

Lesson – 14

Level 3

```
//Events
onEvent(▼"greenAlien1", ▼"click", function() {
  //Turn the LEDs green
  greenLEDs();
});

onEvent(▼"yellowAlien1", ▼"click", function() {
  //Turn the LEDs yellow
  yellowLEDs();
});

//2) When you click an alien, change the LEDs to the color of that alien
onEvent(▼"greenAlien2", ▼"click", function() {
  //Turn the LEDs green
  greenLEDs();
});

onEvent(▼"yellowAlien2", ▼"click", function() {
  //Turn the LEDs yellow
  yellowLEDs();
});

onEvent(▼"greenAlien3", ▼"click", function() {
  //Turn the LEDs green
  greenLEDs();
});
```

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```

onEvent(▼"yellowAlien3", ▼"click", function() {
    //Turn the LEDs yellow
    yellowLEDs();
});

onEvent(▼"greenAlien4", ▼"click", function() {
    //Turn the LEDs green
    greenLEDs();
});

onEvent(▼"yellowAlien4", ▼"click", function() {
    //Turn the LEDs yellow
    yellowLEDs();
});

```

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Level 4

```

//Events
onEvent(▼"redAlien1", ▼"click", function() {
    //Turn the LEDs red
    redLEDs();
});

onEvent(▼"redAlien2", ▼"click", function() {
    //Turn the LEDs red
    redLEDs();
});

//2) Calling our Functions
onEvent(▼"blueAlien1", ▼"click", function() {
    //Turn the LEDs blue
    blueLEDs();
});

```

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```
onEvent(▼"blueAlien2", ▼"click", function() {  
  //Turn the LEDs blue  
  blueLEDs();  
});
```

```
// Functions
```

```
function redLEDs() {  
  colorLeds[0].color("red");  
  colorLeds[1].color("red");  
  colorLeds[2].color("red");  
  colorLeds[3].color("red");  
  colorLeds[4].color("red");  
  colorLeds[5].color("red");  
  colorLeds[6].color("red");  
  colorLeds[7].color("red");  
  colorLeds[8].color("red");  
  colorLeds[9].color("red");  
}
```

```
//1) Defining our Functions
```

```
//Add Your Function Here!
```

```

function blueLEDs() {
  colorLeds[0].color("blue");
  colorLeds[1].color("blue");
  colorLeds[2].color("blue");
  colorLeds[3].color("blue");
  colorLeds[4].color("blue");
  colorLeds[5].color("blue");
  colorLeds[6].color("blue");
  colorLeds[7].color("blue");
  colorLeds[8].color("blue");
  colorLeds[9].color("blue");
}

```

Level 5

```

//Events
onBoardEvent(▼ soundSensor, ▼ "change", function() {
  if ( soundSensor.value > 400 ) {
    //Play a sound and move the aliens around
    buzzer.frequency(800, 200);
    moveAliens();
  }
});

onBoardEvent(▼ lightSensor, ▼ "change", function() {
  if ( lightSensor.value > 500 ) {
    //Play a sound and move the aliens around
    buzzer.frequency(800, 200);
    moveAliens();
  }
});

```

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```

    }
  }
};

//Functions

function moveAliens() {
  setProperty(▼"alien1", ▼"x", randomNumber(0, 320));
  setProperty(▼"alien1", ▼"y", randomNumber(0, 450));
  setProperty(▼"alien2", ▼"x", randomNumber(0, 320));
  setProperty(▼"alien2", ▼"y", randomNumber(0, 450));
  setProperty(▼"alien3", ▼"x", randomNumber(0, 320));
  setProperty(▼"alien3", ▼"y", randomNumber(0, 450));
  setProperty(▼"alien4", ▼"x", randomNumber(0, 320));
  setProperty(▼"alien4", ▼"y", randomNumber(0, 450));
}

onBoardEvent(▼accelerometer, ▼"shake", function() {
  moveAliens();
});

