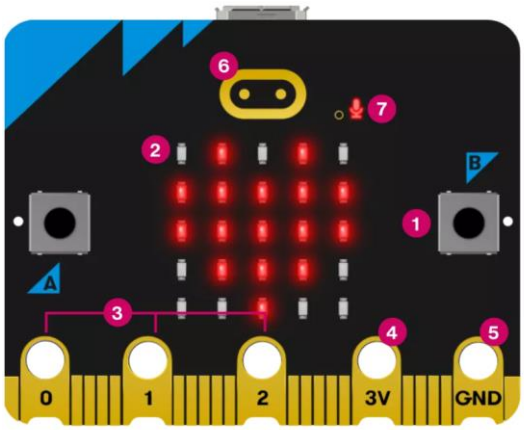
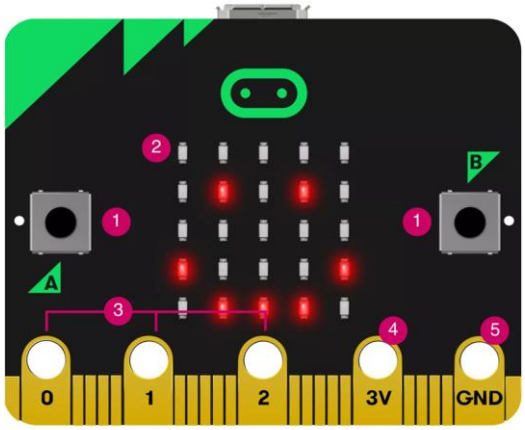
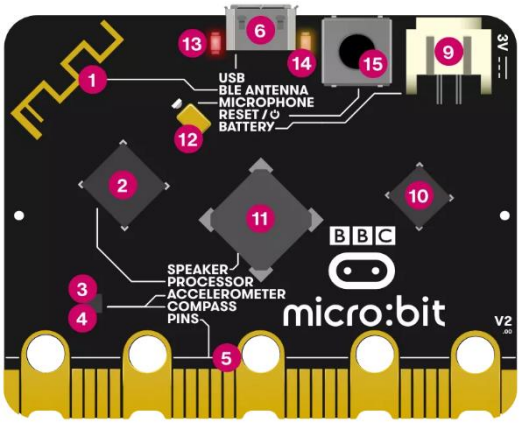
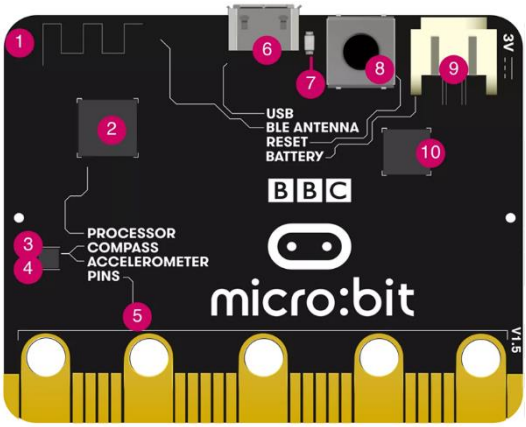
Chapter 1: Introduction to the BBC Micro:bit



