

Lesson plan – 9

Level 2

```
onBoardEvent (▼buttonL, ▼"down", function() {  
  setText(▼"lightLabel", "On");  
  var LEDtype = getProperty(▼"LEDDropdown", ▼"value");  
  if (LEDtype == "blink") {  
    colorLeds[0].blink(200);  
    colorLeds[1].blink(200);  
    colorLeds[8].blink(200);  
  }  
  if (LEDtype == "pulse") {  
    colorLeds[0].pulse(200);  
    colorLeds[1].pulse(200);  
    colorLeds[8].pulse(200);  
    colorLeds[9].pulse(200);  
  }  
}  
);  
  
onBoardEvent (▼buttonR, ▼"down", function() {  
  setText(▼"lightLabel", "Off");  
  colorLeds[0].off();  
  colorLeds[1].off();  
});
```

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```

    colorLeds[8].off();
    colorLeds[9].off();
  });

  onBoardEvent(▼buttonL, ▼"down", function() {
    var buzztype = getProperty(▼"buzzerDropdown", ▼"value");
    if (buzztype == "short buzz") {
      buzzer.frequency(500, 100);
    }
    if (buzztype == "long buzz") {
      buzzer.frequency(500, 1000);
    }
  });

```

Level 3

```

onBoardEvent(▼buttonL, ▼"down", function() {
  var duration = getProperty(▼"durationSlider", ▼"value");
  buzzer.frequency(500, duration);
});

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

```

Level 4

```
onBoardEvent(▼buttonL, ▼"press", function() {  
  var duration = getProperty(▼"durationSlider", ▼"value");  
  //Add your code here  
  var frequency = getProperty(▼"frequencySlider", ▼"value");  
  buzzer.frequency(frequency, duration);  
});  
  
onBoardEvent(▼buttonR, ▼"press", function() {  
  buzzer.off();  
});
```

Activate Windows

Level 5

```
onEvent(▼"interval", ▼"change", function() {  
  //1) Get the value from the slider and store it in a variable  
  var light = getProperty(▼"interval", ▼"value");  
  colorLeds[0].blink(light);  
  colorLeds[1].blink(light);  
  colorLeds[8].blink(light);  
  colorLeds[9].blink(light);  
});  
  
onBoardEvent(▼buttonR, ▼"press", function() {  
  colorLeds[0].off();  
  colorLeds[1].off();  
  colorLeds[8].off();  
  colorLeds[9].off();  
});
```

Level 6(a)

```
onBoardEvent (▼buttonL, ▼"down", function() {  
  //(1) Get the value from the dropdown and store it in a variable  
  var playground = getProperty(▼"ledDropdown", ▼"value");  
  if (playground == "left") {  
    colorLeds[0].on();  
    colorLeds[1].on();  
    colorLeds[2].on();  
    colorLeds[3].on();  
    colorLeds[4].on();  
    colorLeds[5].off();  
    colorLeds[6].off();  
    colorLeds[7].off();  
    colorLeds[8].off();  
    colorLeds[9].off();  
  }  
  if (playground == "right") {  
    colorLeds[5].on();  
    colorLeds[6].on();  
    colorLeds[7].on();  
    colorLeds[8].on();  
    colorLeds[9].on();  
    colorLeds[0].off();  
  }  
}
```

```

    colorLeds[1].off();
    colorLeds[2].off();
    colorLeds[3].off();
    colorLeds[4].off();
  }
  +
);

```

Level 6(b)

```

onEvent(▼"intensitySlider", ▼"change", function() {
  //1) Get the value from the slider and store it in a variable
  var Inslider = getProperty(▼"intensitySlider", ▼"value");

  //2) Set all of the LEDs to the new intensity value
  colorLeds[0].intensity(Inslider);
  colorLeds[1].intensity(Inslider);
  colorLeds[2].intensity(Inslider);
  colorLeds[3].intensity(Inslider);
  colorLeds[4].intensity(Inslider);
  colorLeds[5].intensity(Inslider);
  colorLeds[6].intensity(Inslider);
  colorLeds[7].intensity(Inslider);
  colorLeds[8].intensity(Inslider);
  colorLeds[9].intensity(Inslider);
});

onBoardEvent(▼buttonL, ▼"press", function() {
  colorLeds[0].on();
  colorLeds[1].on();
  colorLeds[2].on();
  colorLeds[3].on();

```

```
colorLeds [4] .on();
colorLeds [5] .on();
colorLeds [6] .on();
colorLeds [7] .on();
colorLeds [8] .on();
colorLeds [9] .on();
}
);
onBoardEvent (▼buttonR, ▼"press", function() {
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 6(c)

