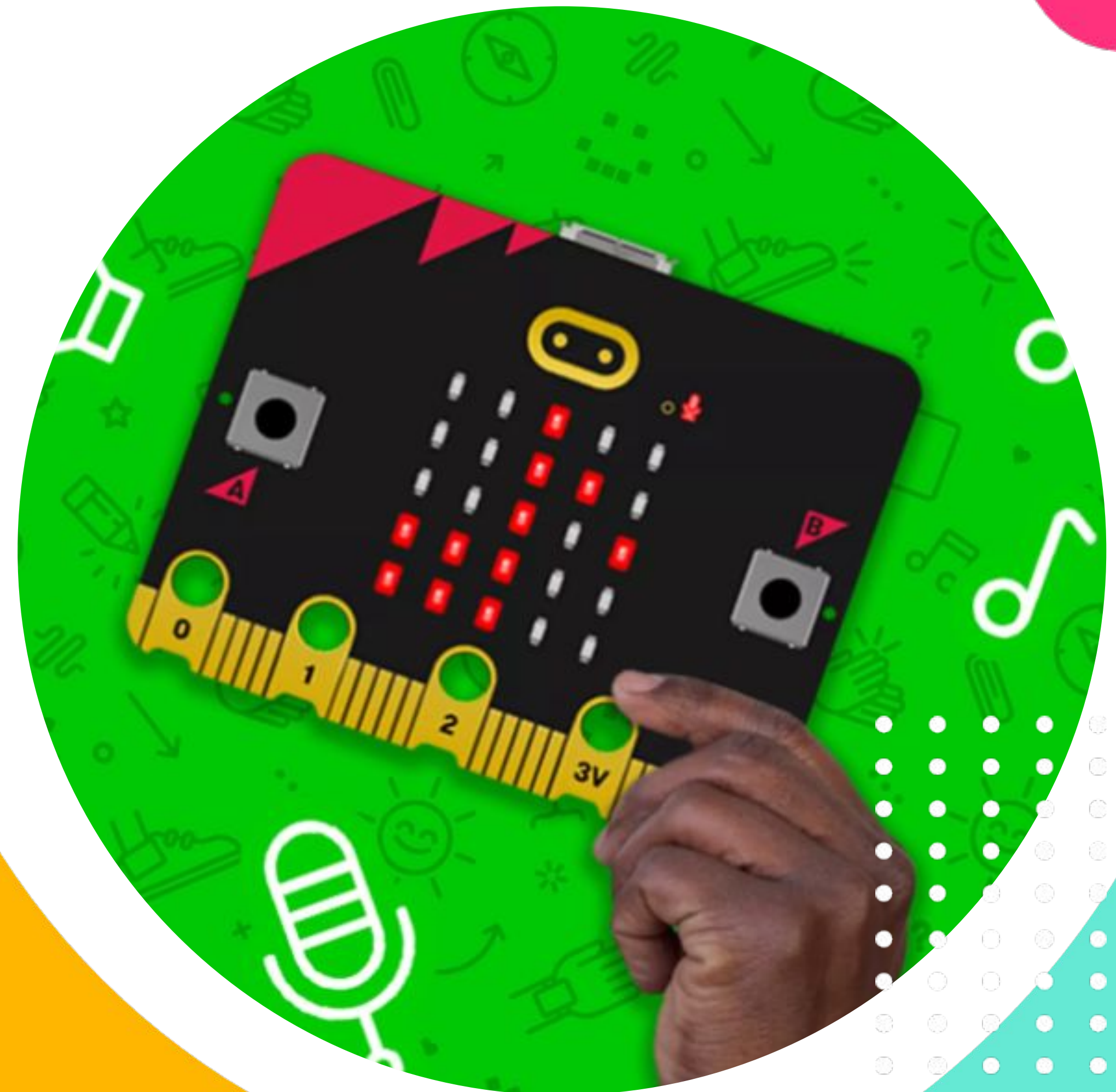


micro:bit WORKSHOP

Begin your micro:bit journey

October 21 2021





**Who has a
smartphone?**



Overview

(what are we going to do today)

1

What is the Micro:bit?

2

Programming

3

Tutorial

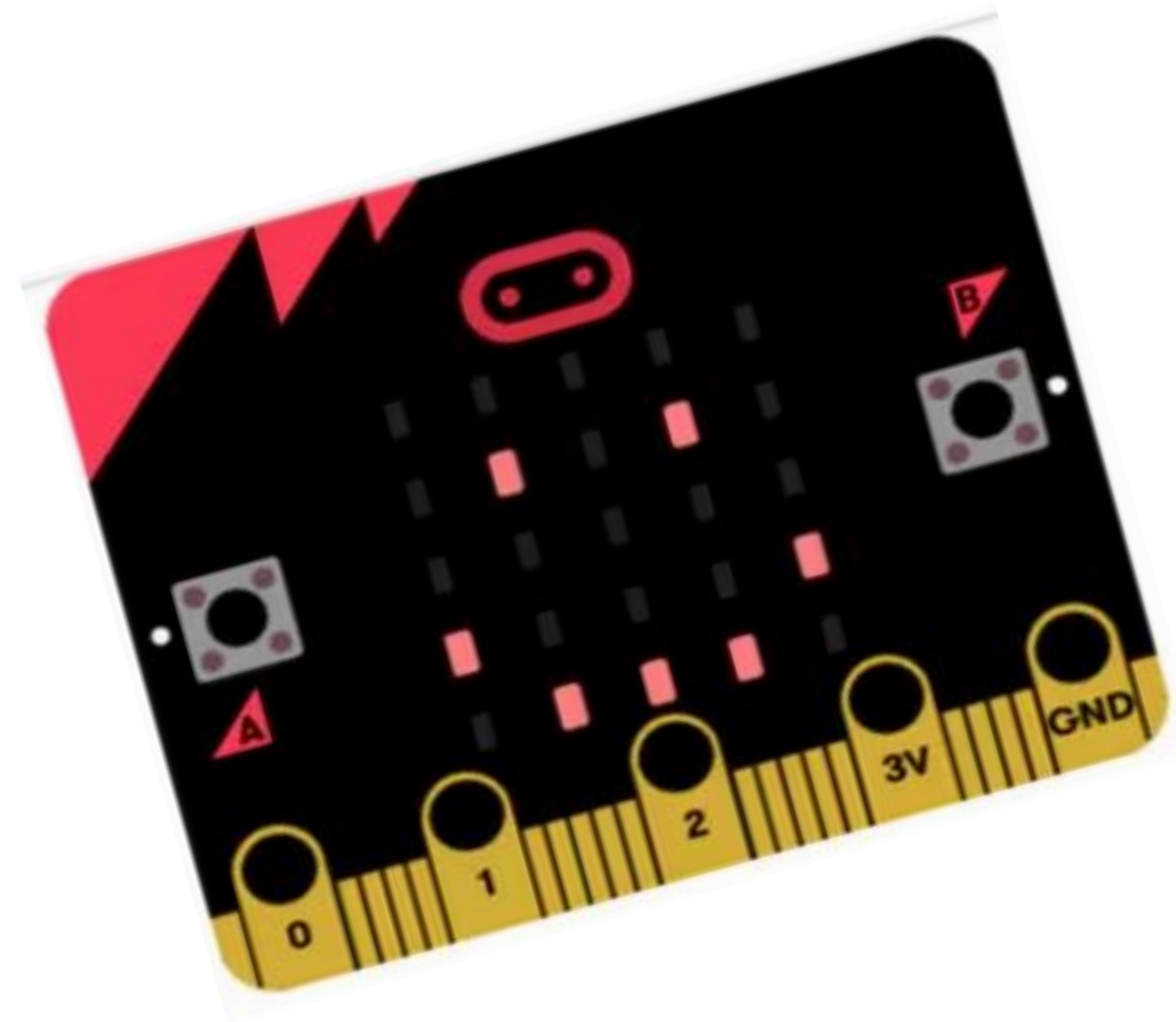
4

Basic exercises

5

Rock Paper Scissors



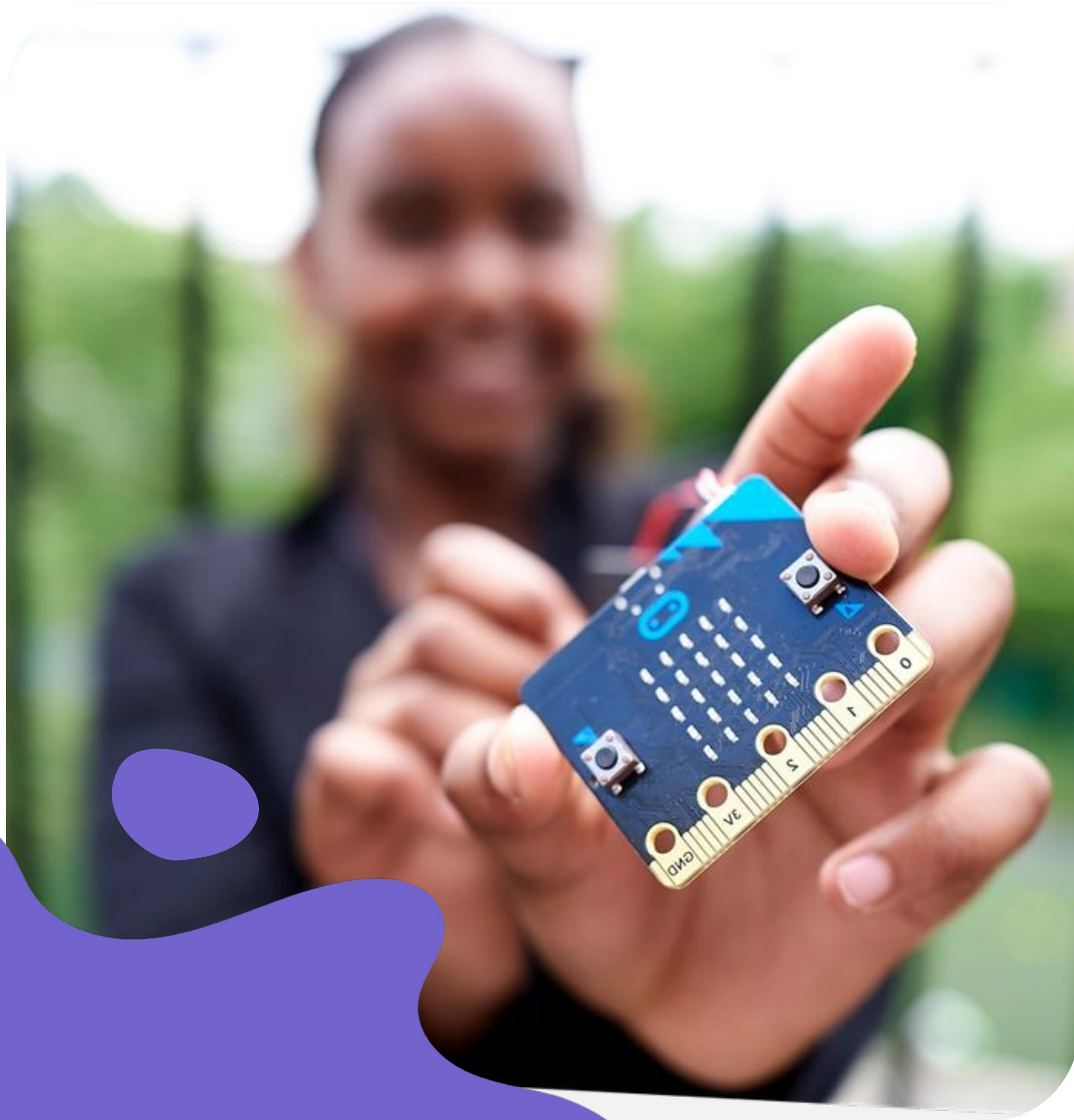


What is the Microbit?



What can you do with it?