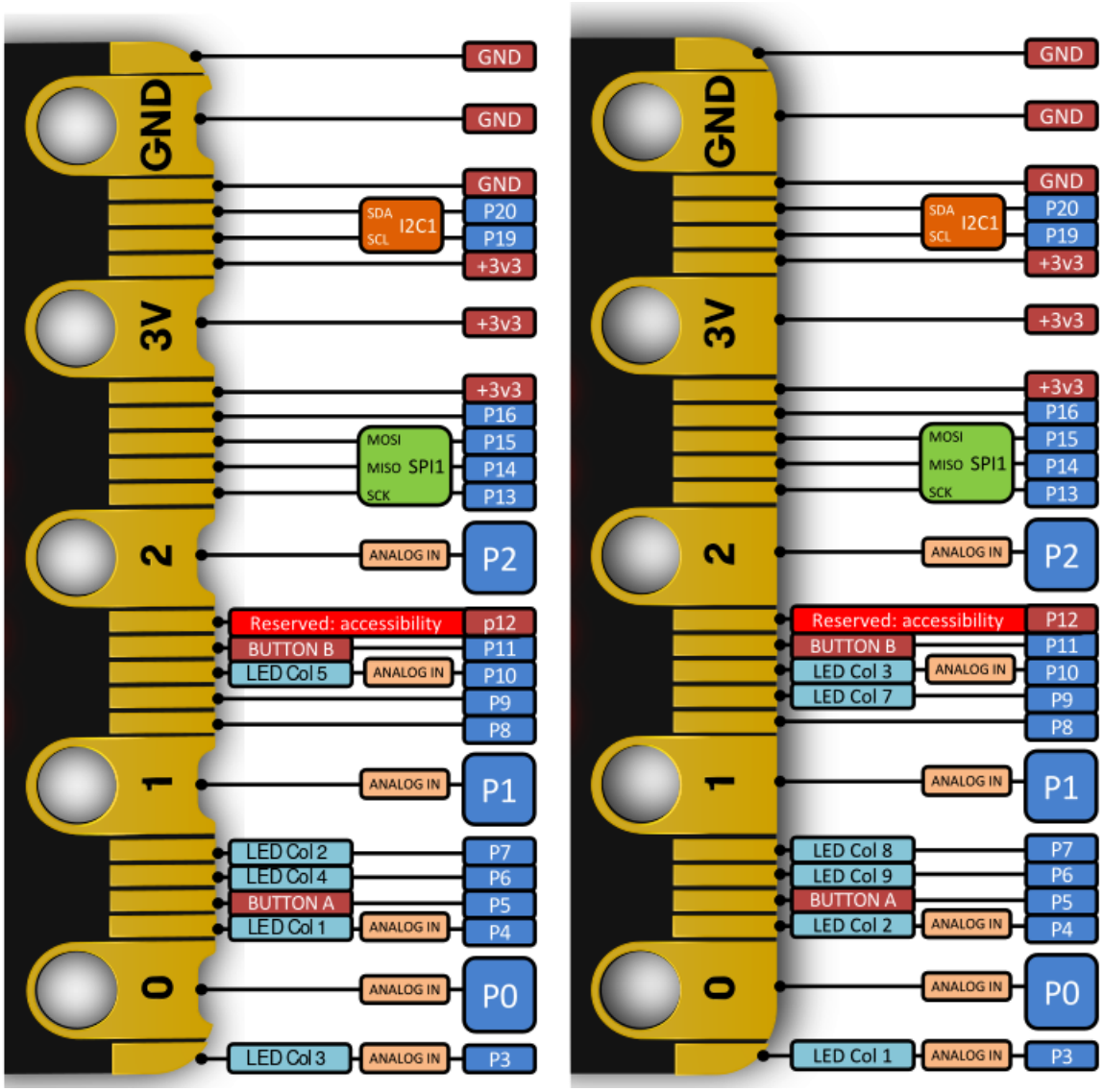


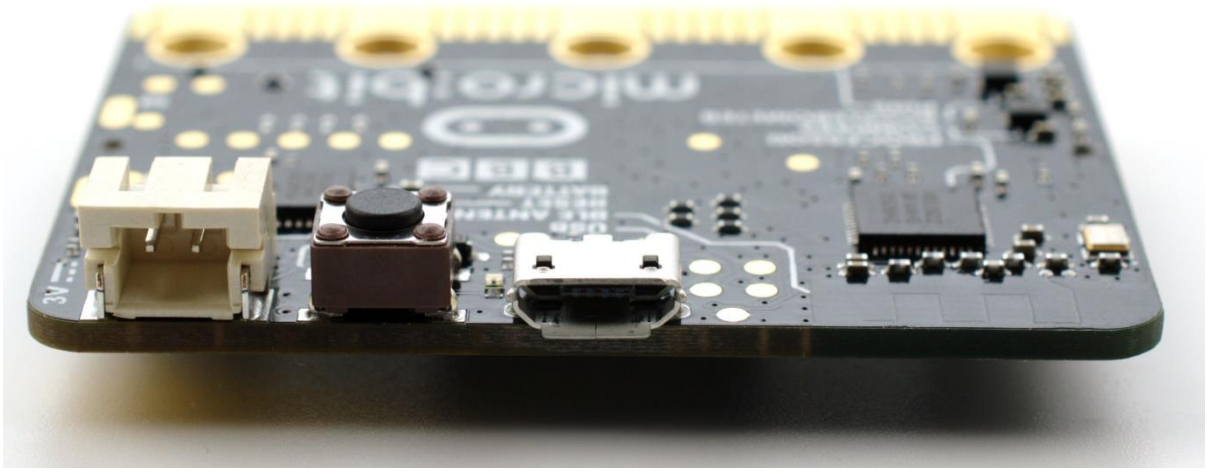
1. Buttons
2. LED display and light sensor
3. General-purpose input output pins
4. 3 volt power pin
5. Ground pin
6. Touch logo (V2 only)
7. LED for microphone (V2 only)

