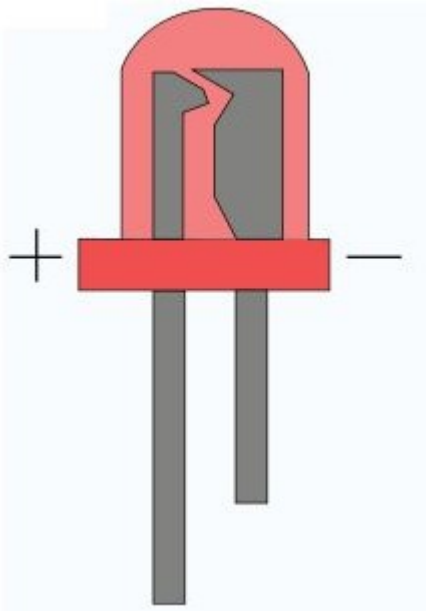
A POSTERIORI
Play · Experience · Learn

Single Traffic Light

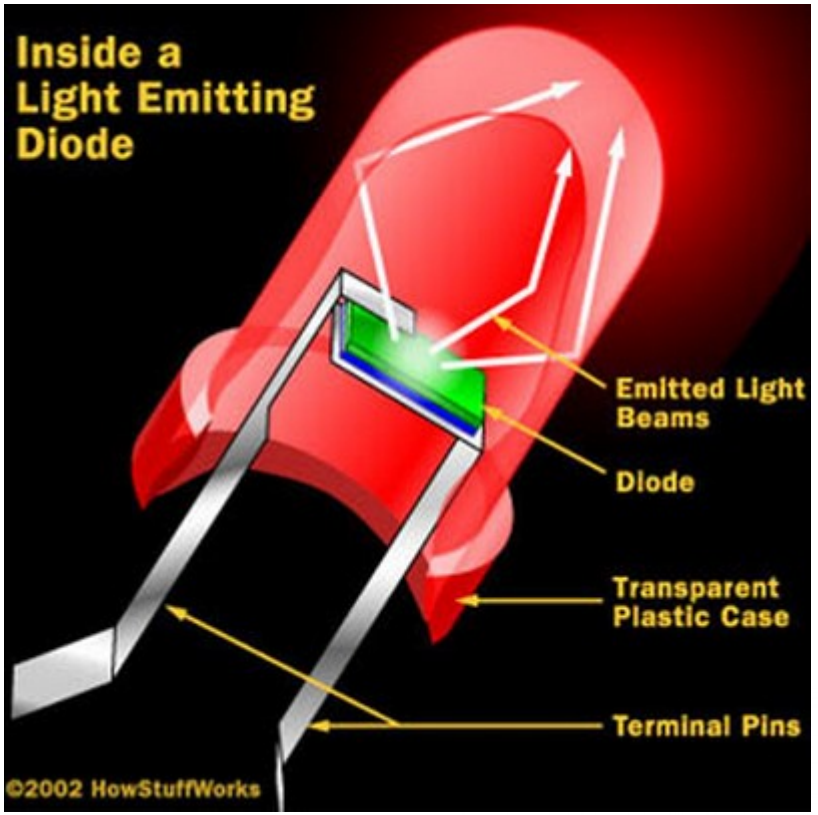
- Traffic Light Pattern: ***Loop***
  - Red – STOP (10 sec)
  - Green – GO (10 sec)
  - Yellow – SLOW DOWN (3 sec)
  - Back to Red...

A POSTERIORI
Play · Experience · Learn

External LEDs



Long Leg →
(+) side of Power Source



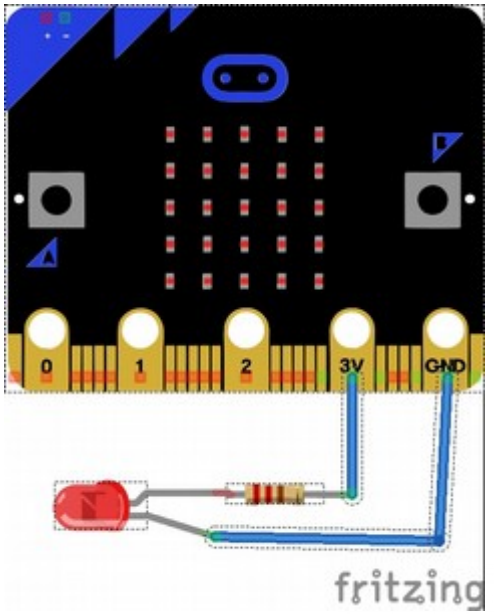
Efficient – other lights waste energy

micro:bit External LEDs

LED Connections:

