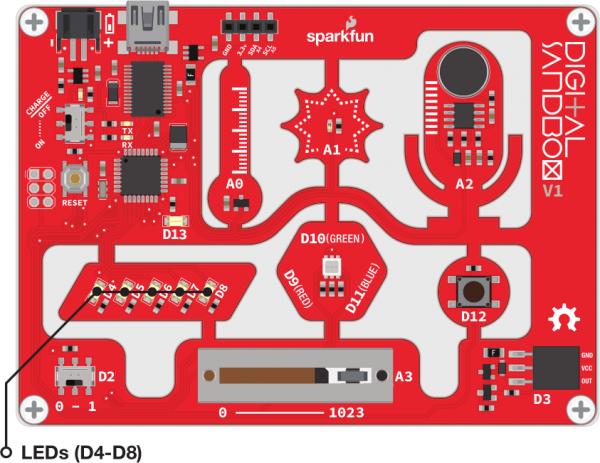
2 - Multi Blink

# 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>



# 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.

|  |  |
| --- | --- |
| 11  12  13  14  15 | 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:

|  |  |
| --- | --- |
| 19  20  21  22  23  24  25  26  27  28  29  30  31 | 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.)

|  |
| --- |
|  |

# 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.