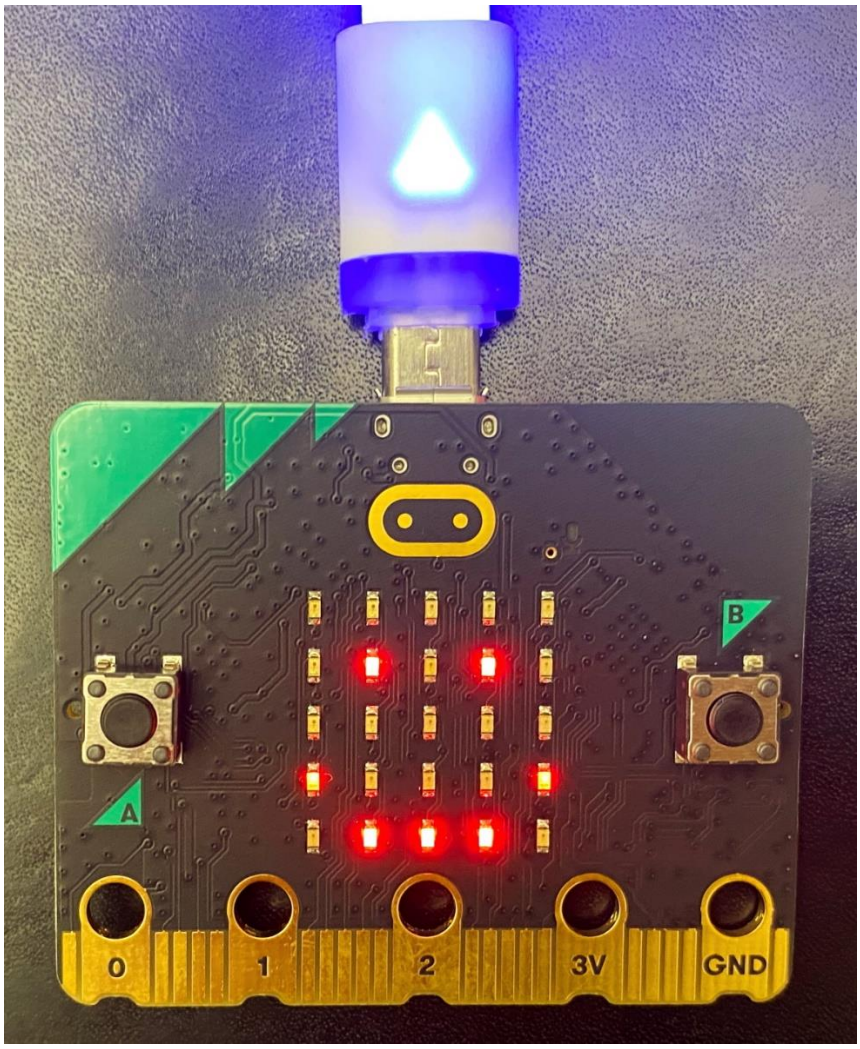


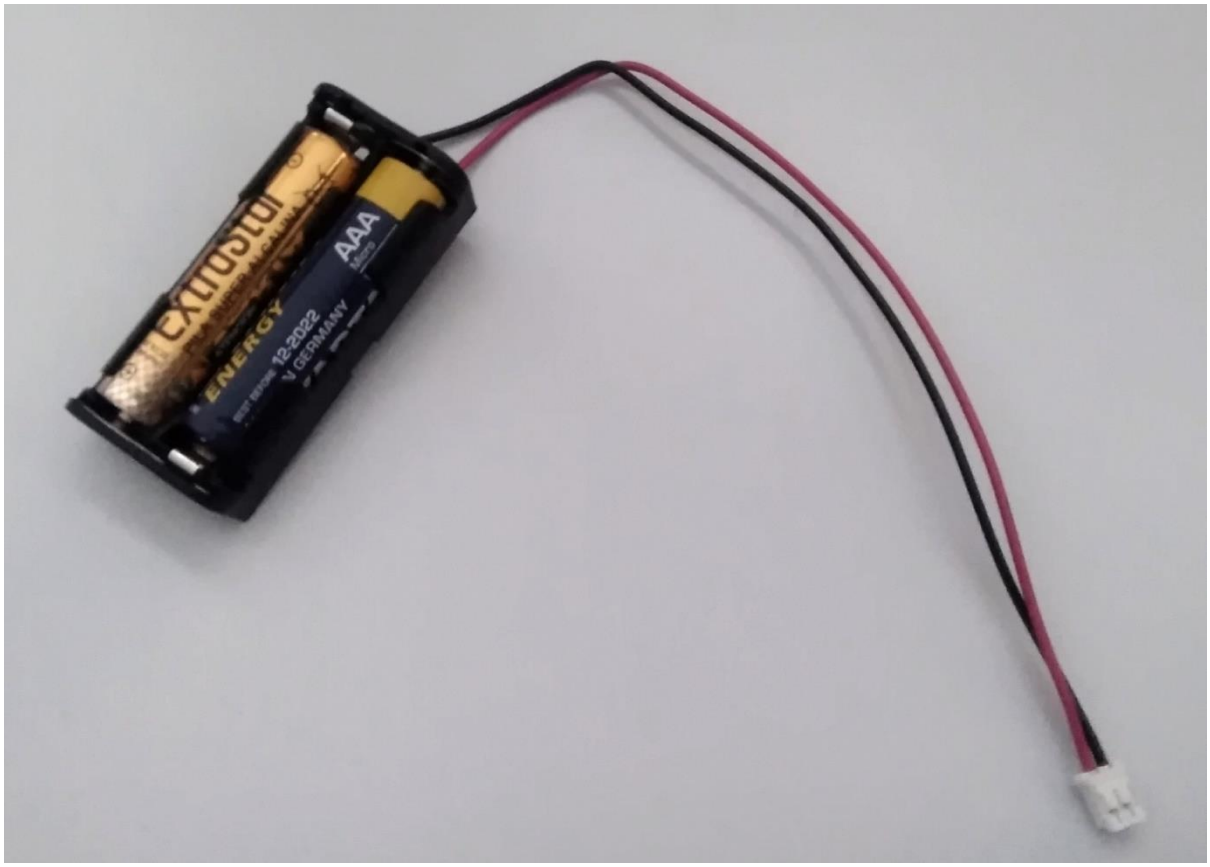


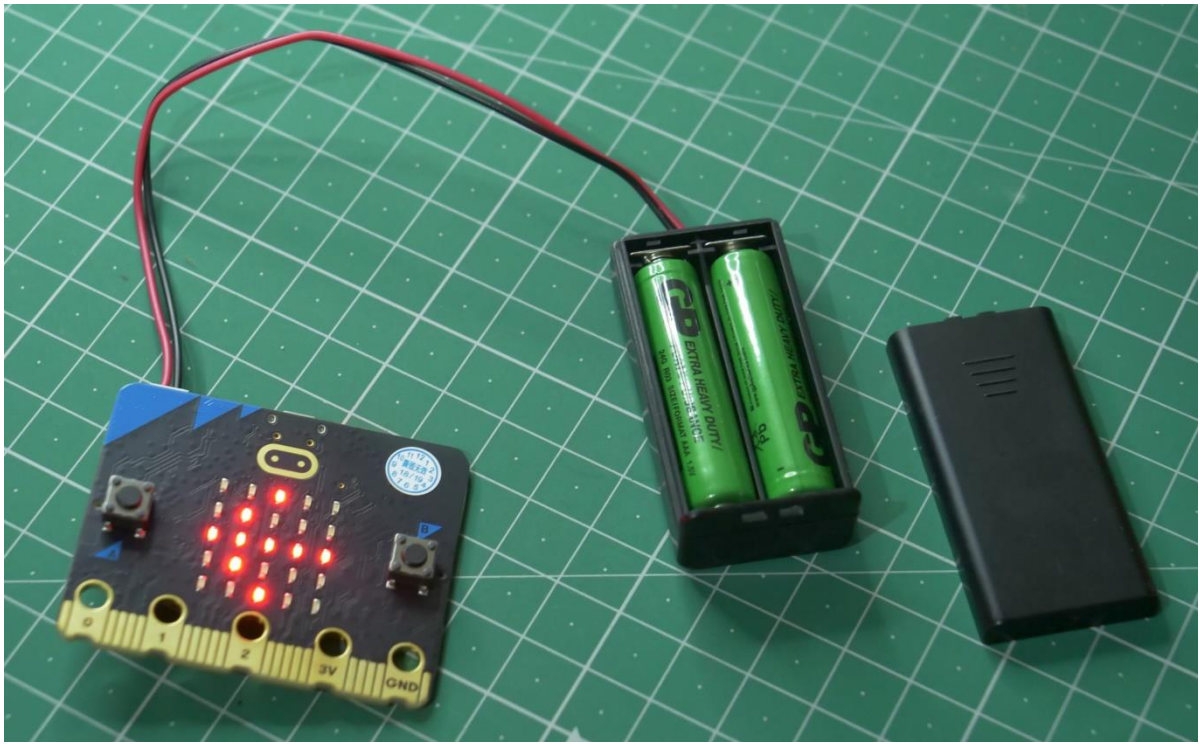
1. Radio and Bluetooth antenna
2. Processor and temperature sensor
3. Compass
4. Accelerometer
5. Pins
6. Micro USB socket
7. Single yellow LED
8. Reset button
9. Battery socket
10. USB interface chip
11. Speaker – V2
12. Microphone – V2
13. Red power LED – V2
14. Yellow USB LED – V2
15. Reset and power button – V2