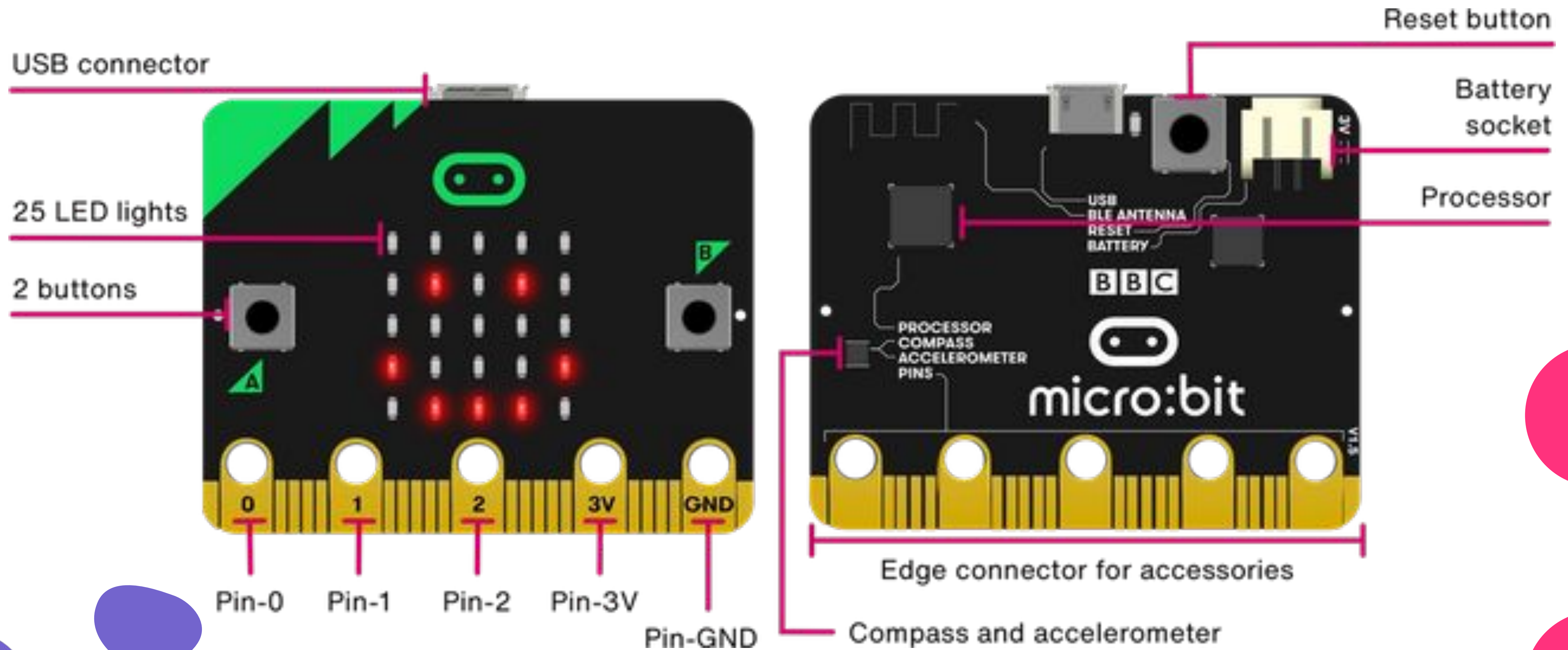




Pocket-sized computer

Learn coding

Fun and creative

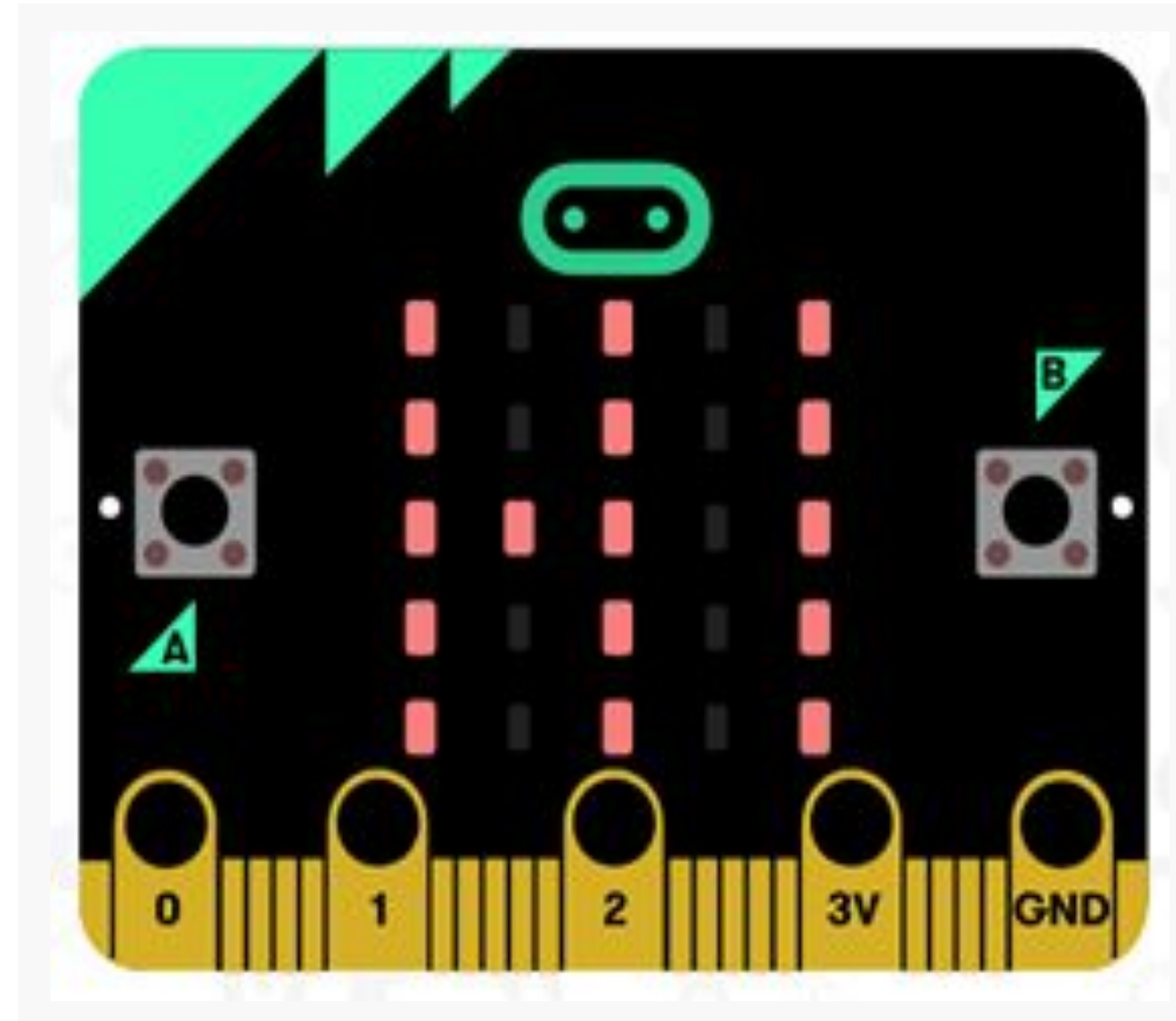


Features

INPUTS

**Buttons
Sensors
Microphones**

...

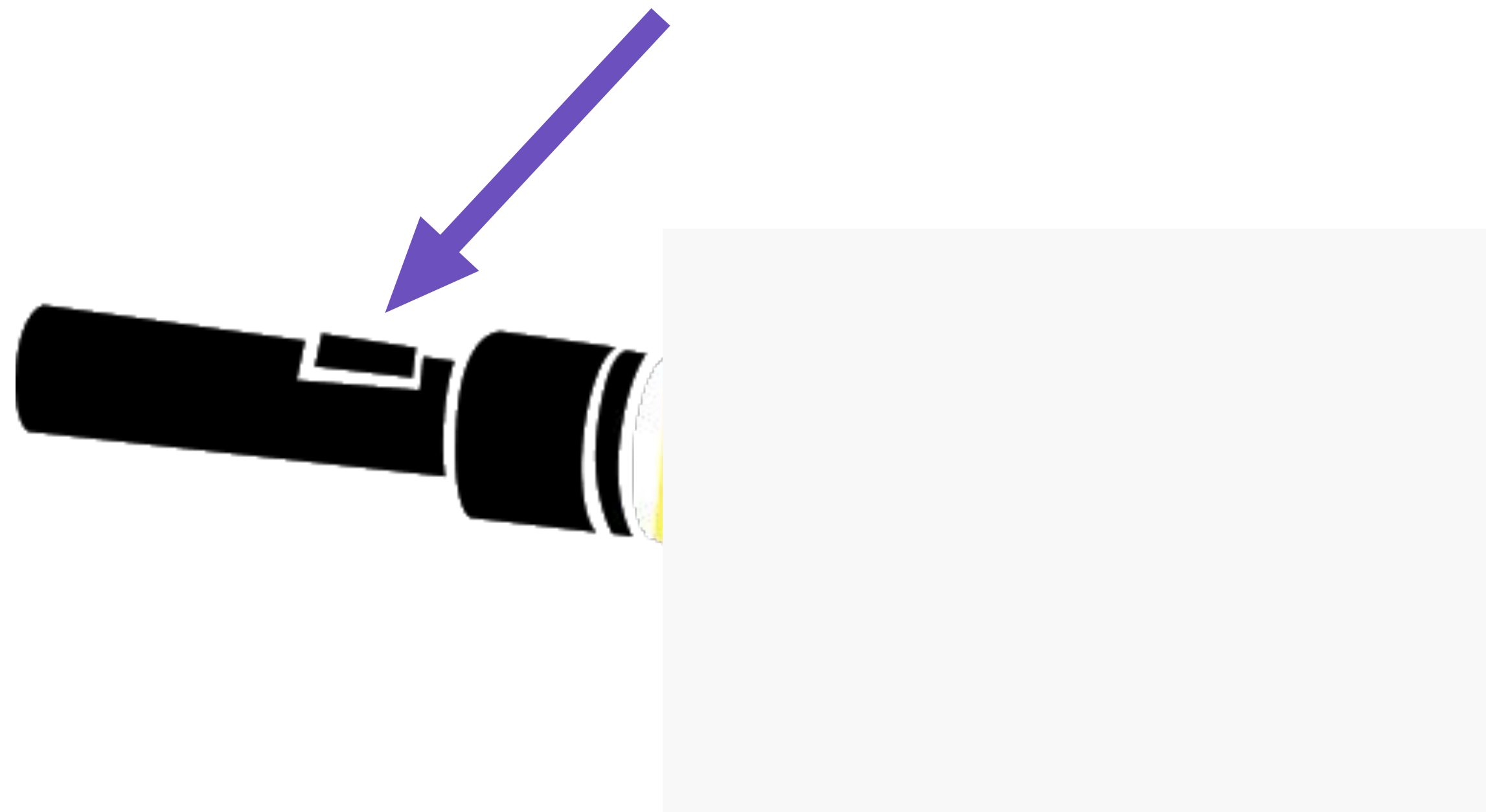


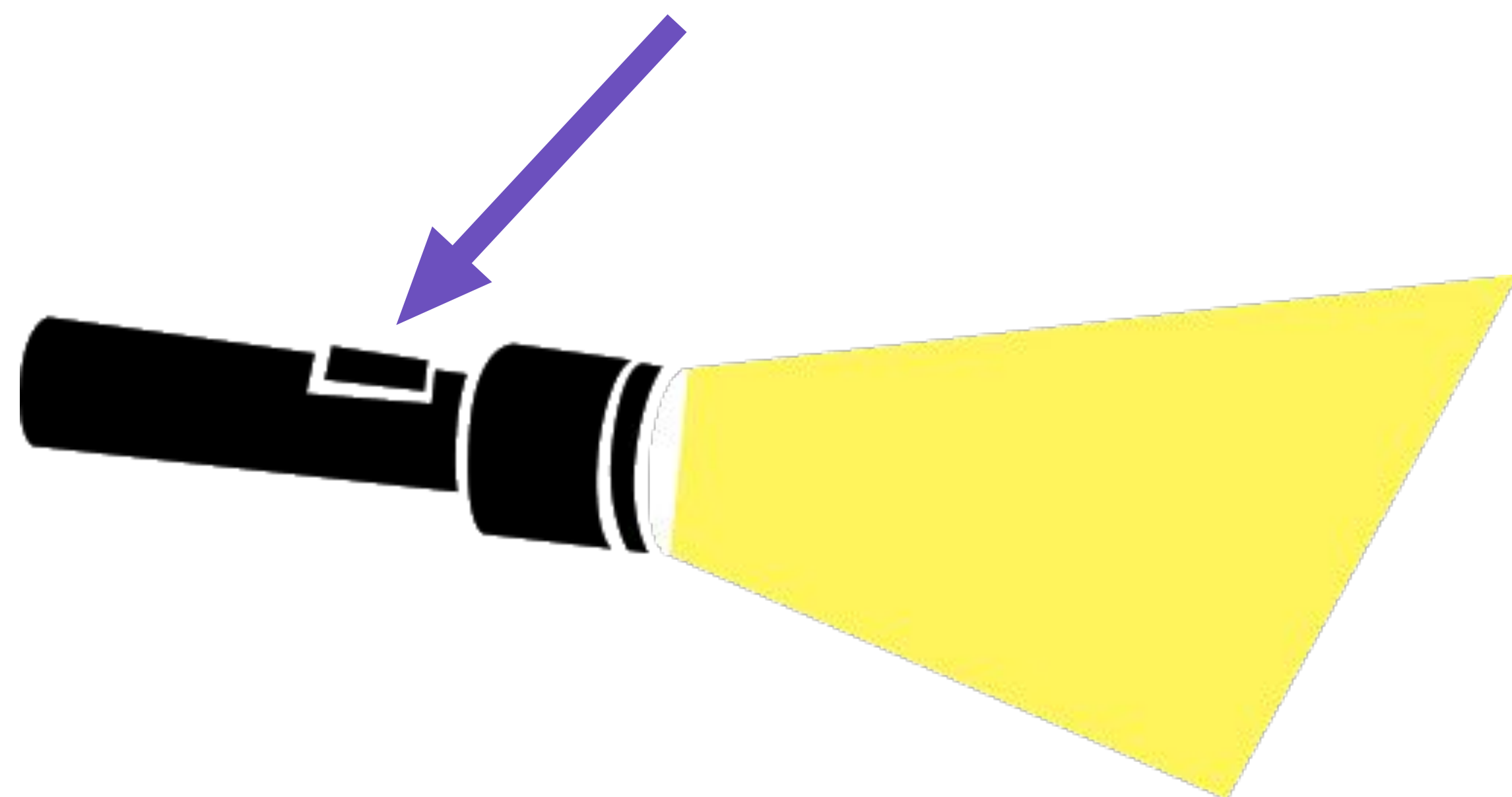
OUTPUTS

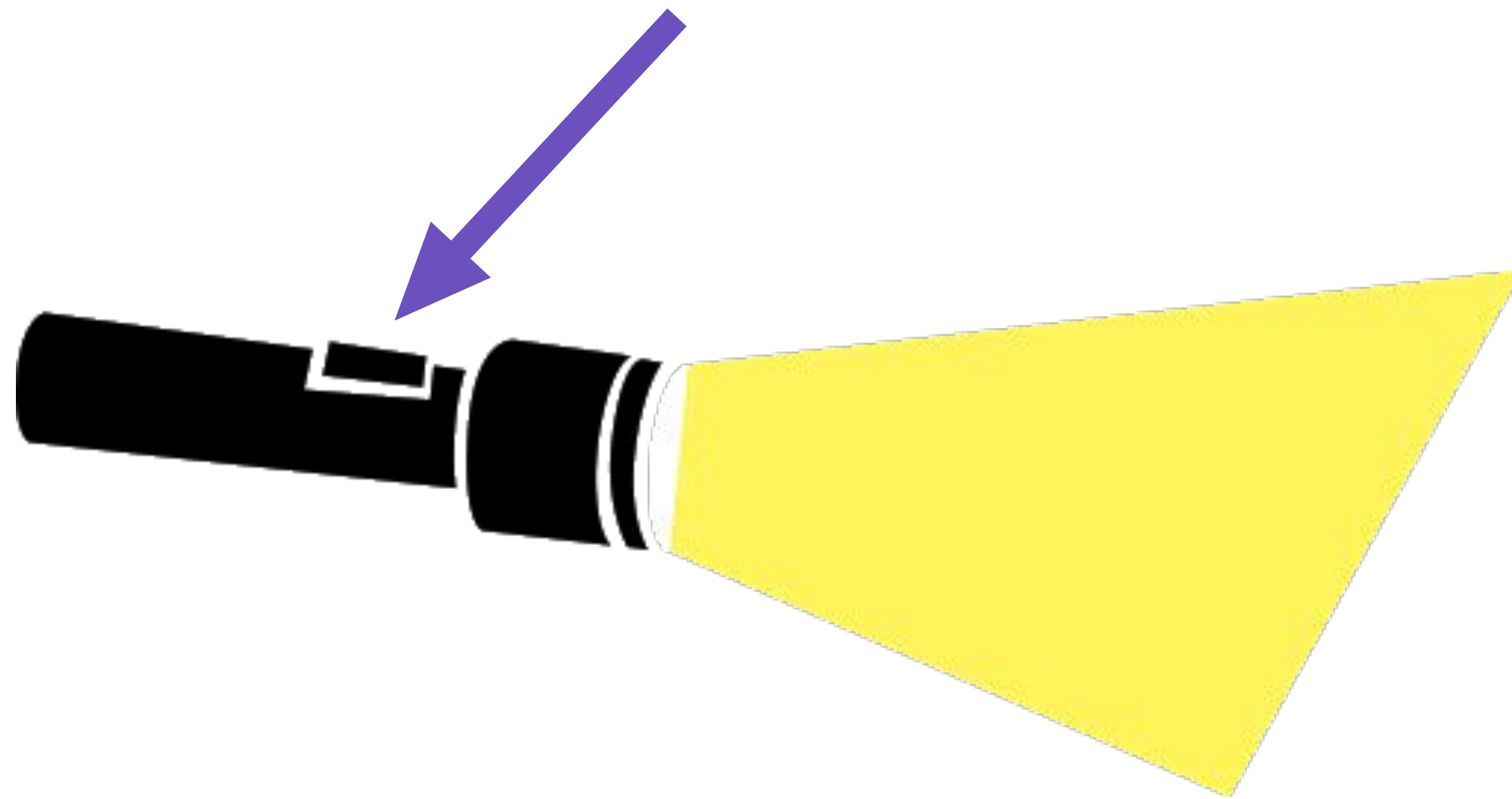
**Lights
Motor
Sound**

...