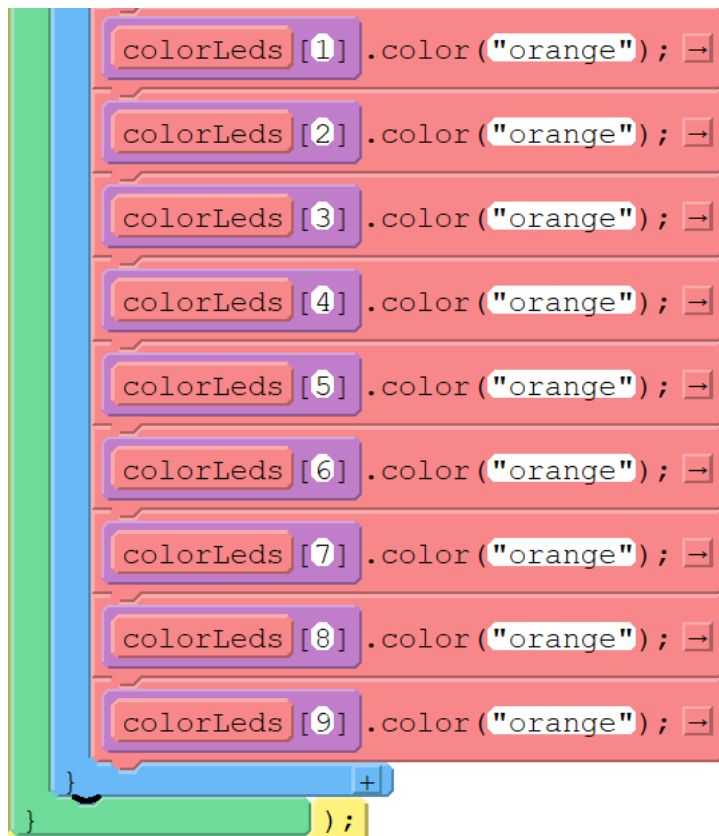
```
onEvent (▼ "colorDropdown", ▼ "change", function ( ) {  
  var dropdown = getProperty (▼ "colorDropdown", ▼ "value") ;  
  if ( dropdown == "yellow" ) {  
    colorLeds [0] .color ( "yellow" ) ;  
    colorLeds [1] .color ( "yellow" ) ;  
    colorLeds [2] .color ( "yellow" ) ;  
    colorLeds [3] .color ( "yellow" ) ;  
    colorLeds [4] .color ( "yellow" ) ;  
    colorLeds [5] .color ( "yellow" ) ;  
    colorLeds [6] .color ( "yellow" ) ;  
    colorLeds [7] .color ( "yellow" ) ;  
    colorLeds [8] .color ( "yellow" ) ;  
    colorLeds [9] .color ( "yellow" ) ;  
  }  
  if ( dropdown == "green" ) {  
    colorLeds [0] .color ( "green" ) ;  
    colorLeds [1] .color ( "green" ) ;  
    colorLeds [2] .color ( "green" ) ;  
    colorLeds [3] .color ( "green" ) ;  
    colorLeds [4] .color ( "green" ) ;  
  }  
}
```

Activate Window

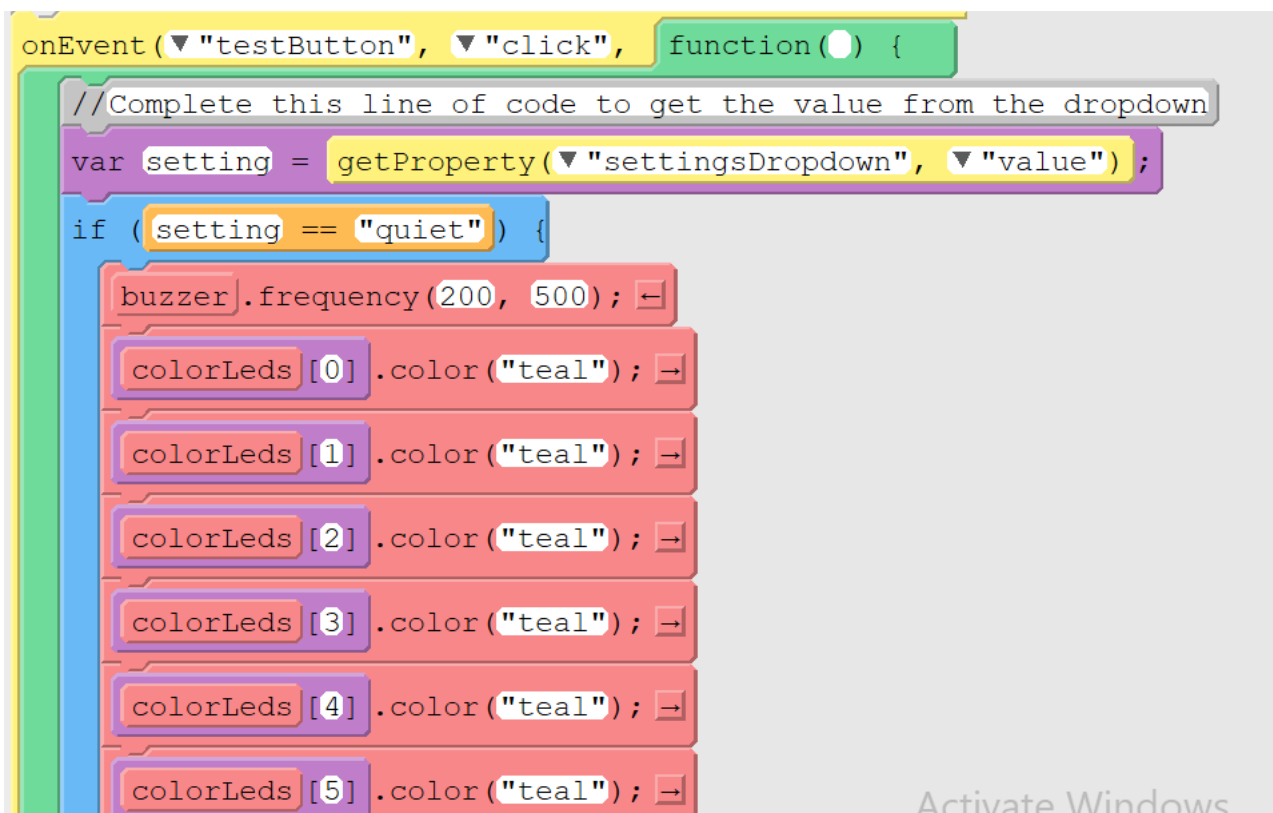
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```
colorLeds [5] .color ("green");  
colorLeds [6] .color ("green");  
colorLeds [7] .color ("green");  
colorLeds [8] .color ("green");  
colorLeds [9] .color ("green");  
}  
if ( dropdown == "blue" ) {  
colorLeds [0] .color ("blue");  
colorLeds [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");  
}  
if ( dropdown == "orange" ) {  
colorLeds [0] .color ("orange");
```

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Level 6(d)