GND
3V
2
1
0
GND
GND
GND
SDA
SCL
I2C1
P20
P19
+3v3
+3v3
+3v3
P16
MOSI
MISO
SPI1
SCK
P15
P14
P13
ANALOG IN
P2
Reserved: accessibility
p12
BUTTON B
LED Col 5
ANALOG IN
P11
P10
P9
P8
ANALOG IN
P1
LED Col 2
LED Col 4
BUTTON A
LED Col 1
ANALOG IN
P7
P6
P5
P4
ANALOG IN
P0
LED Col 3
ANALOG IN
P3
GND
3V
2
1
0
GND
GND
GND
SDA
SCL
I2C1
P20
P19
+3v3
+3v3
+3v3
P16
MOSI
MISO
SPI1
SCK
P15
P14
P13
ANALOG IN
P2
Reserved: accessibility
P12
BUTTON B
LED Col 3
LED Col 7
ANALOG IN
P11
P10
P9
P8
ANALOG IN
P1
LED Col 8
LED Col 9
BUTTON A
LED Col 2
ANALOG IN
P7
P6
P5
P4
ANALOG IN
P0
LED Col 1
ANALOG IN
P3




B
A
0
1
2
3V
GND


AAA
ENERGY
12.2022
GERMANY

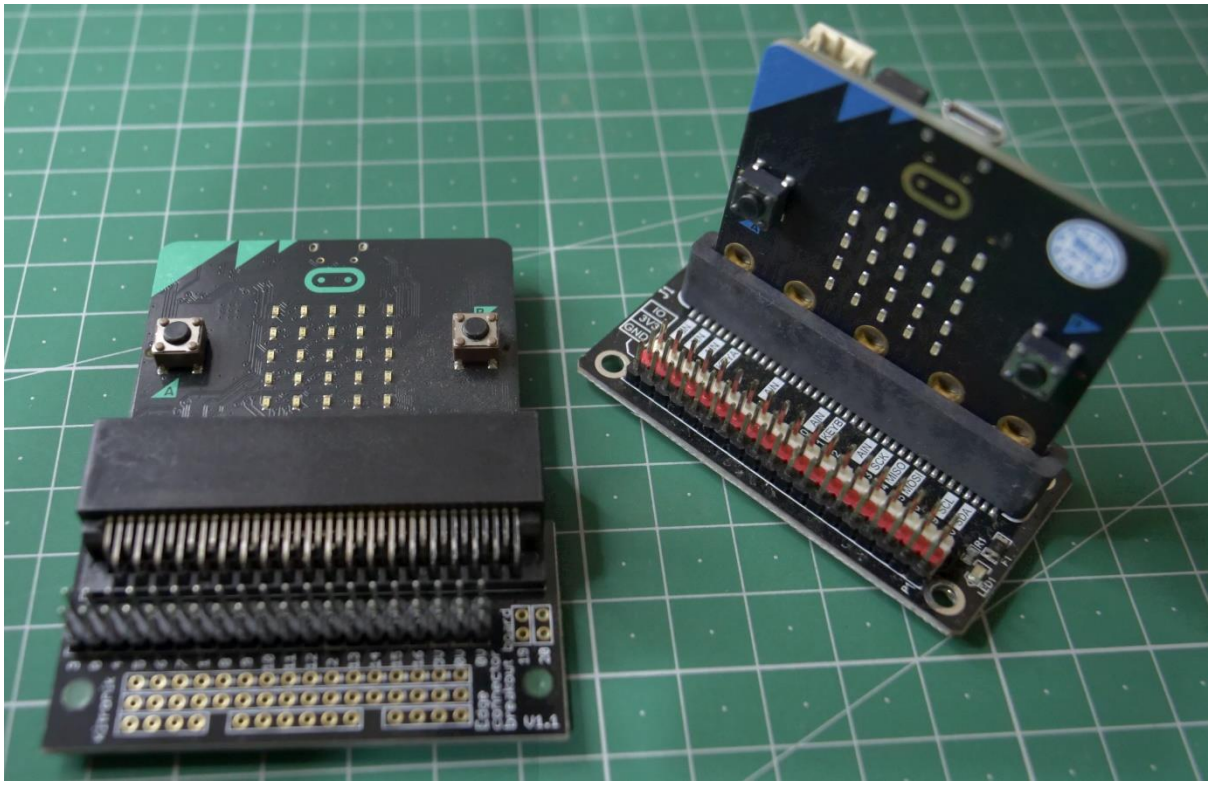

EXTRA HEAVY DUTY
0
1
2
3V
GND

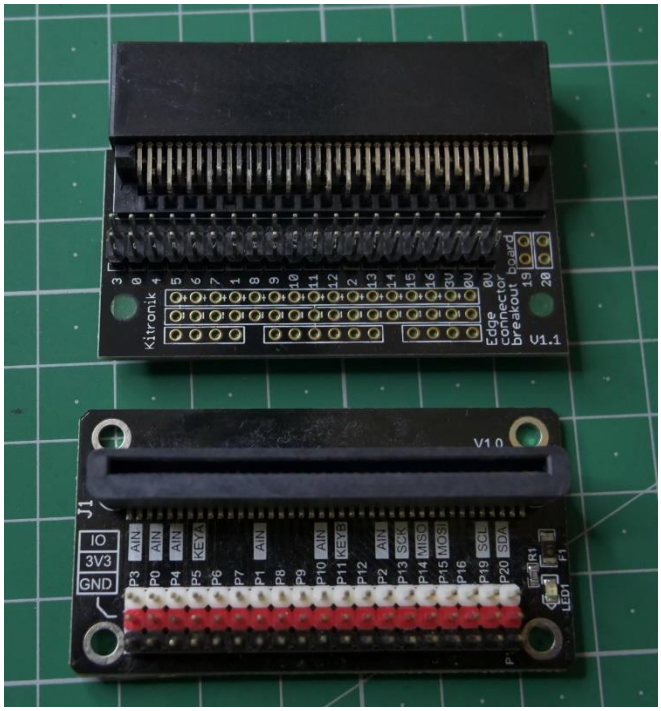
CR2032
3 VOLTS
Energizer
MADE IN INDONESIA

