

# Example code for bonus challenge

## Motion sensor + LED

```
# Motion sensor smart light
# When the person is present, turn on light
# When the person goes away, turn off light

from gpiozero import MotionSensor, PWMLED
from signal import pause

light = PWMLED(2)
pir = MotionSensor(17)

# Default mode: night light off
light.off()

while True:

    # If motion detected
    pir.wait_for_motion()
    print("Motion!")
    light.on()

    # If no motion detected
    pir.wait_for_no_motion()
    print("No Motion!")
    light.off()
```

## Motion sensor + LDR+ LED

```
# Smart night light set up
# If room is dark --> motion will turn on LED (night light)
# If room is bright --> night light is deactivated

from gpiozero import MotionSensor, LightSensor, PWMLED
from signal import pause

light = PWMLED(2)
pir = MotionSensor(17)
ldr = LightSensor(4)

# Default mode: night light off
light.off()

while True:
    # If motion detected
    pir.wait_for_motion()
    print("Motion!")

    # If room is dark, turn on night light
    if ldr.value < 0.5:
        light.on()

    # No motion --> turn off night light
    pir.wait_for_no_motion()
    print("No Motion!")
    light.off()
```