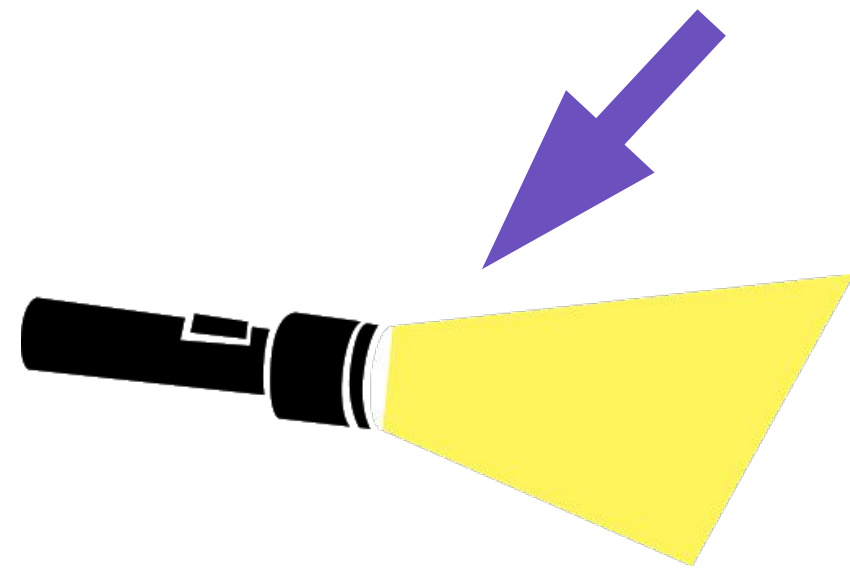
<https://www.youtube.com/watch?v=NkoS2JXaBuM>





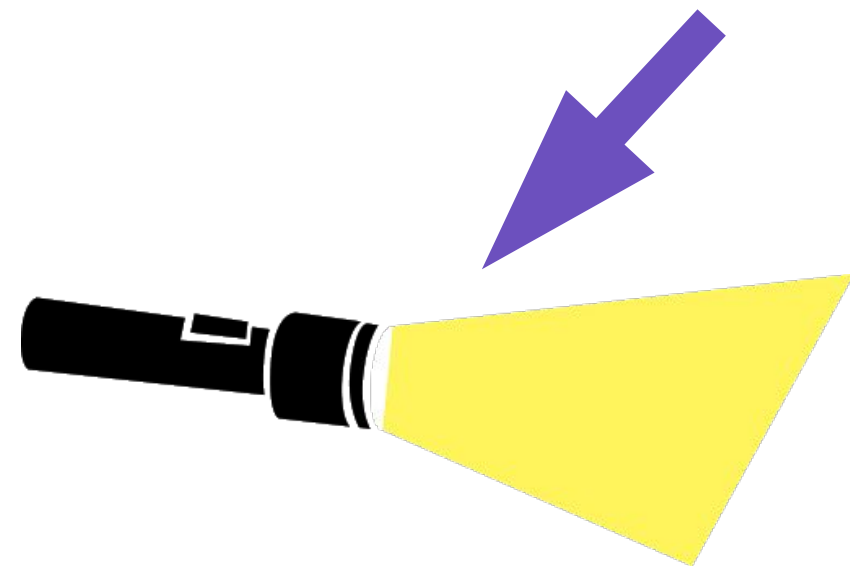


**If I push the botton..
the lamp goes on**



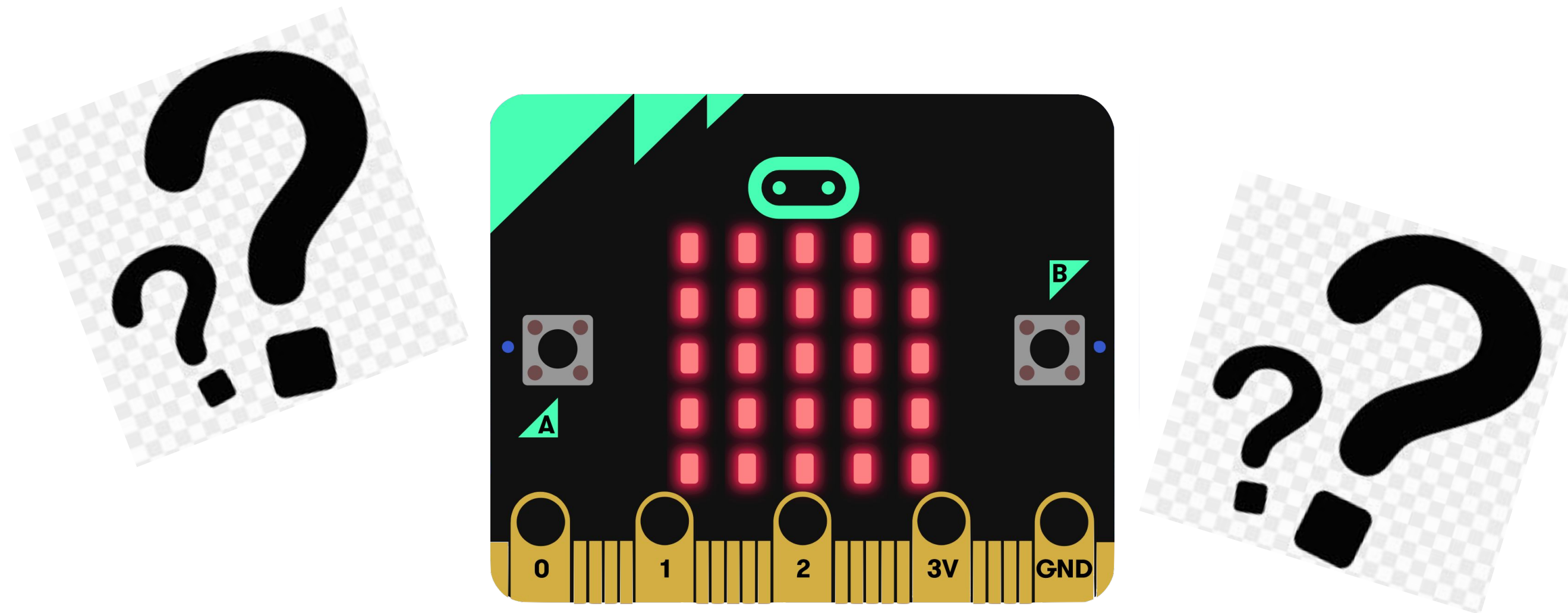
If I push the button.
the light goes on.

**..but how do I tell the lamp
to switch on if I press the
button?!??!**



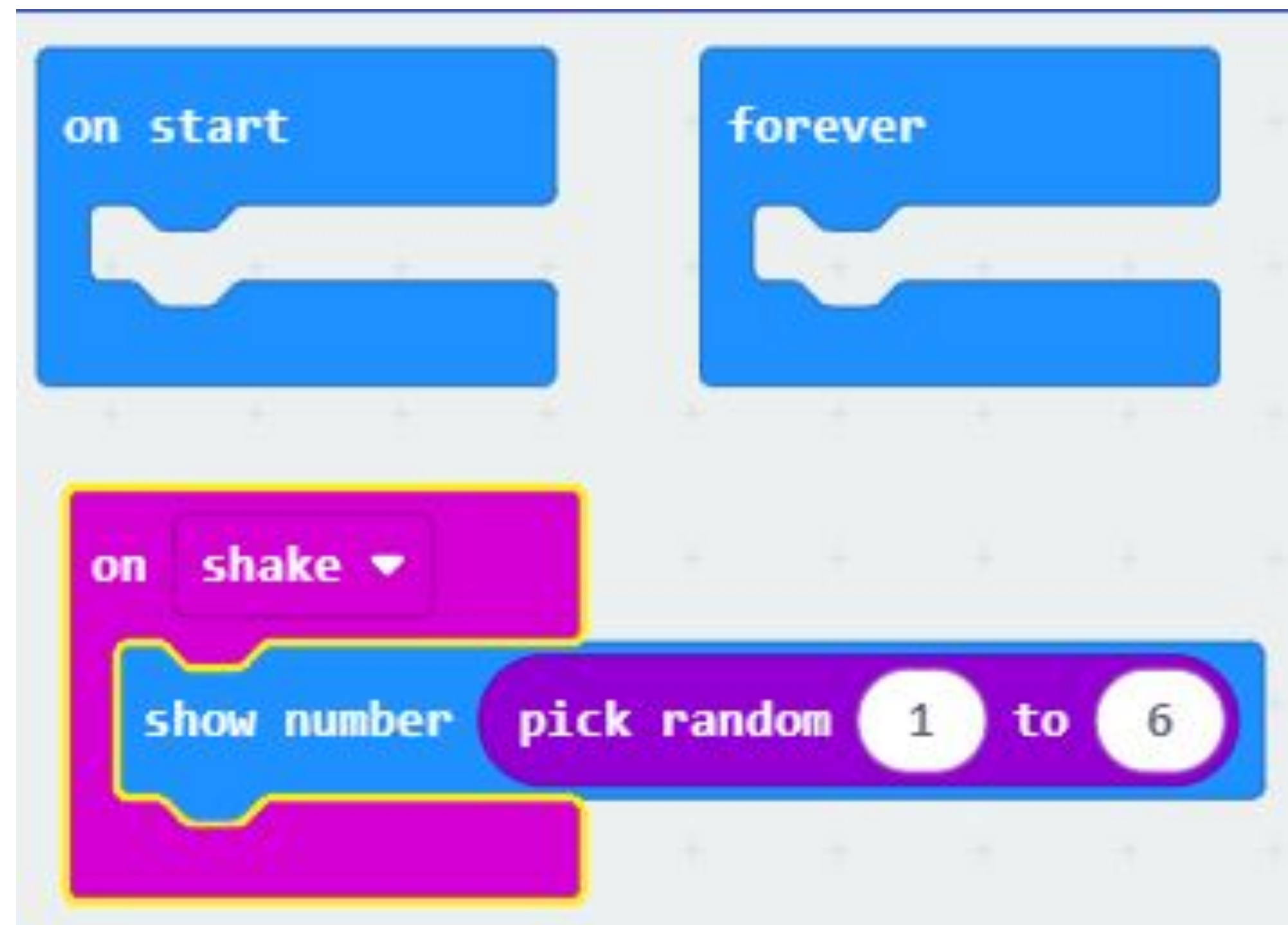
If I push the button.
the light goes on.

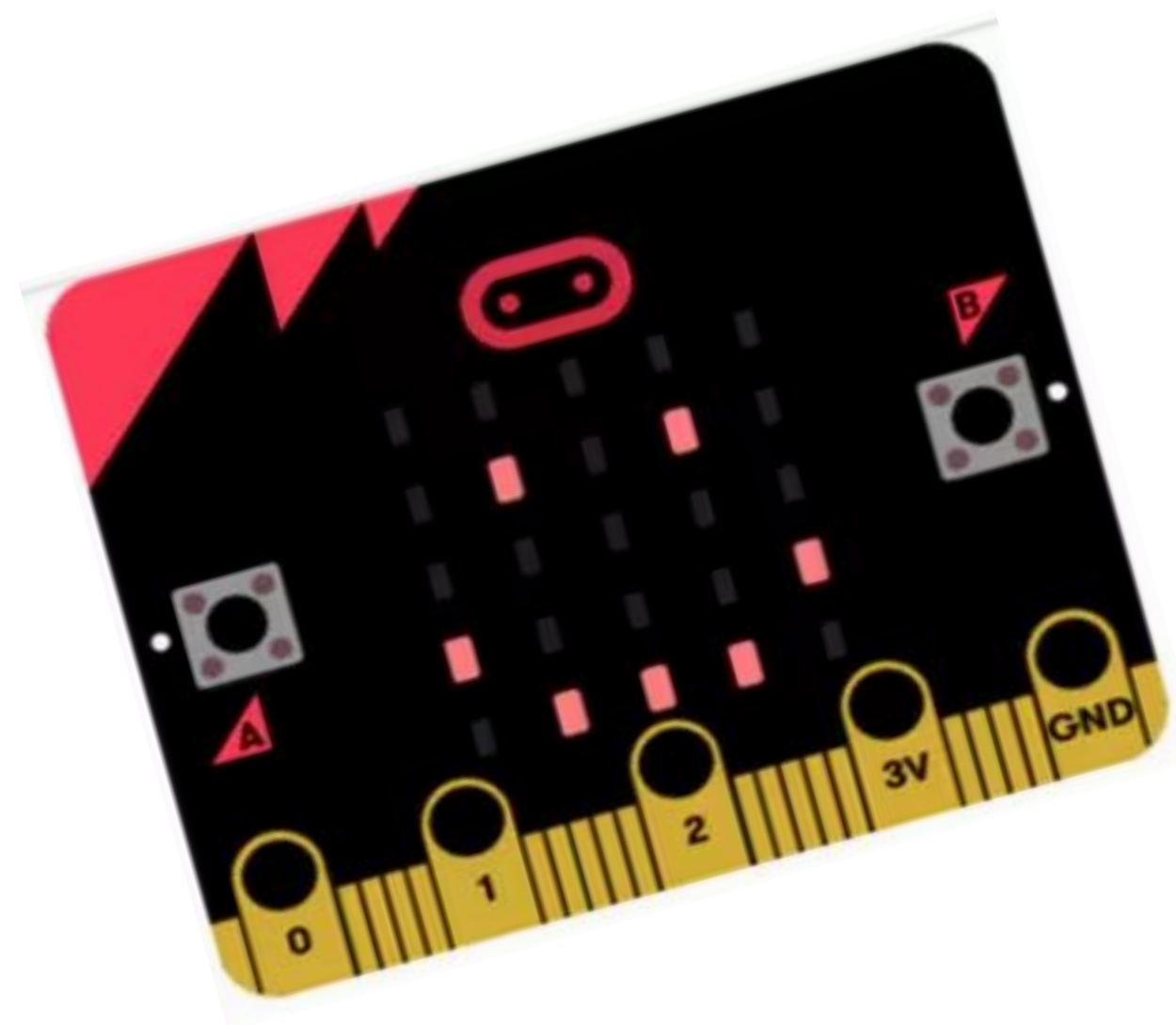
PROGRAM



A PROGRAM is a sequence of
instructions (**ALGORITHM**)
that tell the machine
(Micro:bit) what to do ...IN
THE LANGUAGE (code) OF
THE MACHINE