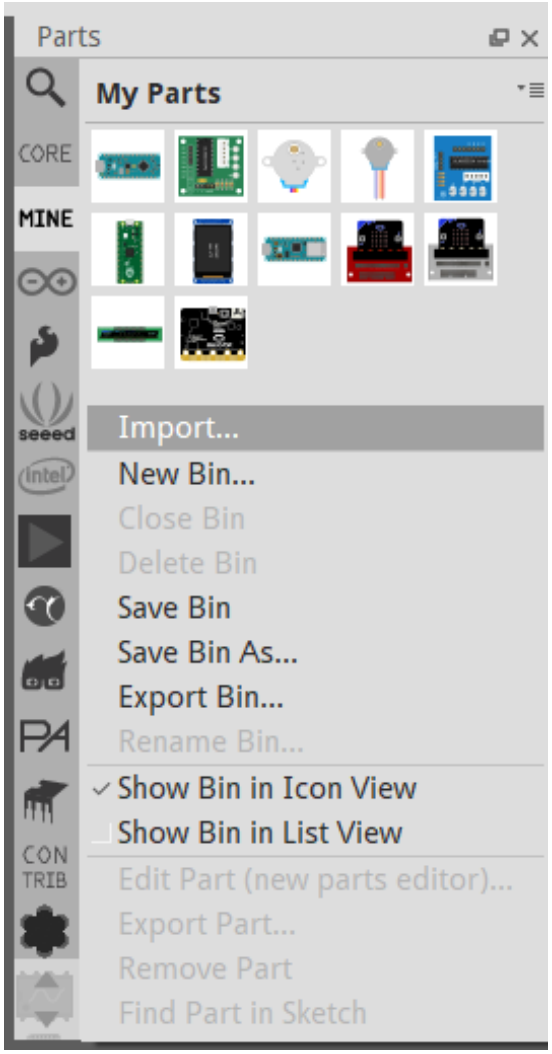
SW1
D1
BAT1
SOUNDER1
0
1
2
3V
GND
Eunicell
CR 2032
3V
Lithium Battery

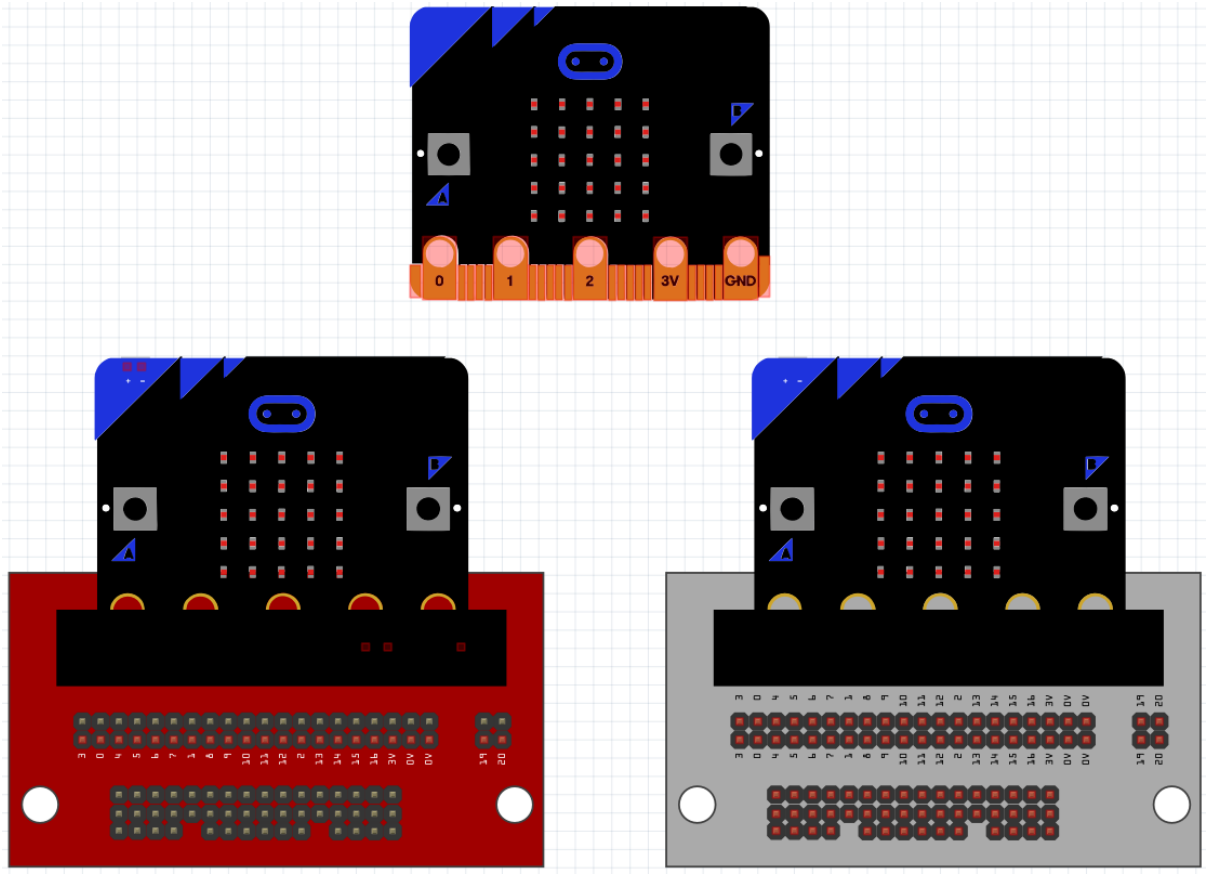
ON
OFF
MI:power
kitronik.co.uk
stock code: 5610
GND
3V
2
1
0

Get started
microbit.org/start
READY
SET
GO>
Discover how to make
cool code creations
BBC
micro:bit