//Define your moveAliens function here!

```

Level 6

```

onBoardEvent(▼soundSensor, ▼"change", function() {
  if ( soundSensor.value > 400 ) {
    //Play a sound and move the aliens around
    buzzer.frequency(800, 200);
    moveAliens();
  }
});

onBoardEvent(▼lightSensor, ▼"change", function() {
  if ( lightSensor.value > 500 ) {
    //Play a sound and move the aliens around
    buzzer.frequency(800, 200);
    moveAliens();
  }
});

```

```

function moveAliens() {
  setProperty(▼"alien1", ▼"x", randomNumber(0, 320));
  setProperty(▼"alien1", ▼"y", randomNumber(0, 450));
  setProperty(▼"alien2", ▼"x", randomNumber(0, 320));
  setProperty(▼"alien2", ▼"y", randomNumber(0, 450));
  setProperty(▼"alien3", ▼"x", randomNumber(0, 320));
  setProperty(▼"alien3", ▼"y", randomNumber(0, 450));
  setProperty(▼"alien4", ▼"x", randomNumber(0, 320));
  setProperty(▼"alien4", ▼"y", randomNumber(0, 450));
}

onBoardEvent(▼accelerometer, ▼"shake", function() {
  moveAliens();
});

```

Level 7

```

onBoardEvent(▼buttonL, ▼"down", function() {
  crawl("purpleBug");
});

onBoardEvent(▼buttonR, ▼"down", function() {
  crawl("orangeBug");
});

function crawl(bug) {
  var pitch = accelerometer.getOrientation(▼"pitch");
  var bugY = getProperty(▼bug, ▼"y");
  setProperty(▼bug, ▼"y", bugY + pitch);
}

```

Level 9

```
onEvent(▼"alien1", ▼"click", function() {  
  colorLEDs("cyan");  
});
```

```
onEvent(▼"alien2", ▼"click", function() {  
  colorLEDs("pink");  
});
```

```
onEvent(▼"alien3", ▼"click", function() {  
  colorLEDs("red");  
});
```

```
onEvent(▼"alien4", ▼"click", function() {  
  colorLEDs("blue");  
});
```

```
onEvent(▼"alien5", ▼"click", function() {  
  colorLEDs("orange");  
});
```

```
onEvent(▼"alien6", ▼"click", function() {  
  colorLEDs("green");  
});
```

```
//Functions
```

```
function colorLEDs(color) {  
  colorLeds[0].color(color);  
  colorLeds[1].color(color);  
  colorLeds[2].color(color);  
  colorLeds[3].color(color);  
}
```

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```

    colorLeds[4].color(color);
    colorLeds[5].color(color);
    colorLeds[6].color(color);
    colorLeds[7].color(color);
    colorLeds[8].color(color);
    colorLeds[9].color(color);
  }

```

Level 10

```

onEvent(▼ "alien1", ▼ "click", function() {
  colorLEDs("cyan");
});

onEvent(▼ "alien2", ▼ "click", function() {
  colorLEDs("pink");
});

onEvent(▼ "alien3", ▼ "click", function() {
  colorLEDs("orange");
});

```

```

onEvent(▼ "cakeButton", ▼ "click", function() {
  setFoods("image://BirthdayCake.png");
});

onEvent(▼ "pizzaButton", ▼ "click", function() {
  setFoods("image://PizzaSlice.png");
});

onEvent(▼ "ramenButton", ▼ "click", function() {
  setFoods("image://Ramen.png");
});

```



```
onEvent(▼ "tacoButton", ▼ "click", function() {  
  setFoods("image://Taco.png");  
});
```

```
//Functions
```

```
function colorLEDs(color) {  
  colorLeds[0].color(color);  
  colorLeds[1].color(color);  
  colorLeds[2].color(color);  
  colorLeds[3].color(color);  
  colorLeds[4].color(color);  
  colorLeds[5].color(color);  
  colorLeds[6].color(color);  
  colorLeds[7].color(color);  
  colorLeds[8].color(color);  
  colorLeds[9].color(color);  
}
```

```
//1) Define your Functions
```

```
//2) Update the Foods
```

```
function setFoods(food) {  
  setProperty(▼ "food1", ▼ "image", ▼ food);  
  setProperty(▼ "food2", ▼ "image", ▼ food);  
  setProperty(▼ "food3", ▼ "image", ▼ food);  
}
```