```
colorLeds[6].color("teal");  
colorLeds[7].color("teal");  
colorLeds[8].color("teal");  
colorLeds[9].color("teal");  
}  
//Add an if-statement for a loud alarm that plays a higher frequency and  
if (setting == "loud") {  
  buzzer.frequency(1000, 1000);  
  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");  
}  
};
```

Activate Windows

Level 6(e)

```
onBoardEvent(▼toggleSwitch, ▼"open", function() {  
  var LEDtype = getProperty(▼"ledDropdown", ▼"value");  
  var LEDinterval = getProperty(▼"speedSlider", ▼"value");  
  if (LEDtype == "on") {  
    led.on();  
  }  
  if (LEDtype == "blink") {  
    led.blink(LEDinterval);  
  }  
  if (LEDtype == "pulse") {  
    led.pulse(LEDinterval);  
  }  
});  
  
//2) Turning off the LED  
onBoardEvent(▼toggleSwitch, ▼"close", function() {  
  led.off();  
});  
  
//3) Controlling the Buzzer  
onBoardEvent(▼buttonL, ▼"press", function() {  
  var duration = getProperty(▼"durationSlider", ▼"value");  
  var frequency = getProperty(▼"frequencySlider", ▼"value");  
  buzzer.frequency(frequency, duration);  
});
```

Level 7

```
onEvent(▼"activateButton", ▼"click", function() {  
  var direction = getProperty(▼"directionDropdown", ▼"value");  
  var color = getProperty(▼"colorDropdown", ▼"value");  
  var brightness = getProperty(▼"brightnessSlider", ▼"value");
```

```
if (direction == "left") {
```

```
//3) If the direction is "left": set the left LEDs and t
```

```
colorLeds[0].on();
```

```
colorLeds[1].on();
```

```
colorLeds[2].on();
```

```
colorLeds[3].on();
```

```
colorLeds[4].on();
```

```
colorLeds[5].off();
```

```
colorLeds[6].off();
```

```
colorLeds[7].off();
```

```
colorLeds[8].off();
```

```
colorLeds[9].off();
```

```
}
```

```
if (direction == "right") {
```

```
//4) If the direction is "right": set the right LEDs and turn of
```

```
colorLeds[5].on();
```

```
colorLeds[6].on();
```

```
colorLeds[7].on();
```

```
colorLeds[8].on();
```

```
colorLeds[9].on();
```

```
colorLeds[0].off();
```

```
colorLeds[1].off();
```

```
colorLeds[2].off();
```

```
colorLeds[3].off();  
colorLeds[4].off();  
}  
if (color == "red") {  
  colorLeds[0].color(color);  
  colorLeds[1].color(color);  
  colorLeds[2].color(color);  
  colorLeds[3].color(color);  
  colorLeds[4].color(color);  
}
```

```
if (brightness == 50) {  
  colorLeds[0].color(color);  
  colorLeds[1].color(color);  
  colorLeds[2].color(color);  
  colorLeds[3].color(color);
```

```
  colorLeds[4].color(color);  
}  
if (brightness == 0) {  
  colorLeds[0].color(color);  
  colorLeds[1].color(color);  
  colorLeds[2].color(color);  
  colorLeds[3].color(color);  
  colorLeds[4].color(color);  
}
```