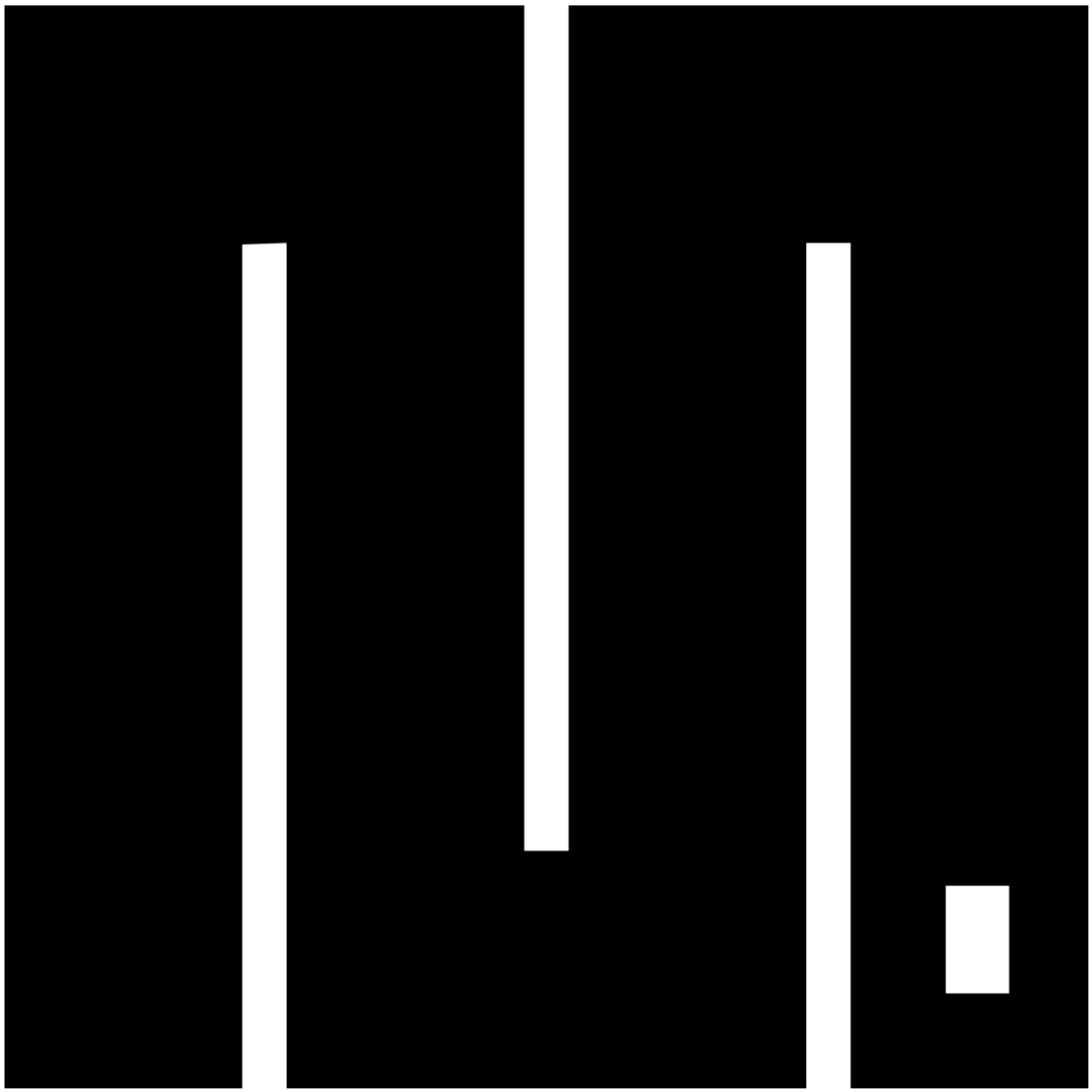


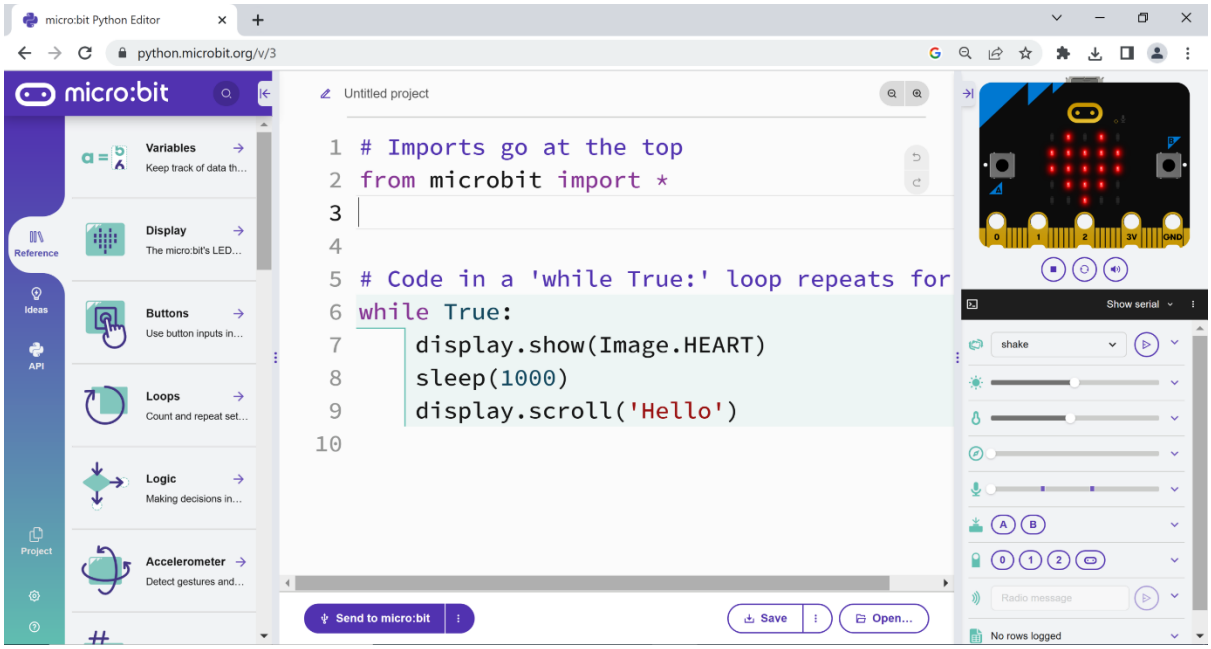

Kitronik
Edge connector breakout board
V1.1
V1.0
J1
IO
3V3
GND

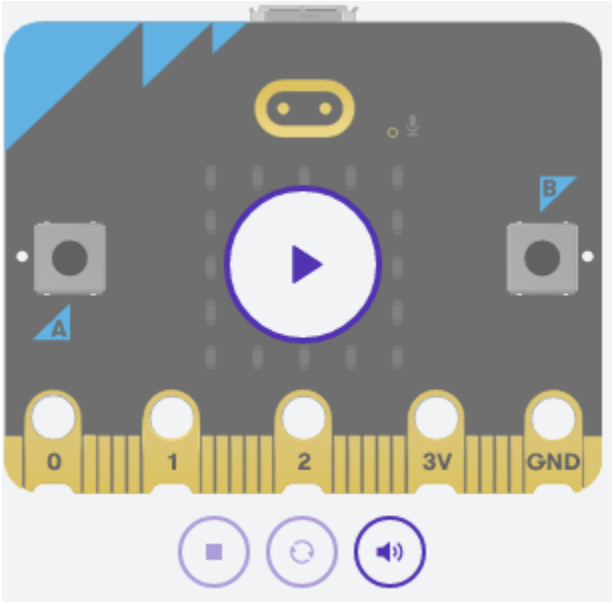

Parts
My Parts
CORE
MINE
seeed
intel
CON
TRIB
Import...
New Bin...
Close Bin
Delete Bin
Save Bin
Save Bin As...
Export Bin...
Rename Bin...
Show Bin in Icon View
Show Bin in List View
Edit Part (new parts editor)...
Export Part...
Remove Part
Find Part in Sketch

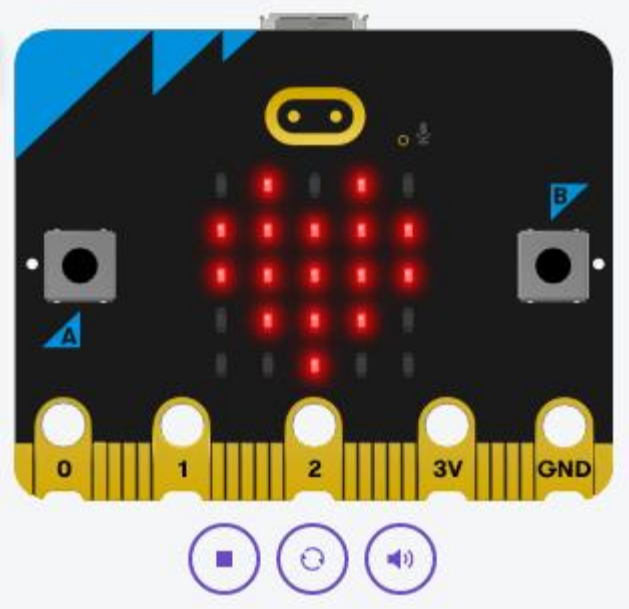

0
1
2
3V
GND

Chapter 2: Setting Up the Micro:bit and Using Code Editors