Level 11

```
var totalScore = 0;
//Events
onEvent(▼"alien1", ▼"click", function() {
  updateScore("alien1", 10);
});
onEvent(▼"alien2", ▼"click", function() {
  updateScore("alien2", 8);
});
onEvent(▼"alien3", ▼"click", function() {
  updateScore("alien3", 6);
});
onEvent(▼"alien4", ▼"click", function() {
  updateScore("alien4", 4);
});
//Functions
function updateScore(alienID, points) {
  totalScore = totalScore + points;
  setText(▼"scoreLabel", totalScore);
  buzzer.frequency(500, 100);
  setProperty(▼alienID, ▼"x", randomNumber(50, 300));
  setProperty(▼alienID, ▼"y", randomNumber(50, 400));
}
```

Level 12(a)

```
soundSensor.threshold = 50;

//Events
onBoardEvent (▼ soundSensor, ▼ "change", function() {
  loopCloud ("cloud0");
  loopCloud ("cloud1");
  loopCloud ("cloud2");
  loopCloud ("cloud3");
  loopCloud ("cloud4");
});

//Functions
function loopCloud(cloudID) {
  //1) Update the function to use the `cloudID` parameter
  var cloudX = getProperty(▼ cloudID, ▼ "x");
  setProperty(▼ cloudID, ▼ "x", cloudX - randomNumber(4,12));

  if (cloudX < -100) {
    setProperty(▼ cloudID, ▼ "x", ▼ 325);
  }
}
```

Level 12(b)

```
//Events
//2) Call the changeColor(color) function with different values
onEvent (▼ "redButton", ▼ "click", function() {
  //Move this code into a changeColor(color) function
  setProperty(▼ "star0", ▼ "icon-color", ▼ "red");
  setProperty(▼ "star1", ▼ "icon-color", ▼ "red");
  setProperty(▼ "star2", ▼ "icon-color", ▼ "red");
  setProperty(▼ "star3", ▼ "icon-color", ▼ "red");
  setProperty(▼ "star4", ▼ "icon-color", ▼ "red");
  setProperty(▼ "lightbulb", ▼ "icon-color", ▼ "red");
  changeColor ("red");
});

onEvent (▼ "yellowButton", ▼ "click", function() {
  setProperty(▼ "star0", ▼ "icon-color", ▼ "yellow");
  setProperty(▼ "star1", ▼ "icon-color", ▼ "yellow");
  setProperty(▼ "star2", ▼ "icon-color", ▼ "yellow");
  changeColor ("yellow");
});
```

```

    setProperty(▼ "star3", ▼ "icon-color", ▼ "yellow");
    setProperty(▼ "star4", ▼ "icon-color", ▼ "yellow");
    setProperty(▼ "lightbulb", ▼ "icon-color", ▼ "yellow");
    changeColor("yellow"); ← →
  }
);

onEvent(▼ "blueButton", ▼ "click", function() {
  setProperty(▼ "star0", ▼ "icon-color", ▼ "blue");
  setProperty(▼ "star1", ▼ "icon-color", ▼ "blue");
  setProperty(▼ "star2", ▼ "icon-color", ▼ "blue");
  setProperty(▼ "star3", ▼ "icon-color", ▼ "blue");
  setProperty(▼ "star4", ▼ "icon-color", ▼ "blue");
  setProperty(▼ "lightbulb", ▼ "icon-color", ▼ "blue");
  changeColor("blue"); ← →
});

//Functions
//1) Create a changeColor(color) function
function changeColor(color) {← →
  colorLeds[0].color(color); →
  colorLeds[1].color(color); →
  colorLeds[2].color(color); →
  colorLeds[3].color(color); →
  colorLeds[4].color(color); →
  colorLeds[5].color(color); →
  colorLeds[6].color(color); →
  colorLeds[7].color(color); →
  colorLeds[8].color(color); →
  colorLeds[9].color(color); →
}