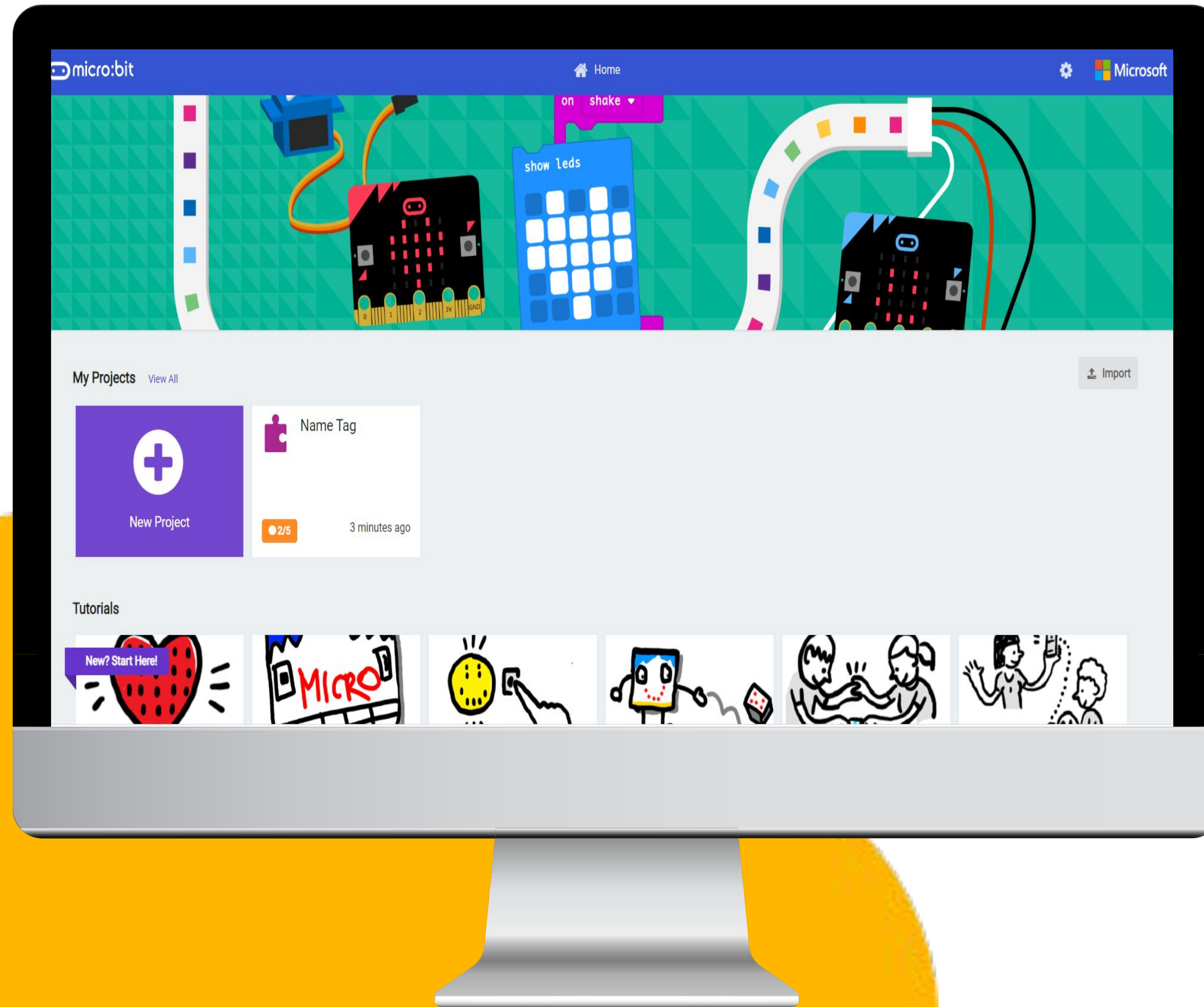
Micro:bit program example – block coding



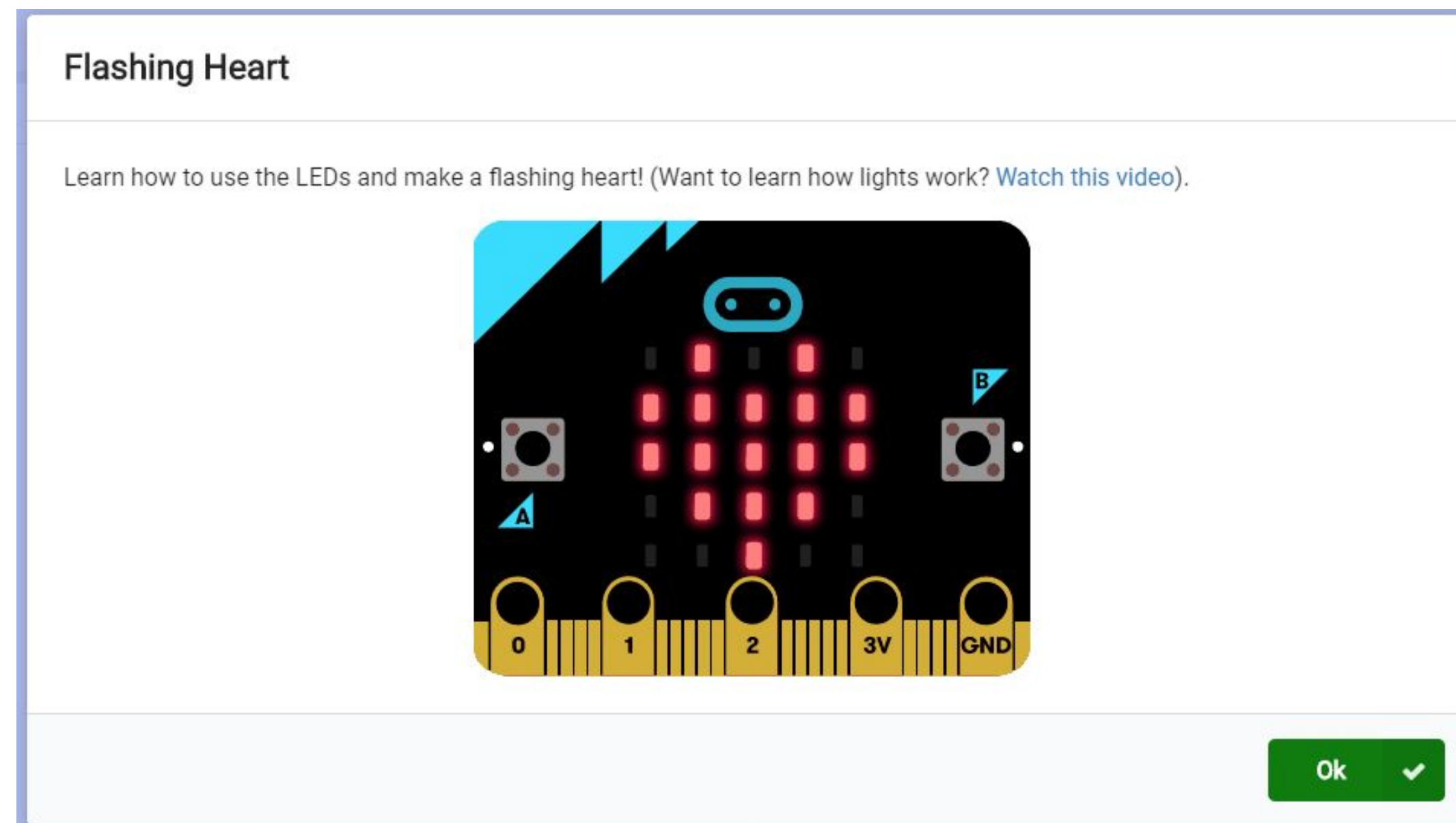
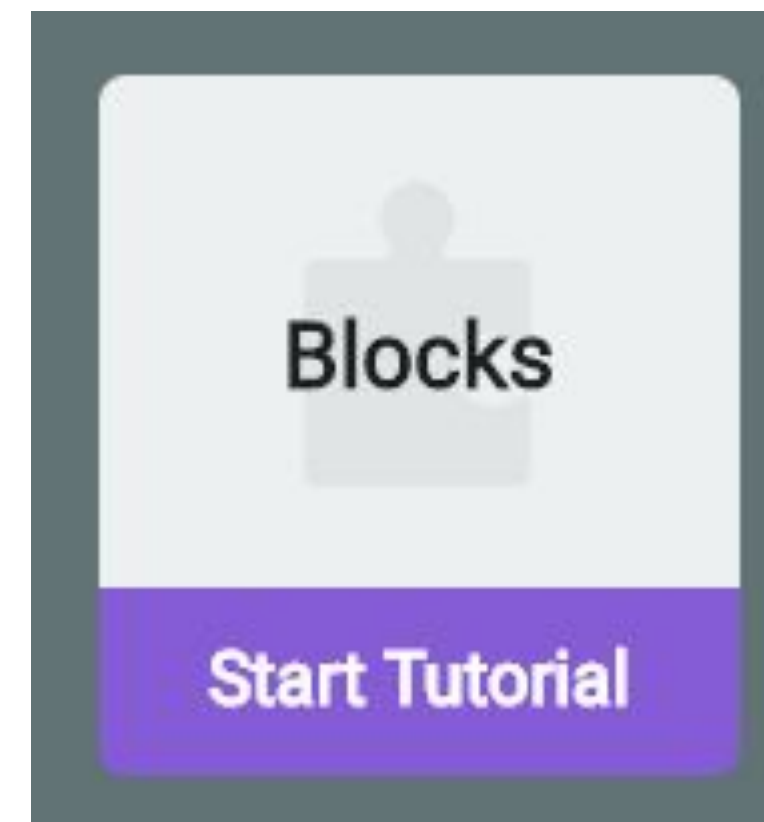
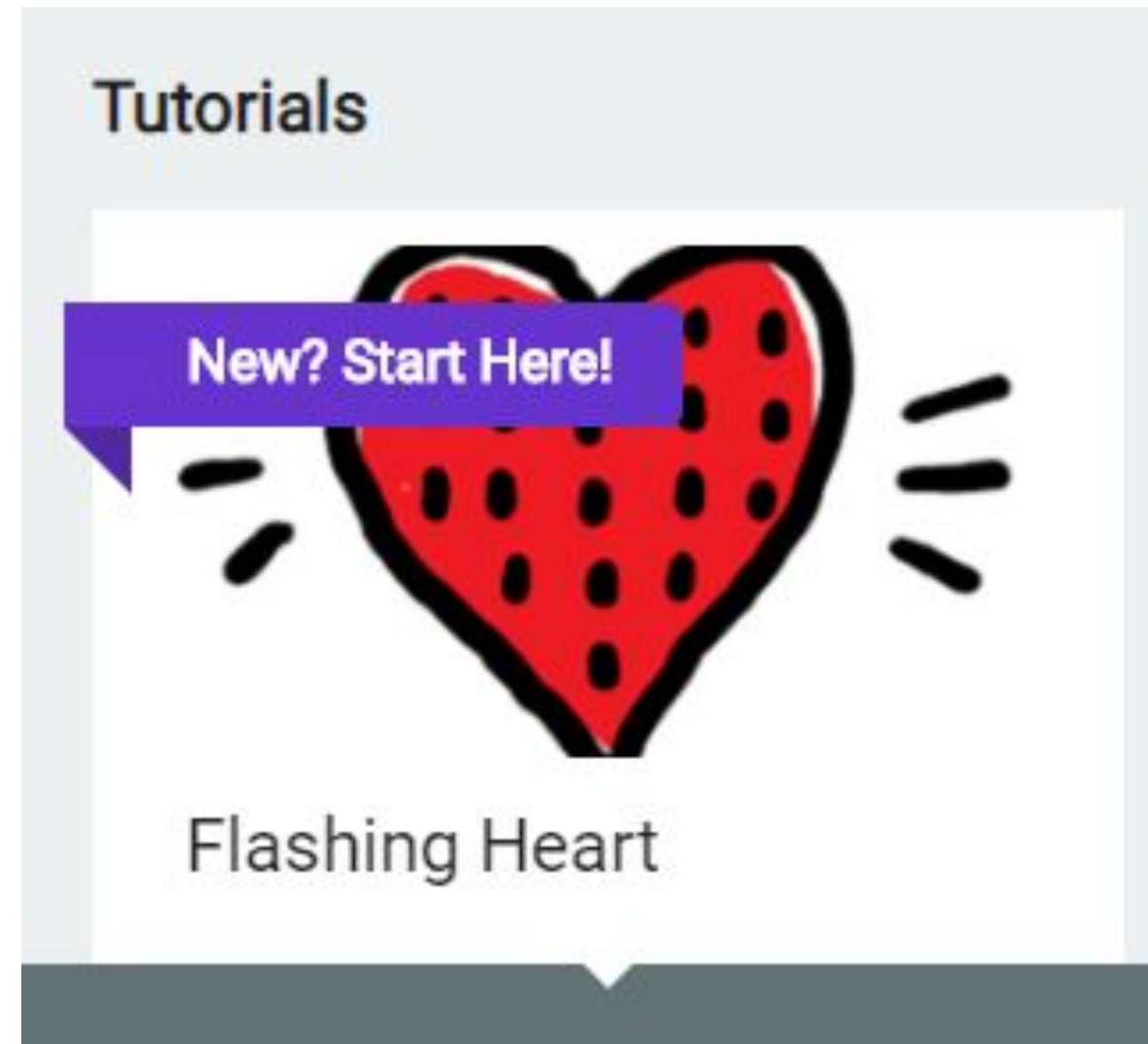


First tutorial

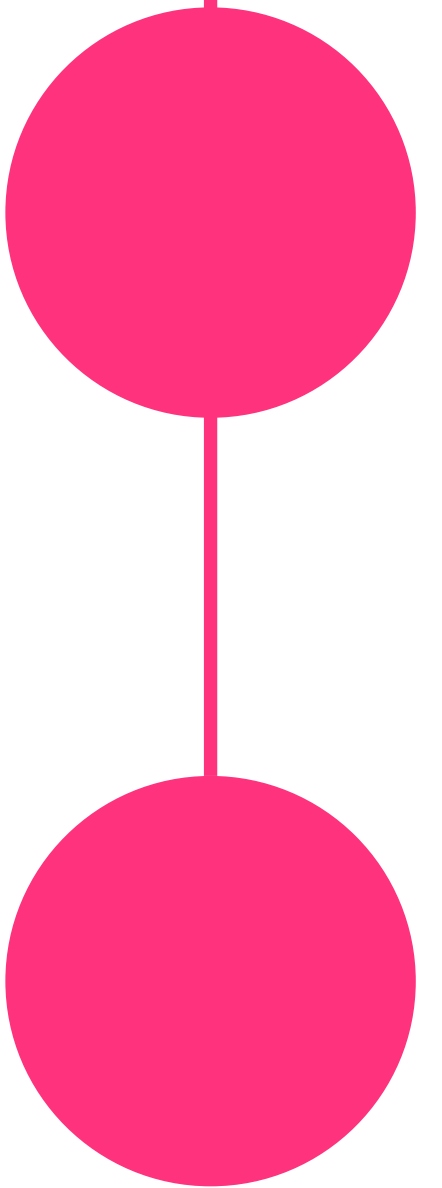
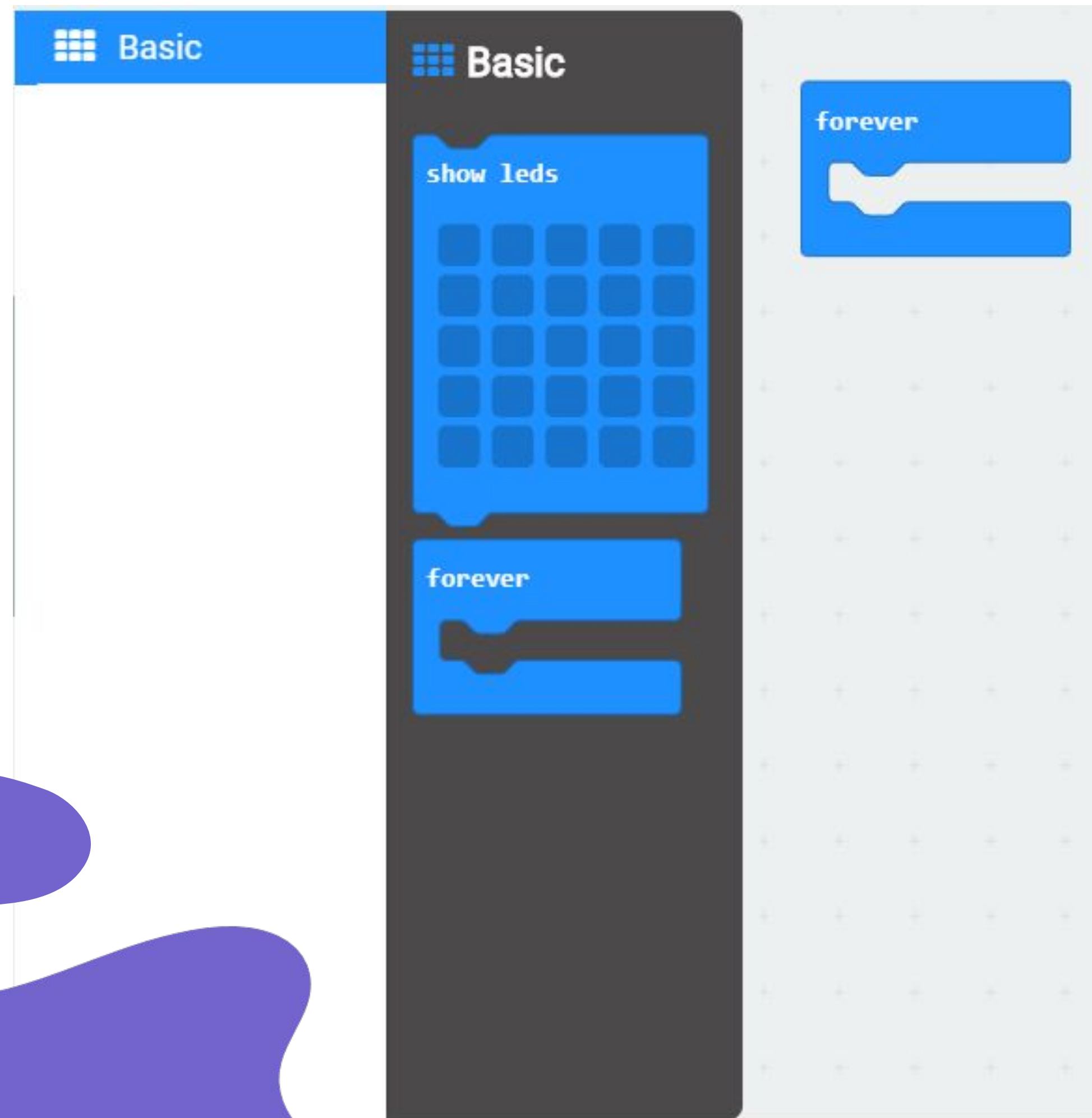
Go to this website <https://makecode.microbit.org/>