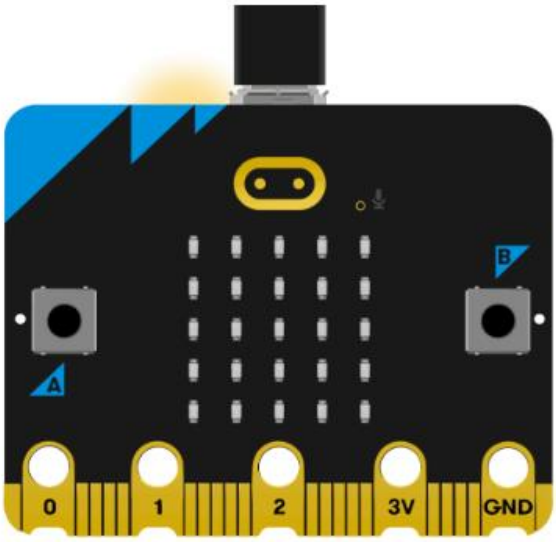



micro:bit Python Editor
python.microbit.org/v/3
micro:bit
Untitled project
Variables
Keep track of data th...
Display
The micro:bit's LED...
Buttons
Use button inputs in...
Loops
Count and repeat set...
Logic
Making decisions in...
Accelerometer
Detect gestures and...
Reference
Ideas
API
Project
1 # Imports go at the top
2 from microbit import *
3
4
5 # Code in a 'while True:' loop repeats for
6 while True:
7 display.show(Image.HEART)
8 sleep(1000)
9 display.scroll('Hello')
10
Send to micro:bit
Save
Open...
Show serial
shake
Radio message
No rows logged