- **Long Leg** to **3V**
- **Short Leg** to **GND**

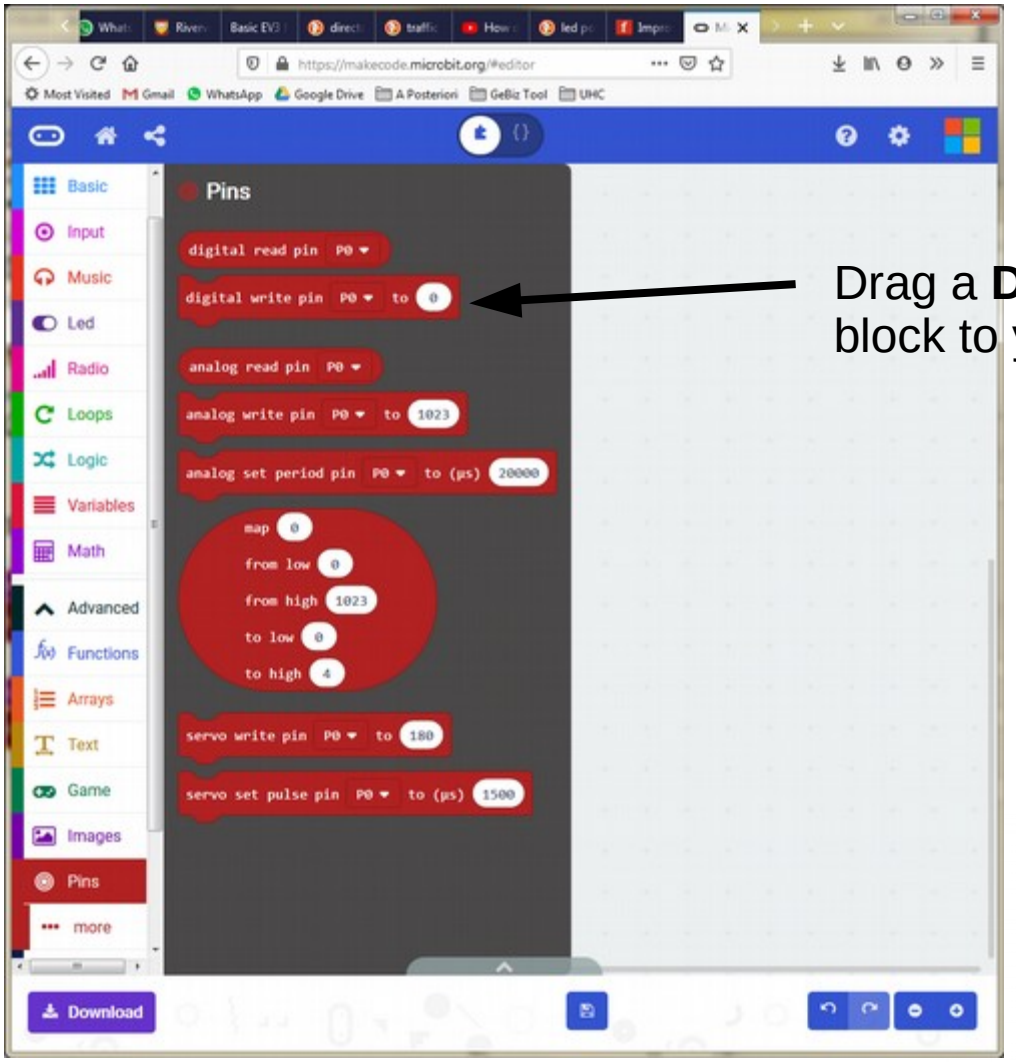
TEST IT OUT!!!