```

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Level 12(c)

```
//Events
onEvent(▼ "lightButton", ▼ "click", function() {
  //2) Update the call to the function so it uses different color values
  twoColors("red", "blue");
});

onEvent(▼ "mybutton", ▼ "click", function() {
  twoColors("pink", "orange");
});

//Functions
//1) Update the function definition to use two parameters
function twoColors(color1, color2) {
  colorLeds[0].color(color1);
  colorLeds[1].color(color2);
  colorLeds[2].color(color1);
  colorLeds[3].color(color2);
  colorLeds[4].color(color1);
  colorLeds[5].color(color2);
  colorLeds[6].color(color1);
  colorLeds[7].color(color2);
  colorLeds[8].color(color1);
  colorLeds[9].color(color2);
}
```

Level 13

```
var snowY;  
//Add code to define a new function for moveSnow() that has two parameters  
//Edit the code below to call your new moveSnow() function  
onBoardEvent(▼ accelerometer, ▼ "change", function() {  
  //Move "snow1" by 32 pixels  
  snowY = getYPosition(▼ "snow1");  
  snowY = snowY + 32;  
  setProperty(▼ "snow1", ▼ "y", ▼ snowY);  
  resetToTop("snow1");  
  
  //Move "snow2" by 16 pixels  
  snowY = getYPosition(▼ "snow2");  
  snowY = snowY + 16;  
  setProperty(▼ "snow2", ▼ "y", ▼ snowY);  
  resetToTop("snow2");  
  
  //Move "snow3" by 16 pixels  
  snowY = getYPosition(▼ "snow3");  
  snowY = snowY + 16;  
  setProperty(▼ "snow3", ▼ "y", ▼ snowY);  
  resetToTop("snow3");  
  
  //Move "snow4" by 8 pixels  
  snowY = getYPosition(▼ "snow4");  
  snowY = snowY + 8;  
  setProperty(▼ "snow4", ▼ "y", ▼ snowY);  
  resetToTop("snow4");  
  
  //Move "snow5" by 8 pixels  
  snowY = getYPosition(▼ "snow5");  
  snowY = snowY + 8;  
  setProperty(▼ "snow5", ▼ "y", ▼ snowY);  
  resetToTop("snow5");
```

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```

//Move "snow6" by 8 pixels
snowY = getYPosition(▼ "snow6");
snowY = snowY + 8;
setProperty(▼ "snow6", ▼ "y", ▼ snowY);
resetToTop("snow6"); ← →
//Move "snow7" by 4 pixels
snowY = getYPosition(▼ "snow7");
snowY = snowY + 4;
setProperty(▼ "snow7", ▼ "y", ▼ snowY);
resetToTop("snow7"); ← →
//Move "snow8" by 4 pixels
snowY = getYPosition(▼ "snow8");
snowY = snowY + 4;
setProperty(▼ "snow8", ▼ "y", ▼ snowY);
resetToTop("snow8"); ← →
//Move "snow9" by 4 pixels
snowY = getYPosition(▼ "snow9");
snowY = snowY + 4;
setProperty(▼ "snow9", ▼ "y", ▼ snowY);
resetToTop("snow9"); ← →
//Move "snow10" by 4 pixels
snowY = getYPosition(▼ "snow10");
snowY = snowY + 4;
setProperty(▼ "snow10", ▼ "y", ▼ snowY);
resetToTop("snow10"); ← →
}

function resetToTop(elt) { ← →
    var snowY = getYPosition(▼elt);
    //Check if the star is off the bottom of the screen
    if(snowY >= 450) {

```

```
//If it is, move it to the top of the screen
```

```
var snowHeight = getProperty(▼elt, ▼"height");
```

```
setProperty(▼elt, ▼"y", -1 * snowHeight);
```

```
//Move it to a new random x position
```

```
setProperty(▼elt, ▼"x", randomNumber(20, 300));
```

```
}
```

```
}
```