2 - Multi Blink

# Getting Started

Now that you’ve mastered blinking with one LED, let’s look at creating some more unique sequences and patterns with all of the LEDs. The Digital Sandbox has 5 LEDs in a row. These are numbered D4 through D8. Let’s create some fun patterns with these LEDs!

Example code on codebender: [https://codebender.cc/sketch:342787](https://codebender.cc/sketch%3A342787)



# void setup()

Remember that the pinMode() command configures these pins to be either INPUTs or OUTPUTs. The default state of a pin is INPUT. So, we have to configure these here.

|  |  |
| --- | --- |
| 1112131415 | void setup(){ pinMode(4, OUTPUT); // Set pin D4 as an OUTPUT pinMode(5, OUTPUT); // Set pin D5 as an OUTPUT} |

# void loop()

If we wanted to have two LEDs blink on and off at the same time, we can use two digitalWrite() instructions and no delay() in between like this:

|  |  |
| --- | --- |
| 19202122232425262728293031 | void loop(){ digitalWrite(4, HIGH); // Turn the D4 LED on (HIGH) delay(500); // Wait half a second (500 ms) digitalWrite(4, LOW); // Turn the D4 LED off (LOW) delay(500); // Wait half a second (500 ms)  digitalWrite(5, HIGH); // Turn the D5 LED on (HIGH) delay(500); // Wait half a second (500 ms) digitalWrite(5, LOW); // Turn the D5 LED off (LOW) delay(500); // Wait half a second (500 ms) } |

Add the rest of the code so that all of the other LEDs turn on one at a time. (Hint: to make this work perfectly, you'll also need to modify code in your setup(), as well.)

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|   |

# Creating Party Patterns and Sequences

Okay - now, using what you’ve learned about controlling a pattern of two LEDs, can you create a pattern that zips from one end to the other and back again? Or, a star burst that starts in the middle and “bursts” outward? Using the 5 LEDs on the board, create a sequence of lighting patterns to create an animation on the board. Use the space below to storyboard and plan out your sequence before starting the code. Clone or start a new sketch in codebender for this.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  delay: \_\_\_\_\_\_\_ |  |  delay: \_\_\_\_\_\_\_ |  |  delay: \_\_\_\_\_\_\_ |
|  |  delay: \_\_\_\_\_\_\_ |  |  delay: \_\_\_\_\_\_\_ |  |  delay: \_\_\_\_\_\_\_ |
|  |  delay: \_\_\_\_\_\_\_ |  |  delay: \_\_\_\_\_\_\_ |  |  delay: \_\_\_\_\_\_\_ |
|  |  delay: \_\_\_\_\_\_\_ |  |  delay: \_\_\_\_\_\_\_ |  |  delay: \_\_\_\_\_\_\_ |
|  |  delay: \_\_\_\_\_\_\_ |  |  delay: \_\_\_\_\_\_\_ |  |  delay: \_\_\_\_\_\_\_ |
|  |  delay: \_\_\_\_\_\_\_ |  |  delay: \_\_\_\_\_\_\_ |  |  delay: \_\_\_\_\_\_\_ |
|  |  delay: \_\_\_\_\_\_\_ |  |  delay: \_\_\_\_\_\_\_ |  |  delay: \_\_\_\_\_\_\_ |

After you have a plan, start writing your code. When you’re done, show it off to someone and see if they can re-create the same pattern without looking at your code.