

Lesson 16

level 3

```
// This code tells the board to use pin "A4" for output
pinMode("A4", ▼"output");
// This code turns pin "A4" on
digitalWrite("A4", ▼0);

//1) Tell the board to use pin "A1" for output
pinMode("A1", ▼"output");
digitalWrite("A1", ▼1);

//2) Turn pin "A1" on
```

Level 4

```
// This code creates a new variable leftLED attached to pin "A4"
var leftLED = createLed("A4");
// This code turns the leftLED on
▼leftLED.on();
var rightLed = createLed("A1");
▼rightLed.on();

//1) Create a new variable rightLED attached to pin "A1"

//2) Turn the rightLED on
```

Level 5

```
var leftLED = createLed("A4");
//1) Make the 'leftLED' blink every 500 milliseconds
▼leftLED.on();
▼leftLED.blink(500);

var rightLED = createLed("A1");
//2) Make the 'rightLED' pulse every 1000 milliseconds
▼rightLED.on();
▼rightLED.pulse(1000);
```

Level 6a

```
1 //1) Create a new LED variable attached to pin "A4"
2 var leftLED = createLed("A4");
3
4 onEvent(▼"onButton", ▼"click", function() {
5   //2) When the onButton is pressed: turn on the LED
6   ▼leftLED.on();
7 }
8 );
9
10 onEvent(▼"blinkButton", ▼"click", function() {
11   //3) When the blinkButton is pressed: blink the LED
12   ▼leftLED.blink(100);
13 }
14 );
15
16 onEvent(▼"offButton", ▼"click", function() {
17   //4) When the offButton is pressed: turn off the LED
18   ▼leftLED.off();
19 }
20 );
```

Level 6b

```
1 //1) Create two LED variables on pins "A0" and "A6"
2 var leftLED = createLed("A0");
3 var rightLED = createLed("A6");
4
5 onBoardEvent(▼toggleSwitch, ▼"close", function() {
6   ▼leftLED.off();
7   ▼rightLED.off();
8   colorLeds[0].on();
9   colorLeds[1].on();
10  colorLeds[2].on();
11  colorLeds[3].on();
12  colorLeds[4].on();
13  colorLeds[5].on();
14  colorLeds[6].on();
15  colorLeds[7].on();
16  colorLeds[8].on();
17  colorLeds[9].on();
18 }
19 );
```

```

onBoardEvent(▼toggleSwitch, ▼"open", function() {
  ▼leftLED.on();
  ▼rightLED.on();
  colorLeds[0].off();
  colorLeds[1].off();
  colorLeds[2].off();
  colorLeds[3].off();
  colorLeds[4].off();
  colorLeds[5].off();
  colorLeds[6].off();
  colorLeds[7].off();
  colorLeds[8].off();
  colorLeds[9].off();
});

```

Level 6c

```

//1) Create an LED variable on pin "A6"
var myLed = createLed("A6");

onBoardEvent(▼lightSensor, ▼"data", function() {
  if (lightSensor.value < 200) {
    ▼myLed.on();
  } //2) If the room is dark: turn on the LED
  if (lightSensor.value > 200) {
    ▼myLed.off();
  } //3) If the room is bright: turn off the LED
});

```

level 7

```
1 //Setup your code to recognize the LEDs
2 var rightLed = createLed("A6");
3 var leftLed = createLed("A0");
4
5 onEvent(▼ "wakeButton", ▼ "click", function() {
6   //Open the alien's eyes
7   ▼ rightLed.on();
8   ▼ leftLed.on();
9
10 });
11
12 onEvent(▼ "listenButton", ▼ "click", function() {
13   //Blink the eyes slowly, as if listening
14   ▼ rightLed.blink(100);
15   ▼ leftLed.blink(100);
16 });
17
18 onEvent(▼ "sleepButton", ▼ "click", function() {
19   //Close the alien's eyes
20   ▼ leftLed.off();
21   ▼ rightLed.off();
22
23 });
24
```

level 8 a

```
//1) Create an LED variable
var myLed = createLed("A6");

onBoardEvent(▼ buttonL, ▼ "down", function() {
  ▼ myLed.on();
});

onBoardEvent(▼ buttonR, ▼ "down", function() {
  ▼ myLed.off();
});

//2) When you press the left button: the external LED turns on

//3) When you press the right button: the external LED turns off
```

level 8 b

```
workspace
1 //1) Create two LED variables
2 var myLed = createLed("A6");
3 var leftLed = createLed("A0");
4 ▼myLed.on();
5 ▼leftLed.on();
6
7 //2) Turn on the LEDs when the app is run
8
```

level 8c

```
//1) Create an LED variable
var myLed = createLed("A6");
onBoardEvent(▼buttonL, ▼"down", function() {
  ▼myLed.on();
});
onBoardEvent(▼buttonR, ▼"down", function() {
  ▼myLed.off();
});

//2) When the left button is pressed: turn on the LED

//3) When the right button is pressed: turn off the LED
```