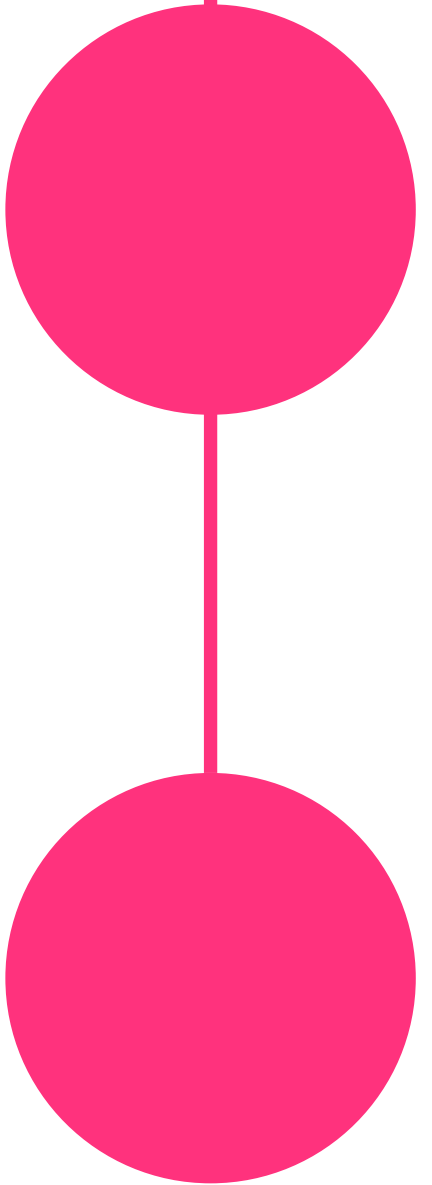
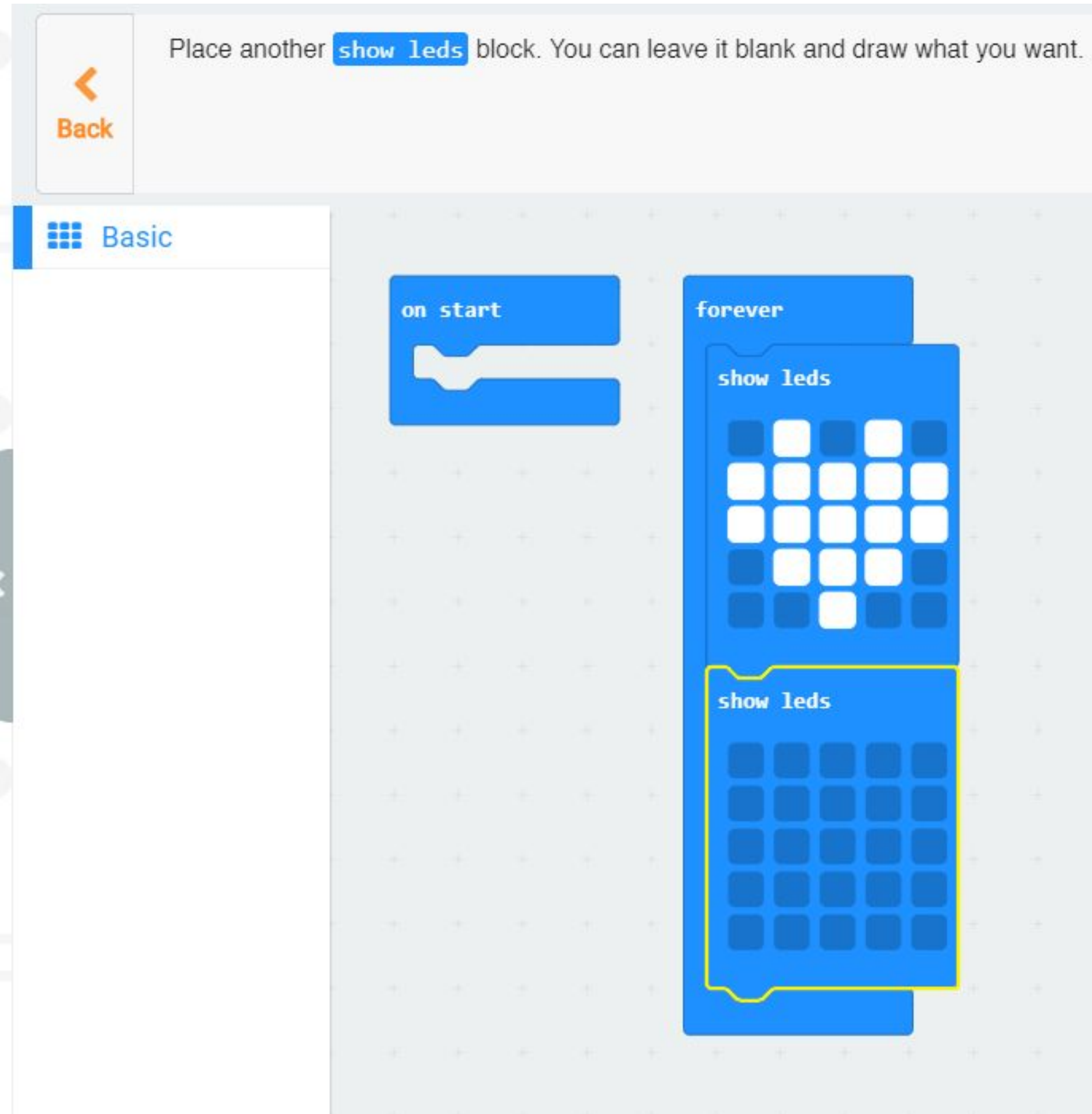
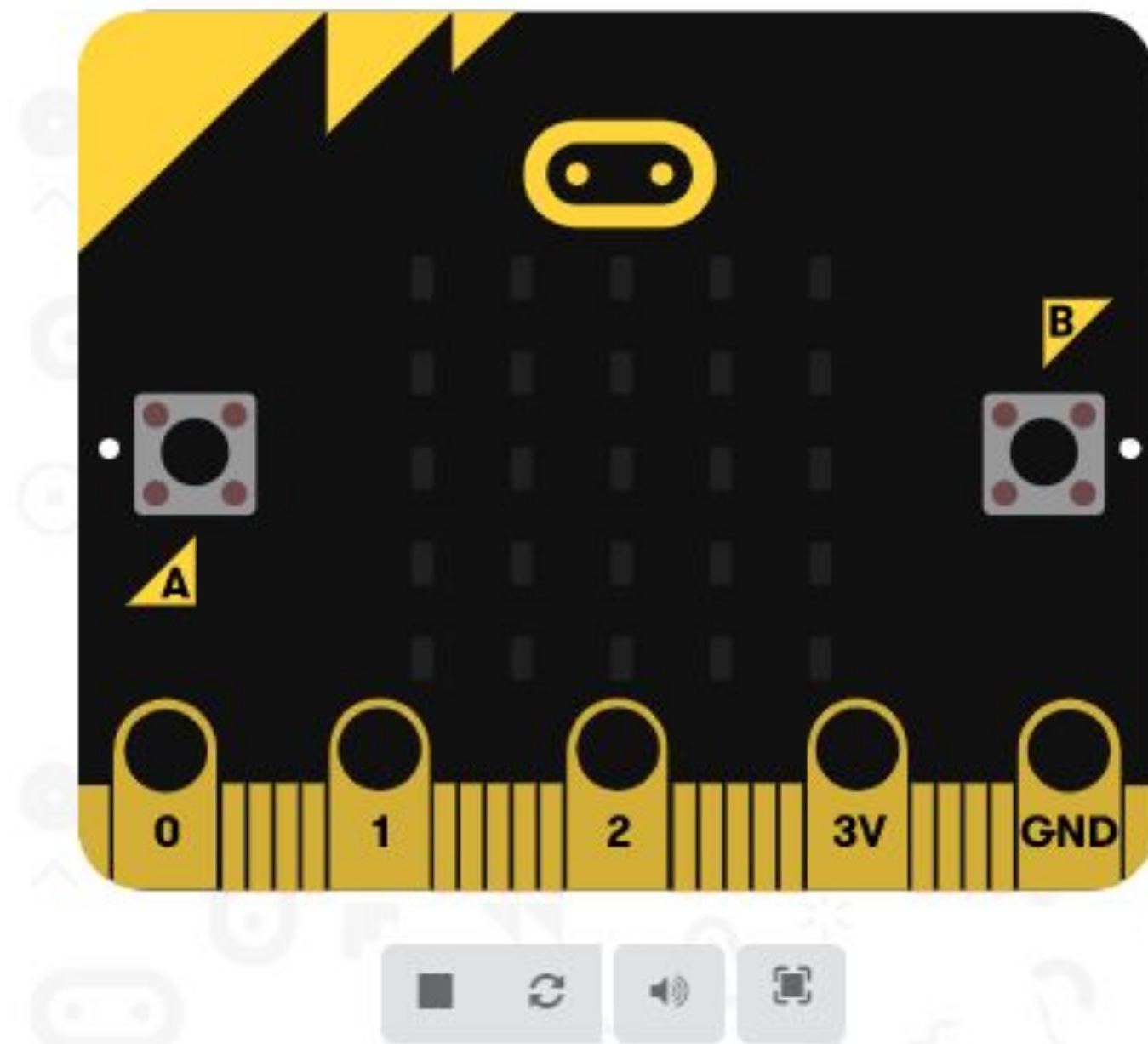
<https://makecode.microbit.org/>

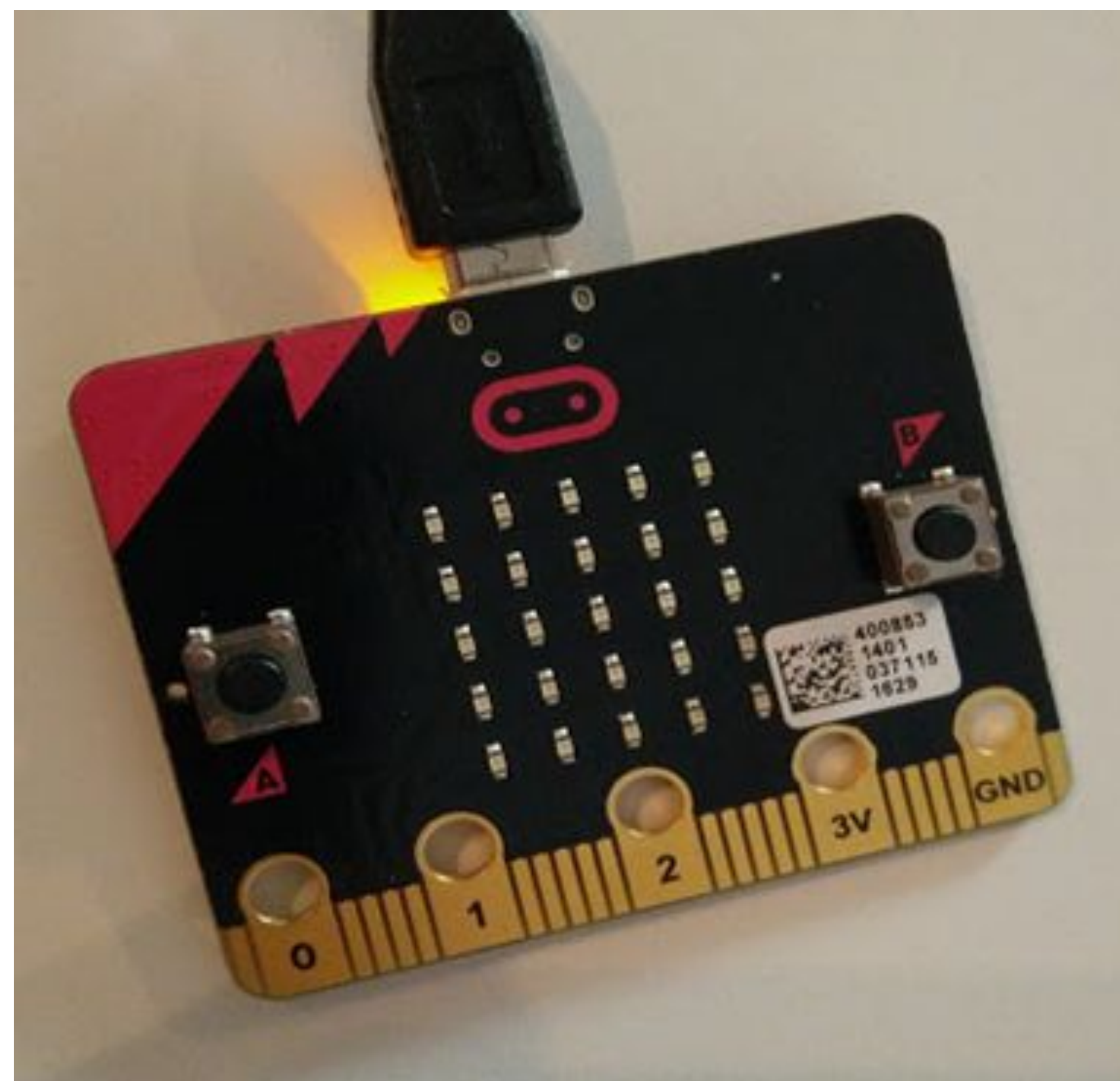
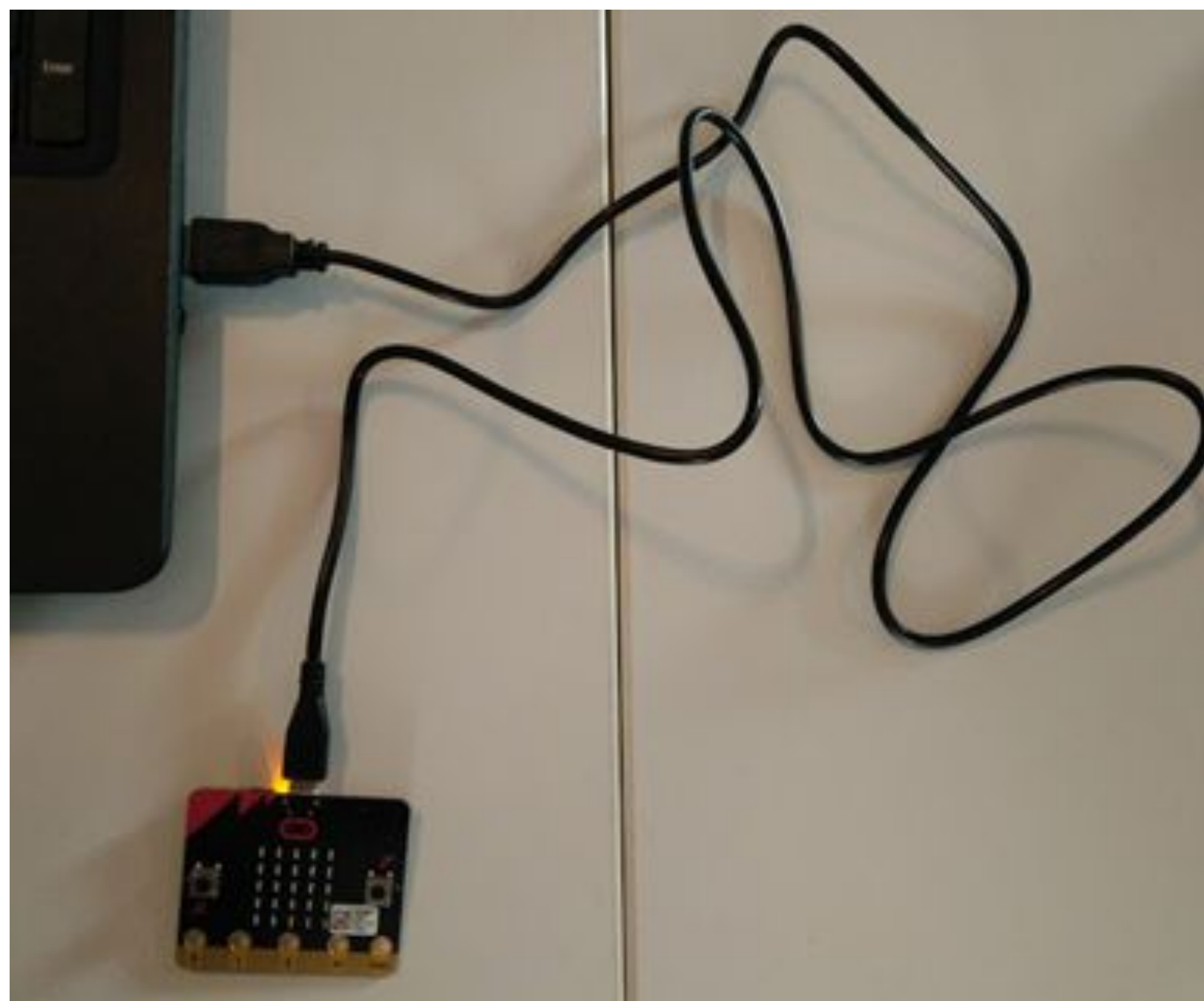


