

Name:

## Mission 12 Assignment – Night Light

**Make a smart night light** that turns on when the room gets dark. You'll use the CodeX's built-in light sensor to detect ambient light and the pixels as a night light!



Mission 12: Night Light ✓

Make a smart night light that turns on when the room gets dark.

You will create code during this lesson. When you encounter an error, make a note of what is happening and **document your debugging** process in the **table** below.

1. Read the introduction and complete Objective #1. Use the simulator for the second checkbox.

What is the light sensor?

Give one fact about the light sensor:

2. Complete Objective #2. Review [analog and digital](#) from Mission 5.

What is analog?

What is digital?

What is ADC?

Dark =

Bright =

Any value below 2000 is ...

3. Complete Objective #3. Use the hints and CodeTrek if you need help.

4. Complete Objective #4. Use the hints and CodeTrek. You could create a function for the code inside the if statement.

5. Complete the Quiz and then Objective #5. Use CodeTrek to help with the code. If you created a function for Objective #4, your modification will happen in the function.

### EXTENSION:

Use button B to program a “kill switch” to end the program. Turn off all pixels and display a message after the loop that indicates the program is over.

### CHALLENGE:

Combine images with the pixels and display an image depending on the brightness of the pixels.

To turn in the assignment, download your code (FILE-DOWNLOAD), which will be a text file. Add your name in the filename. Then submit the file through Google Classroom or the class LMS.

## Debugging Table

As you create code, you will make mistakes. Keep track of the mistakes in the table below. Doing so will help you become a more confident programmer. Add rows to the table as needed.

Error message that is displayed	Actual bug	How you fixed it

### SUCCESS CRITERIA:

- The CodeX determines when it is dark and turns on the pixels.
- The brightness adjusts with the amount of darkness.
- Use at least one function in your code.