Long(+) leg to 3V

A POSTERIORI
Play · Experience · Learn

Control LED With Code



Drag a **Digital Write** block to your code

Click **Advanced** to expand more menus

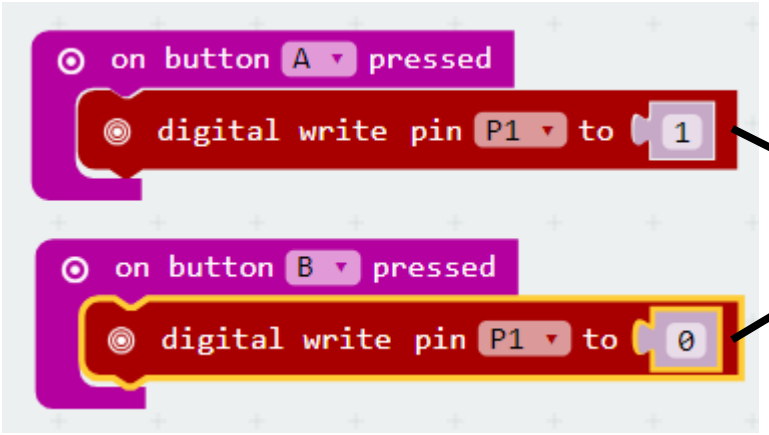
Click Pins to access pin-related blocks

A POSTERIORI

Play · Experience · Learn

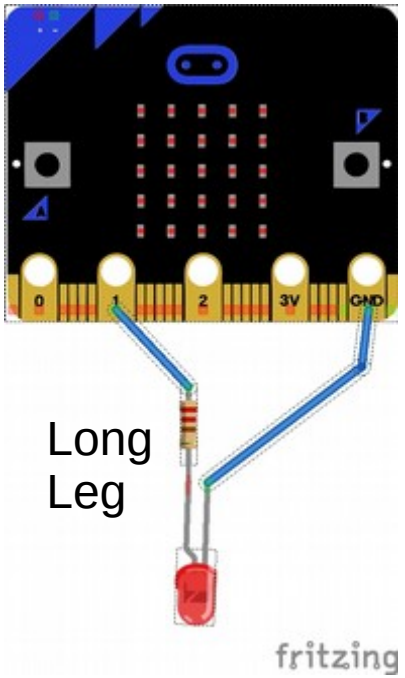
Control LED With Code

- Experiment using Pin 1 & Buttons to control LED



1 = on (3v)
0 = off (0v)

Whichever pin you use, make sure the **connections and the code match**...