<https://makecode.microbit.org/>

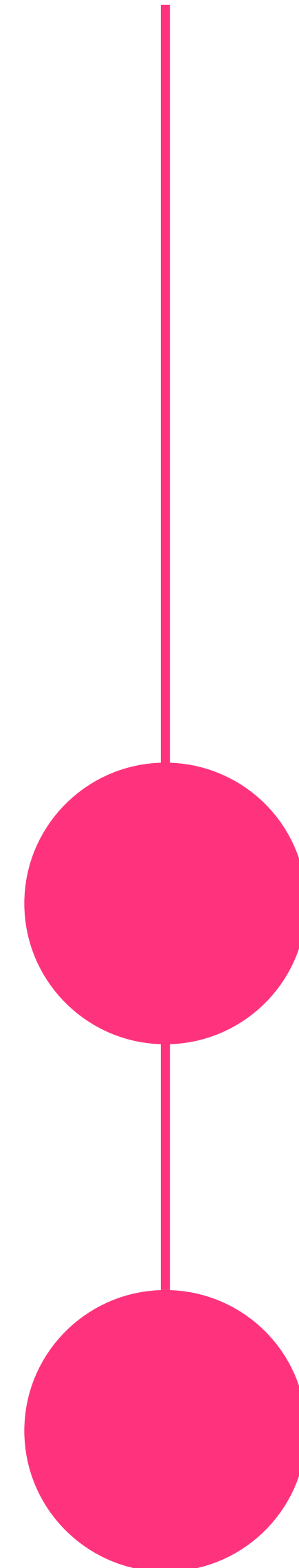


<https://makecode.microbit.org/>

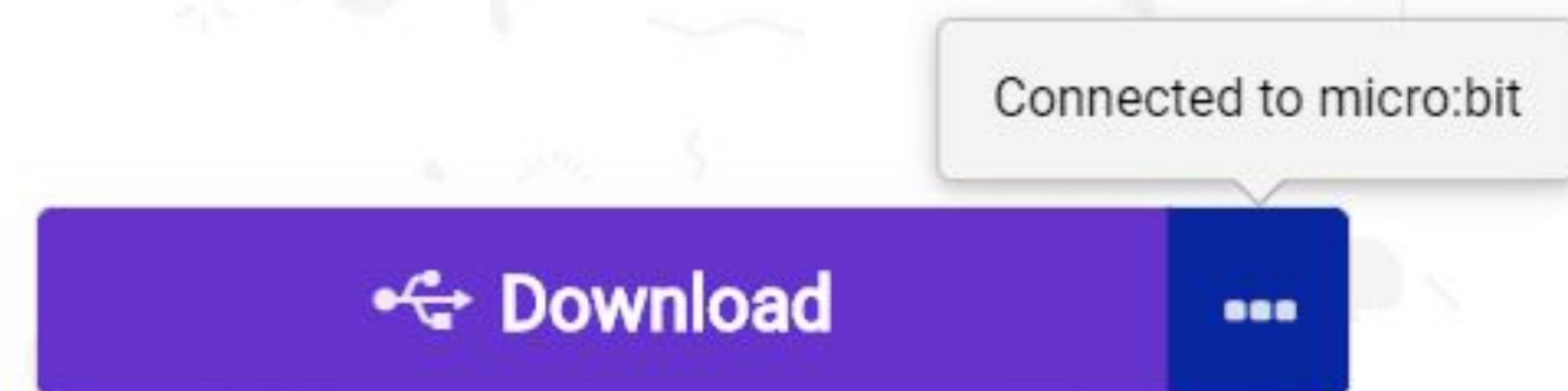
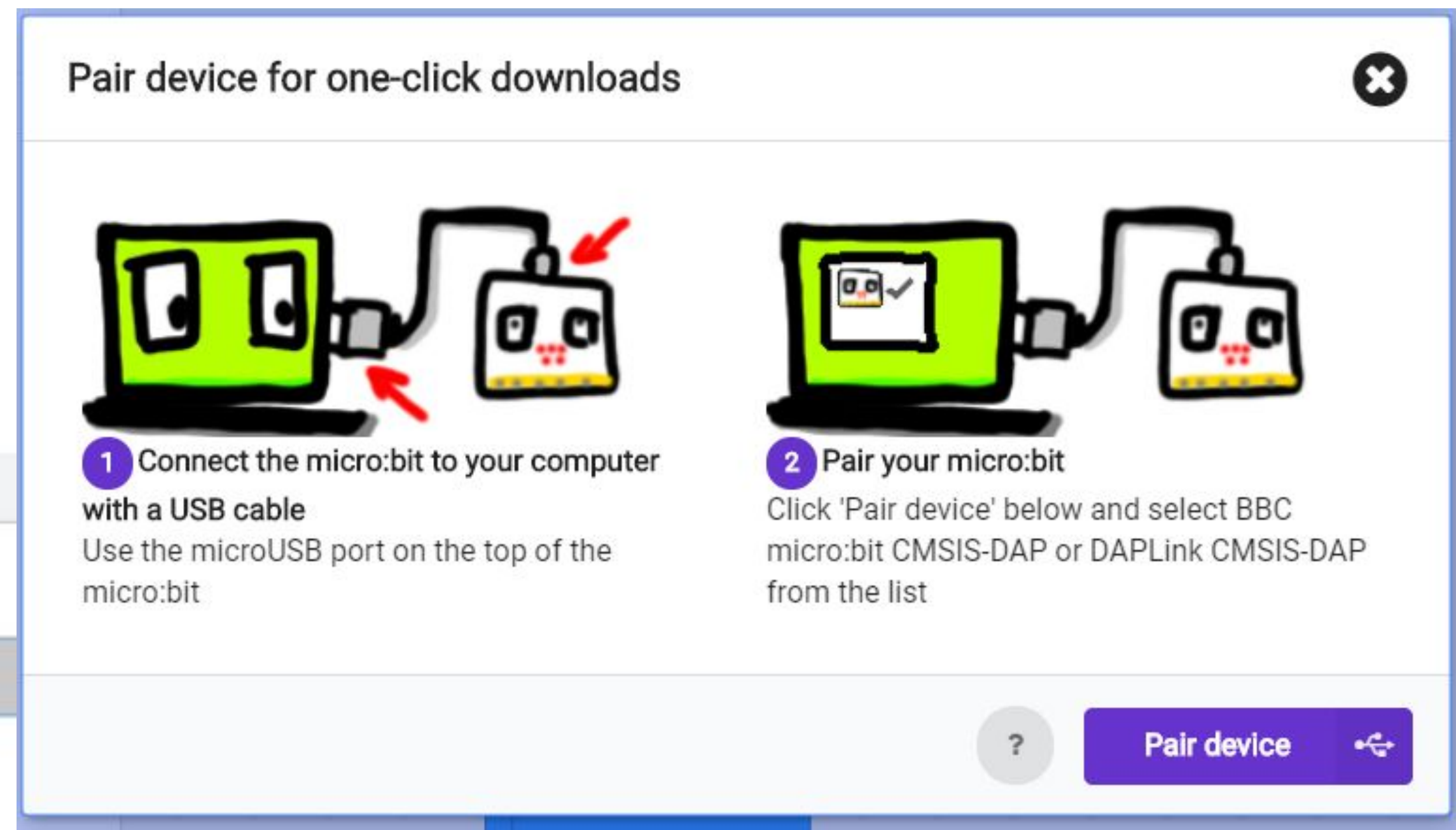
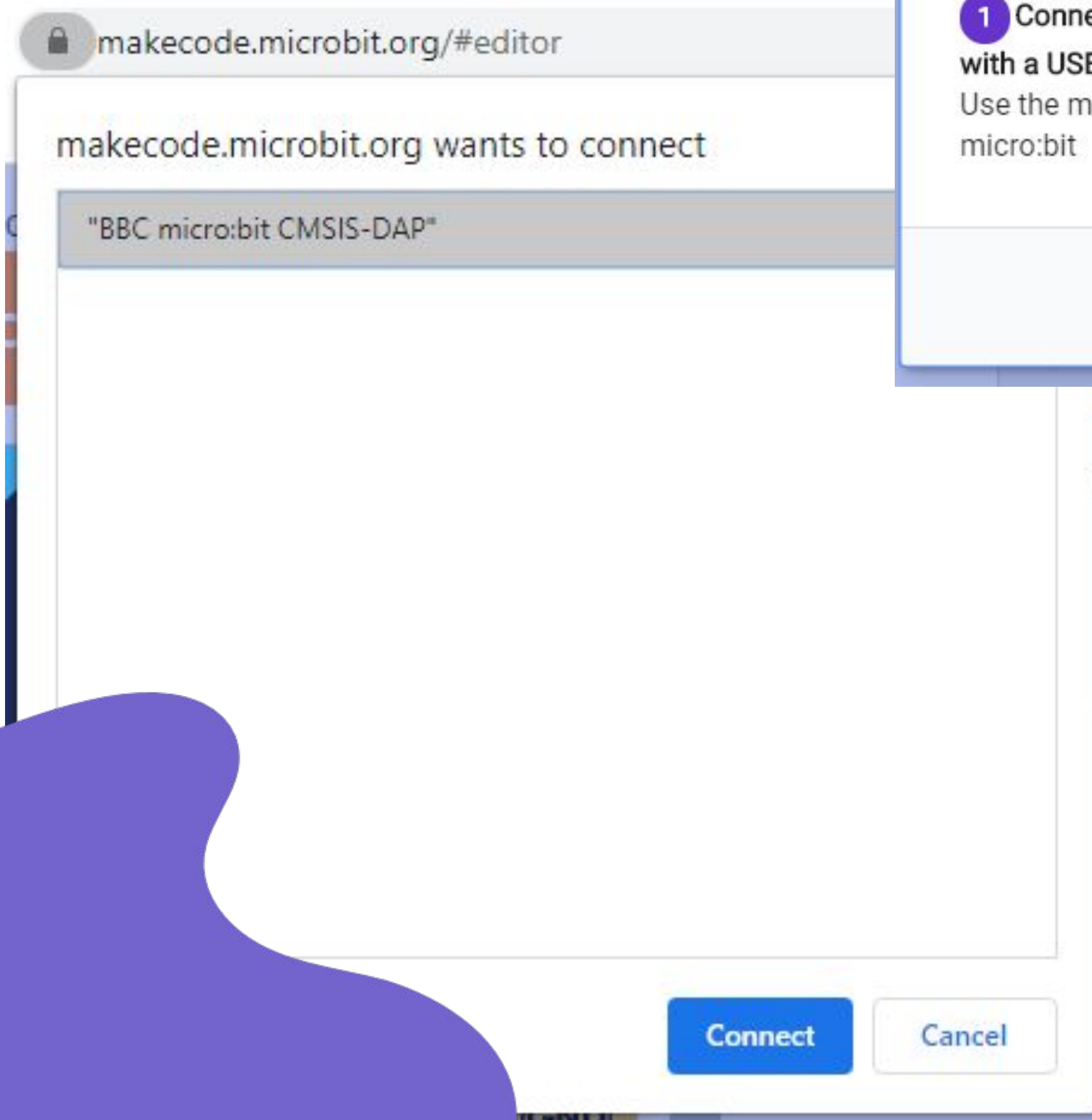




