

1 - Remote Control via Flashlight

Libraries: Libraries







LED Display



Basic Sensors

To use a flashlight as a remote, sweep back and forth across the micro:bit. Based on the number of flashes, trigger different actions.

```
when started
forever
 set flashes → to flash_count
 clear display
    flashes = 1
  display
       flashes = 2
  display
       flashes <= 9
 display character flashes
 else if 🌑
 display character +
 for i in min flashes
                       10
                                  for 100 ms
  play midi key 45 + i × 5
 say flashes
```

The "flash count" reporter block detects flashes until there's a pause greater than one second. It then returns the count to the main loop.

```
define flash_count
set threshold → to
                light level
                           + 100
wait until
           light level > threshold
forever
            light level < threshold
 Wait for the next flash or for a long pause,
          indicating that the message has ended.
 repeat until
              light level > threshold
       milliseconds - timer
                                > 1000
   comment If light stays off > 1 second, return count.
   return flashes
 change flashes → by 1
```

Challenge: Change the actions to play different tunes or do something fancier in response to your remote control commands.



2 - Flashlight Tag

For this game, attach the micro:bit to a flashlight, with the LED display and light pointed in the same direction. Your goal is to "tag" (flash) others before getting tagged out!

Adjust "delta" for day/night play. when go! received set delta → to 100 when started set_threshold attach buzzer to pin 0 play note C octave -1 for 400 ms broadcast go! display character 0 wait until flashes > max-tags play note C octave -1 for 400 ms comment you're tagged out :(set flashes → to max-tags + 1 display clear display Challenge: Add radio wait 1500 millisecs code to broadcast a start broadcast go! time and the "winner". play note G octave 0 for 200 ms light level > threshold when play note F octave 0 for 200 ms play note E octave 0 for 200 ms wait until | light level | < threshold play note D octave 0 for 200 ms change flashes → by 1 play note C octave 0 for 200 ms flashes <= max-tags define set_threshold repeat flashes display character # play note C octave 1 for 50 ms repeat 9 display character @ play note D octave 1 for 50 ms wait 50 millisecs display character % play note E octave 1 for 50 ms threshold / 10 + delta display character flashes say light level threshold 1