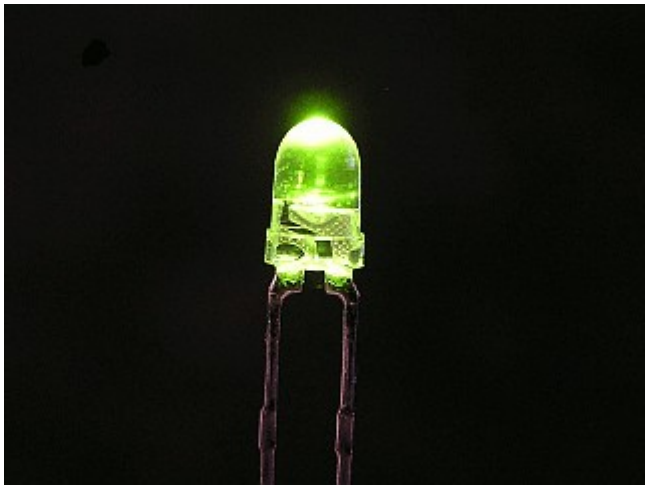


A POSTERIORI
Play · Experience · Learn

micro:bit External LEDs

Challenge

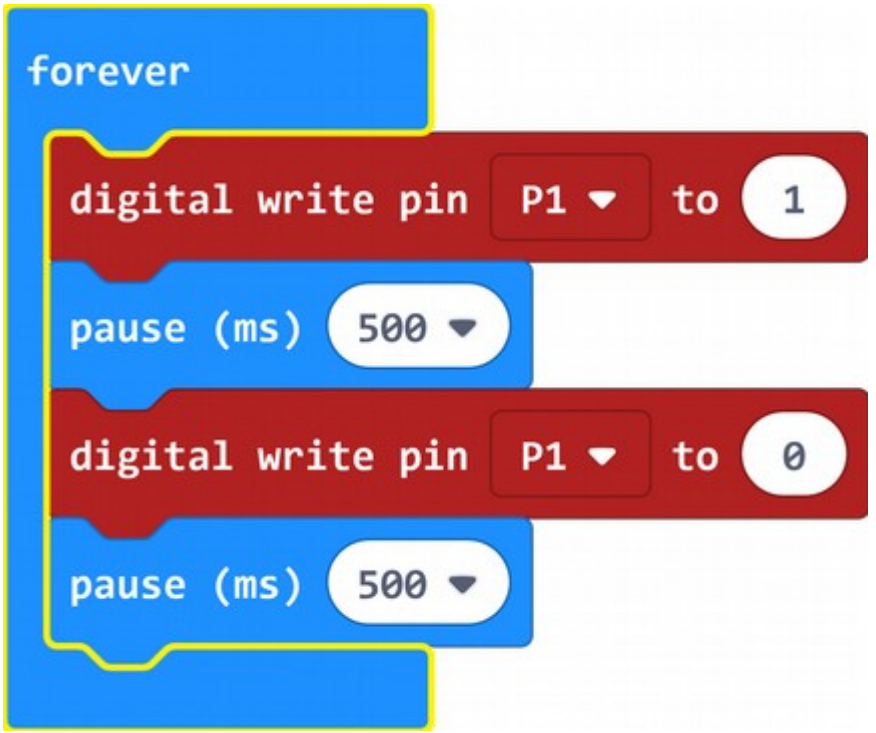
- Make a blinking light without using buttons.



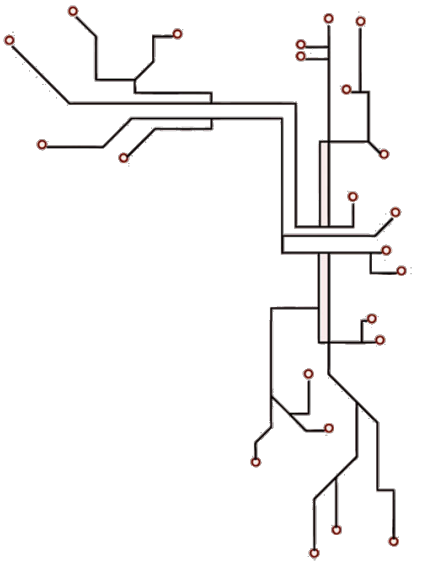
- ***Hint****: Need to slow time down...*

micro:bit External LEDs

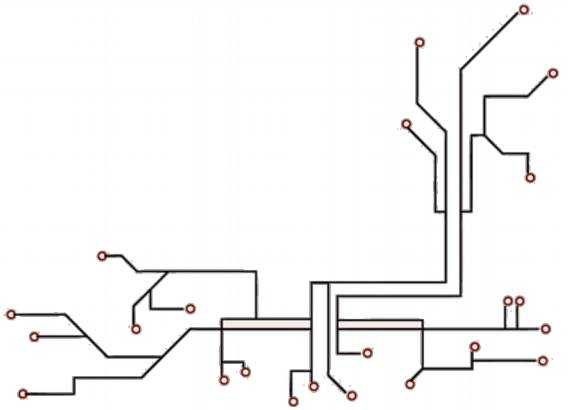
- One solution...



Traffic Light Program



- Need 3 LEDs Connected
- And code to control pattern:
  - **Red** – STOP (10 sec)
  - **Green** – GO (10 sec)
  - **Yellow** – SLOW DOWN (3 sec)
  - Back to Red...



A POSTERIORI
Play · Experience · Learn