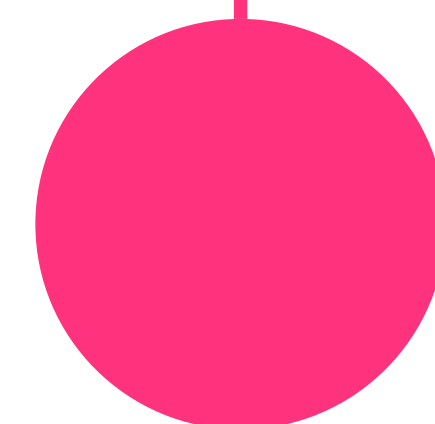
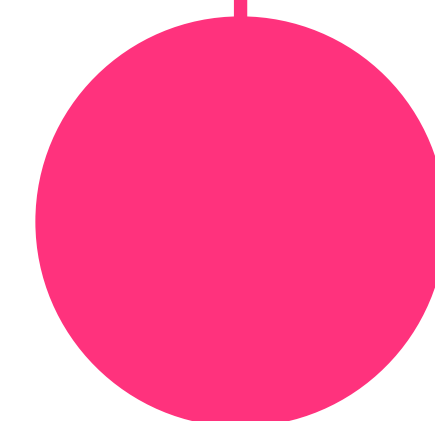
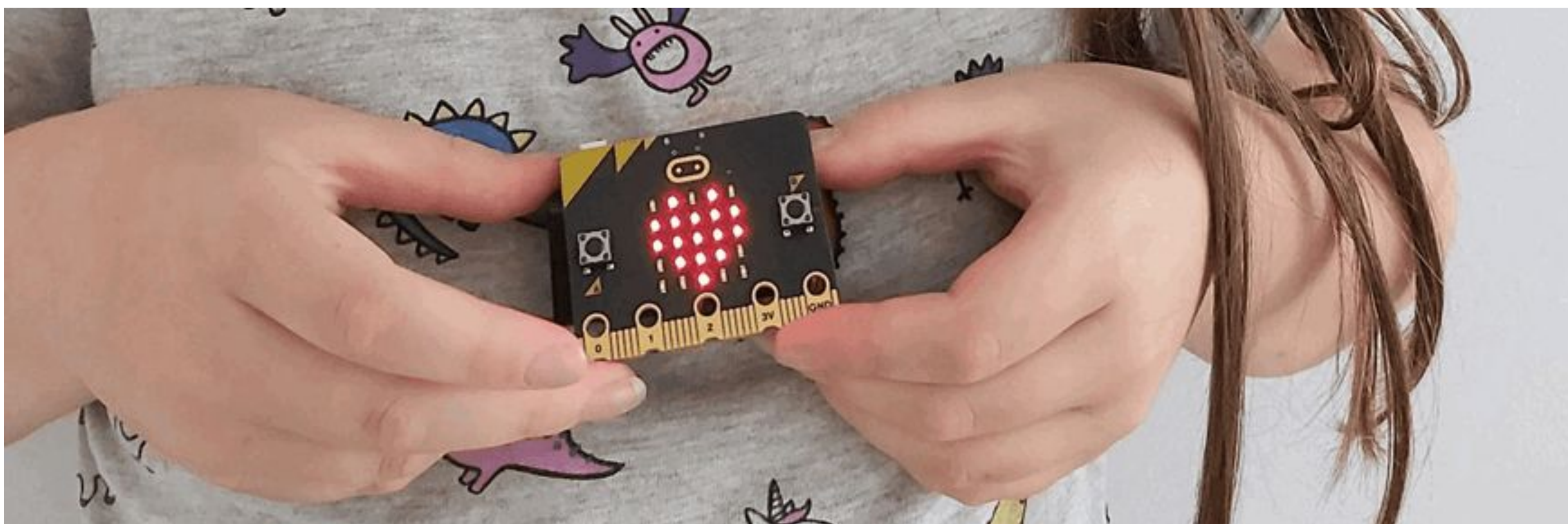
Connect

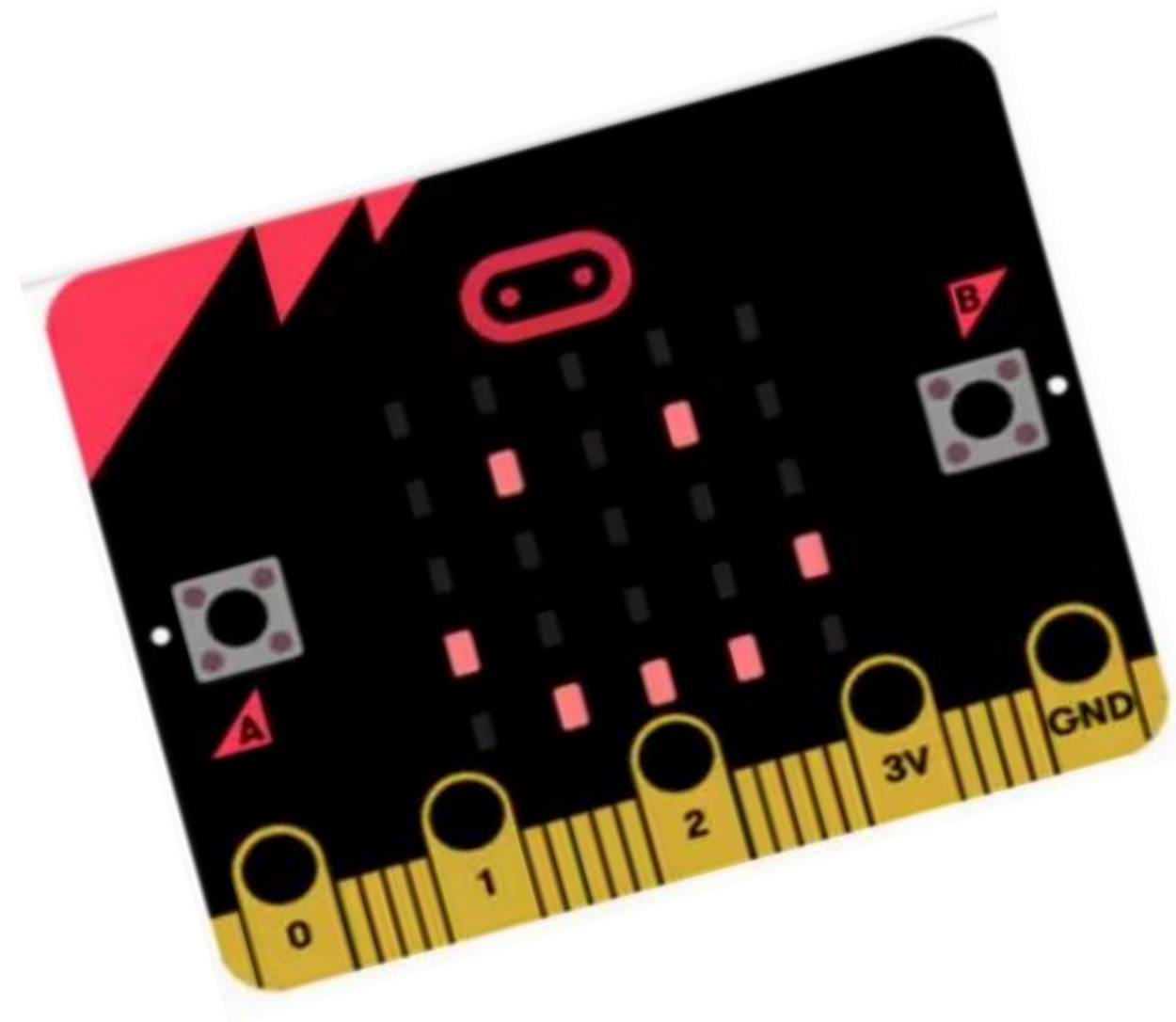


<https://makecode.microbit.org/>



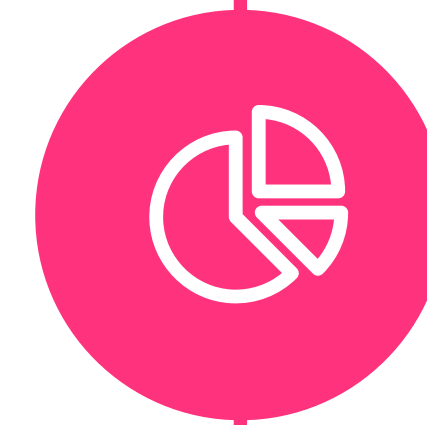
Congratulations!





Basic exercises

Show your name



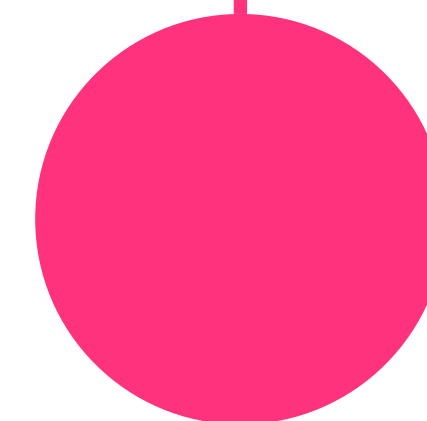
Exercise 1: Show your name on the Microbit

It will keep scrolling the letters of your name

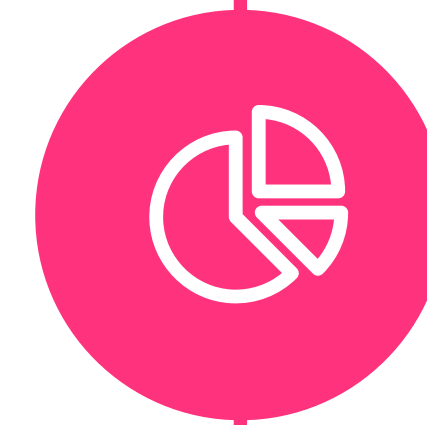


Use blocks

Forever and show string



Show your name



Exercise 1: Show your name on the Microbit

It will keep scrolling the letters of your name



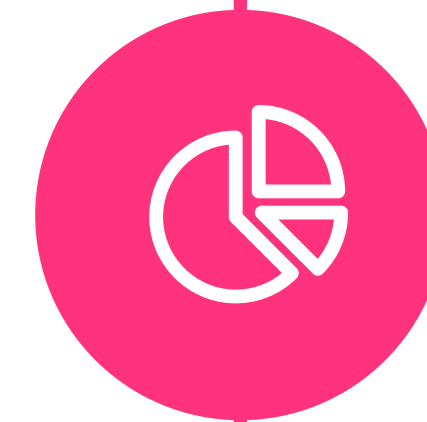
Use blocks

Forever and show string



Solution !

Create a lamp



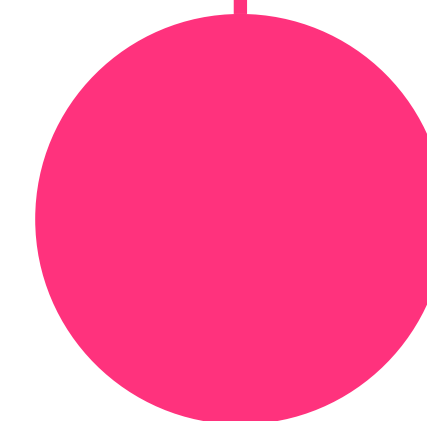
Exercise 3: Create a lamp

Use button A and B to turn on and off the LEDs

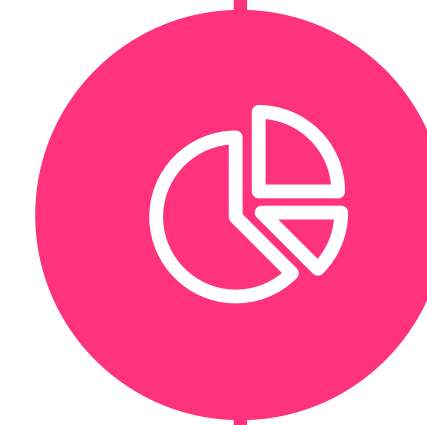
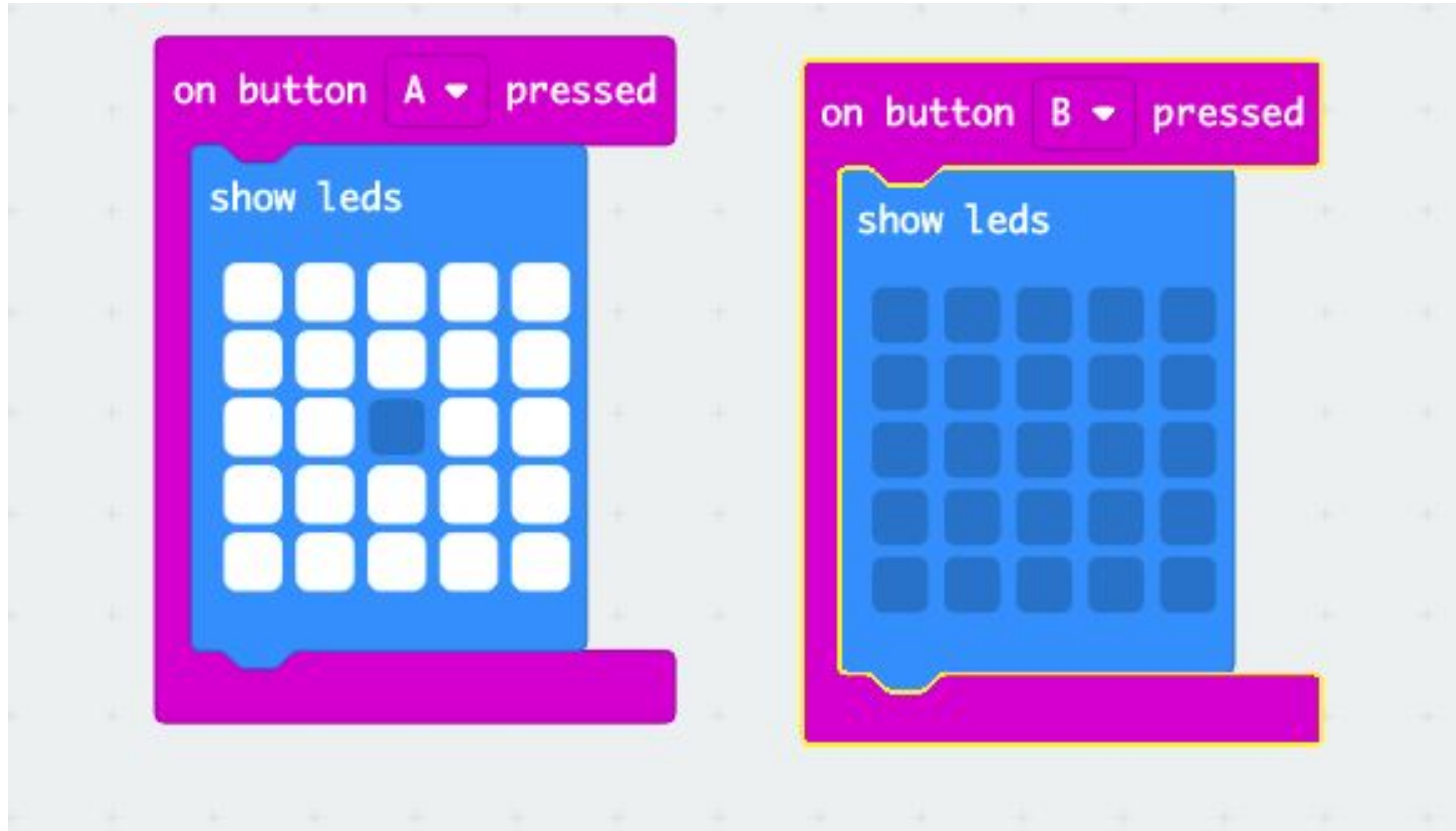


Use blocks

On button pressed A and B



Create a lamp



Exercise 1: Create a lamp

Use button A and B to turn on and off the LEDs



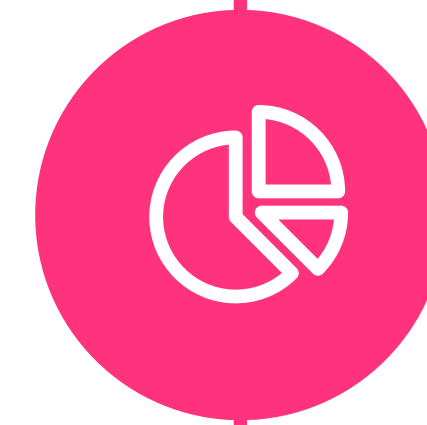
Use blocks

Use button A and B



Solution !

Turn microbit into a dice



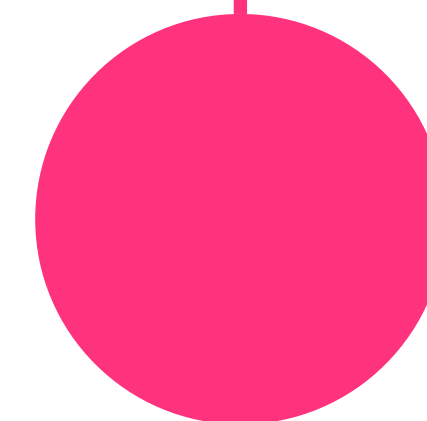
Exercise 3: Turn microbit into a dice

It will keep scrolling the letters of your name

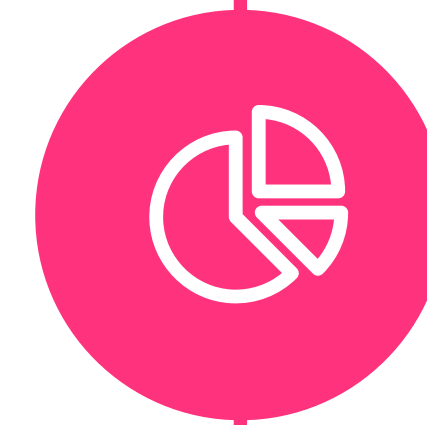
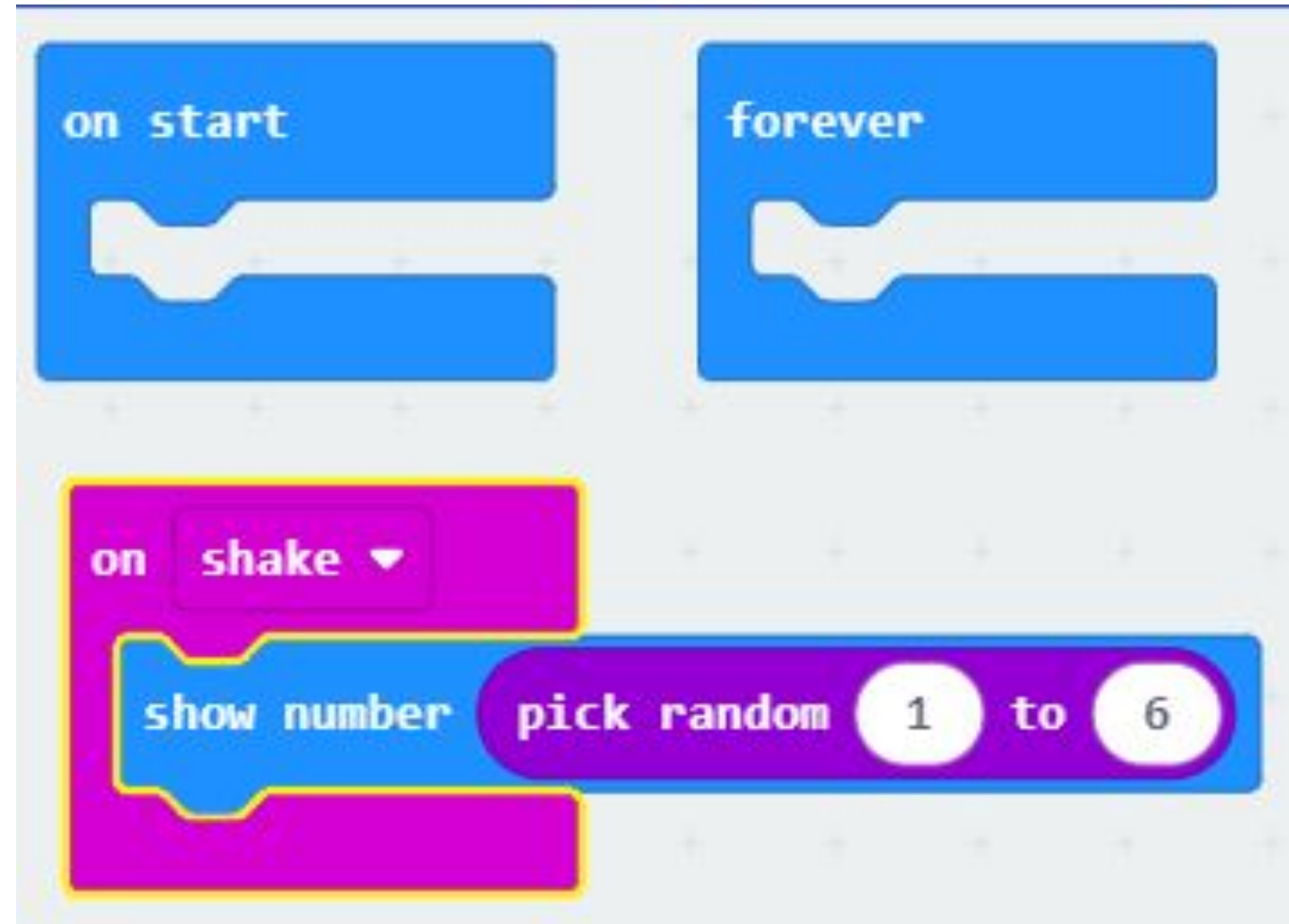


Use blocks

On Shake,
Show Number
Pick random



Turn microbit into a dice



Exercise 3: Turn microbit into a dice

It will keep scrolling the letters of your name

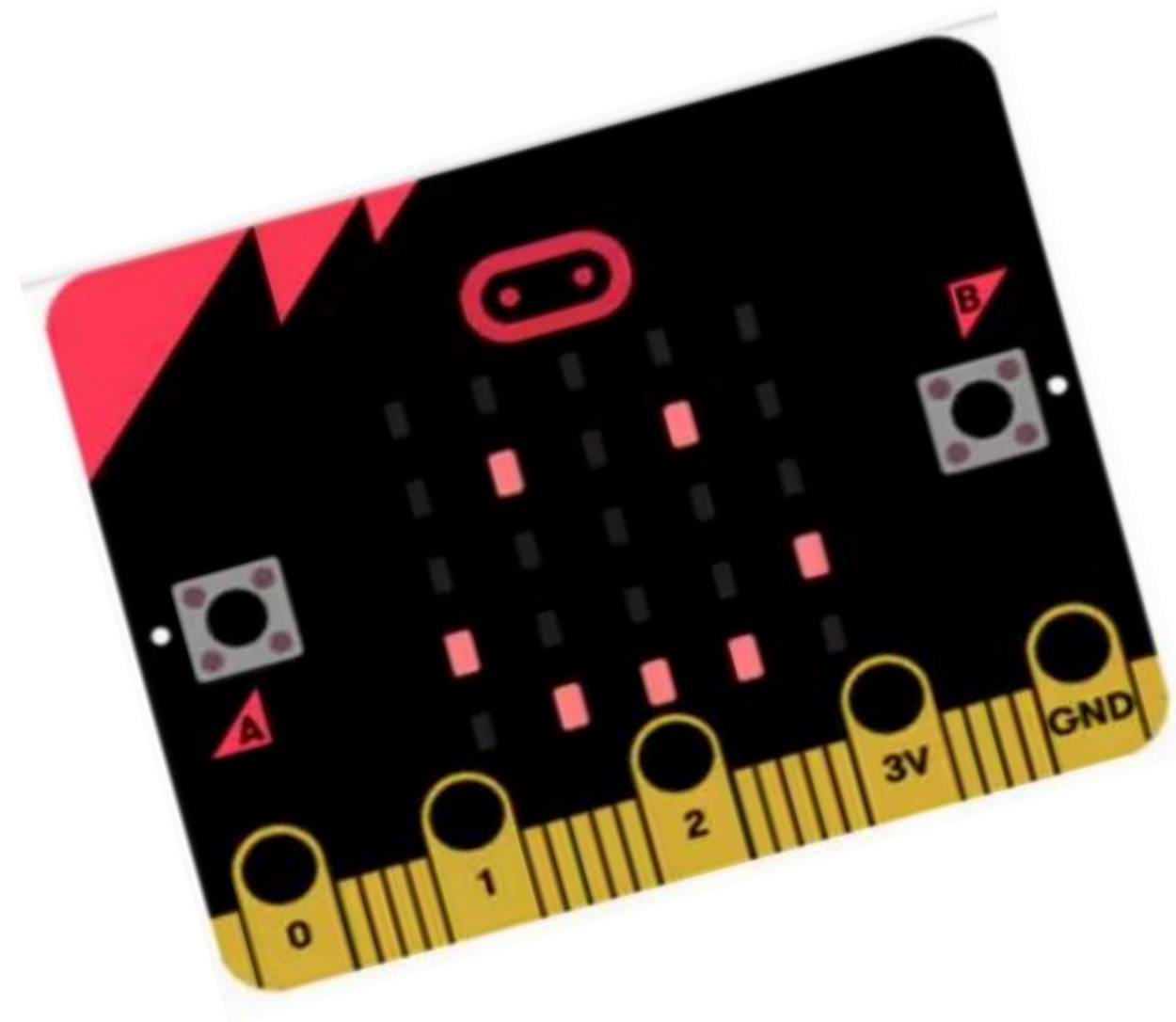


Use blocks

On Shake,
Show Number
Pick random



Solution !



Rock Paper Scissors



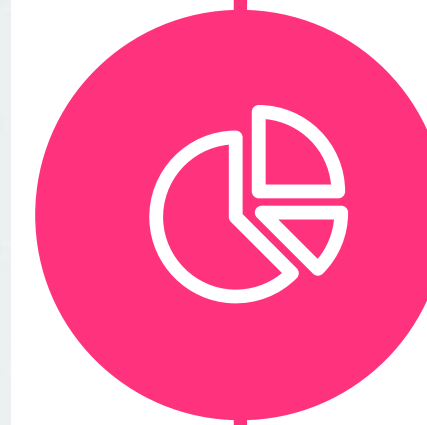
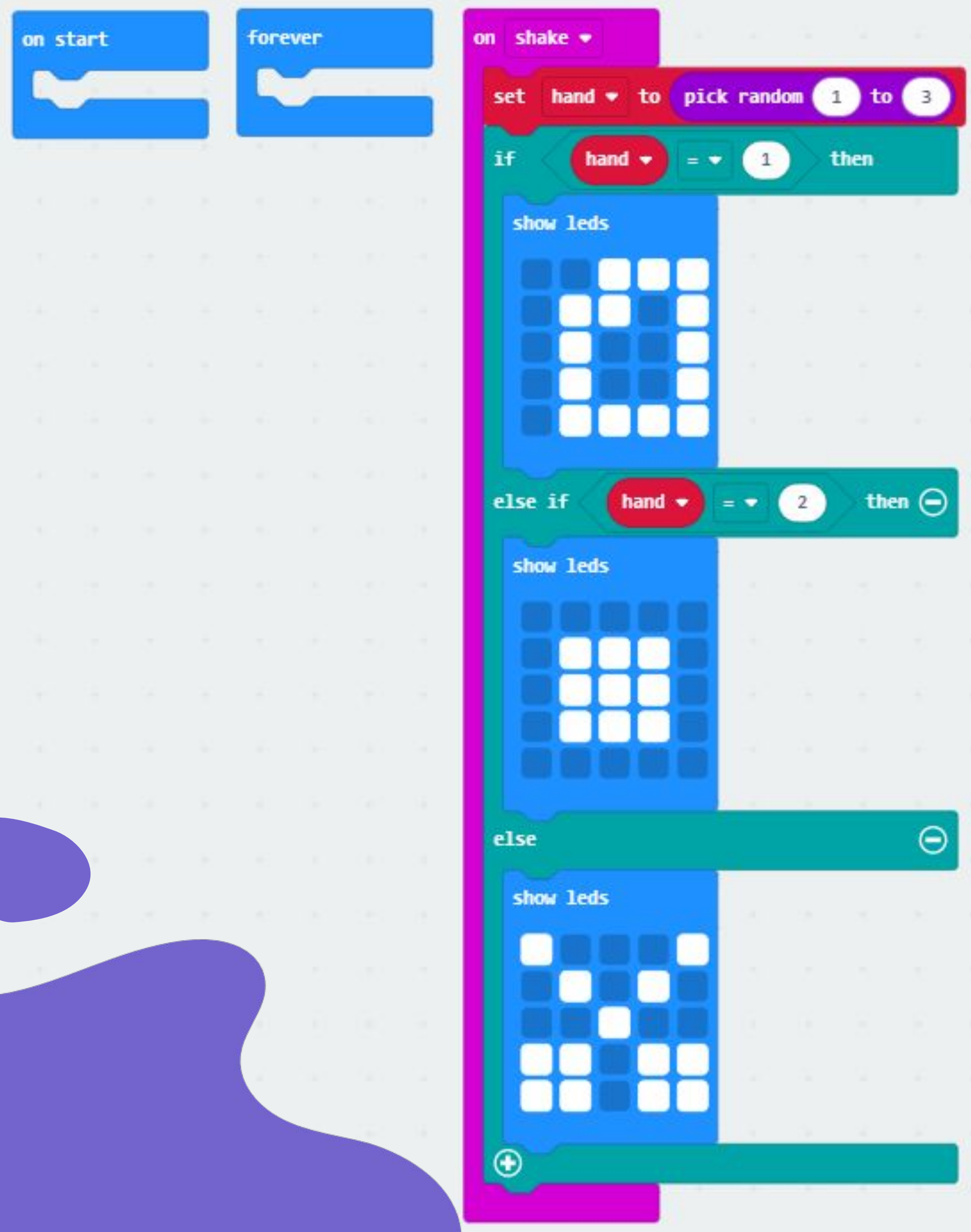
Let's make a rock, paper, scissors game

When you shake the microbit it will display one of the tree possibilities. Try to play with someone else!



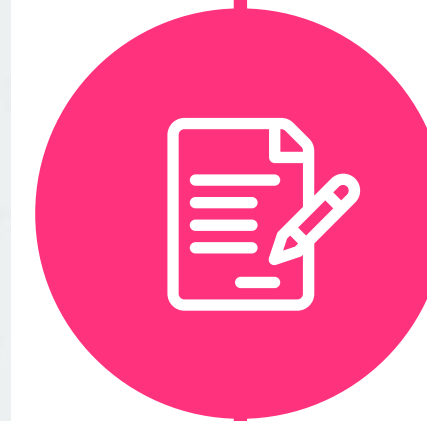
Use blocks

On shake,
Set variable to,
Pick random,
If,
Show leds



Let's make a rock, paper, scissors game

When you shake the microbit it will display one of the tree possibilities. Try to play with someone else!



Use blocks

On shake,
Set variable to,
Pick random,
If,
Show leds



Solution !

What have we learned today?

- What is the micro:bit?
- What can we do with it?
- The language of the Micro:bit
- Block programming

—> Creative thinking!

More about micro:bit?

Online simulator

makecode.microbit.org/

microbit.org/projects/

Tomorrow

Digital movement instrument



Thanks !