A
B
0
1
2
3V
GND



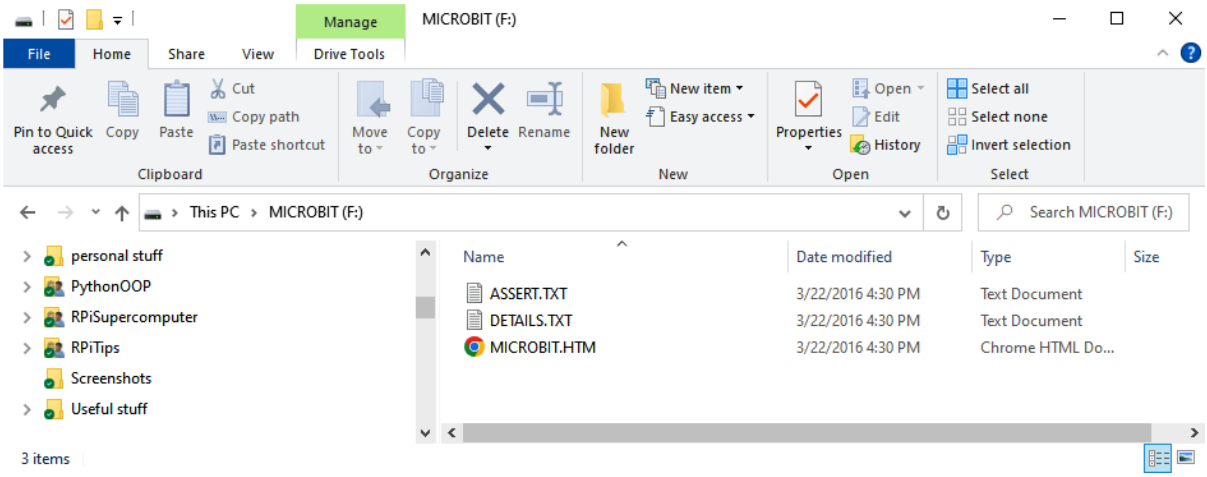
Connect cable

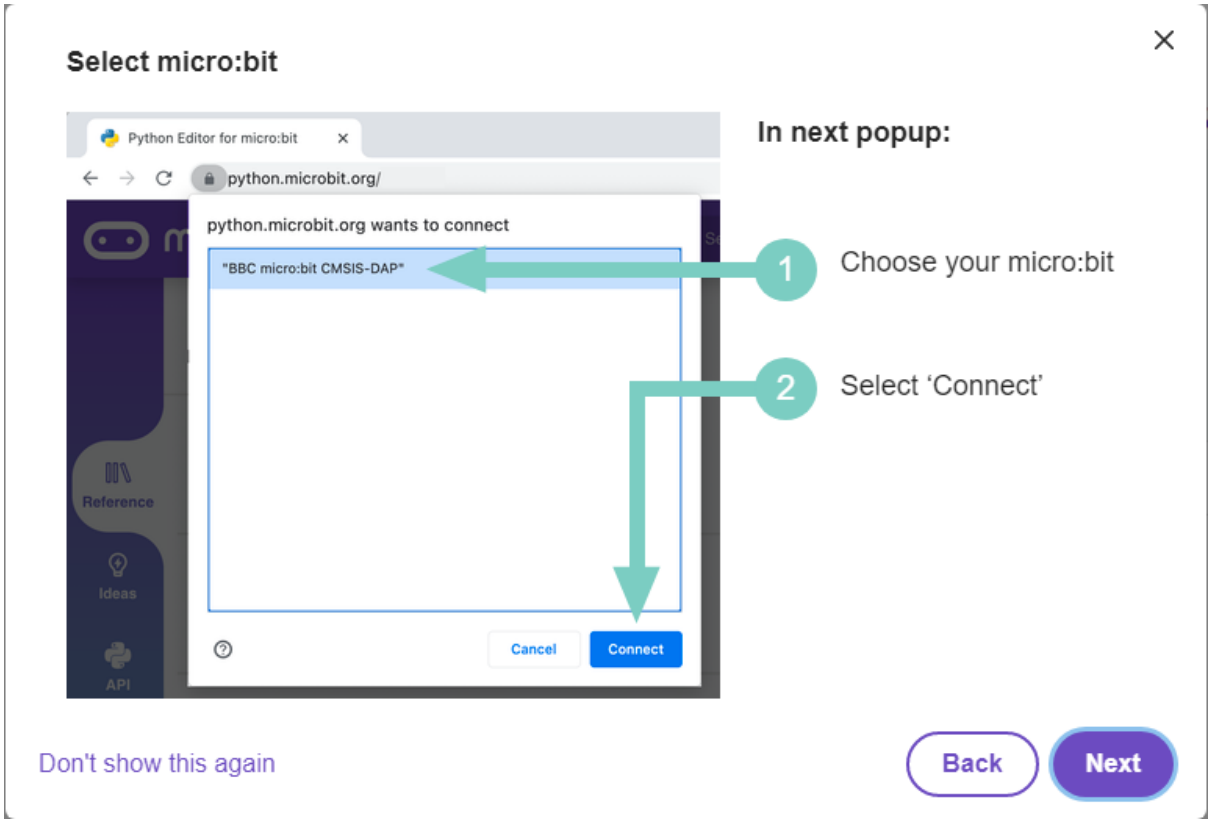


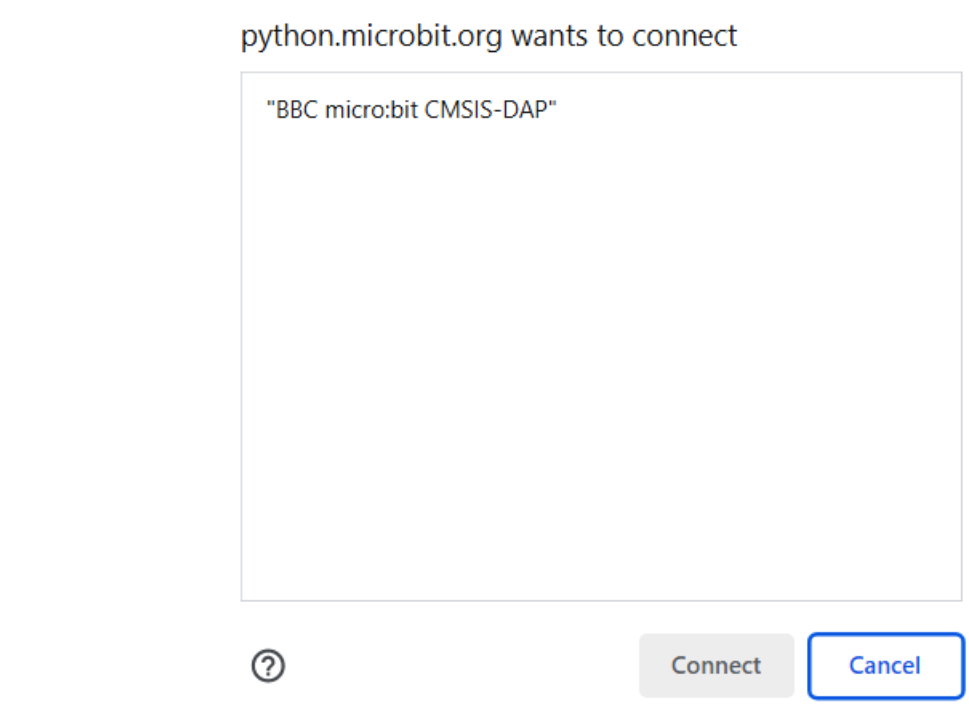
Don't show this again

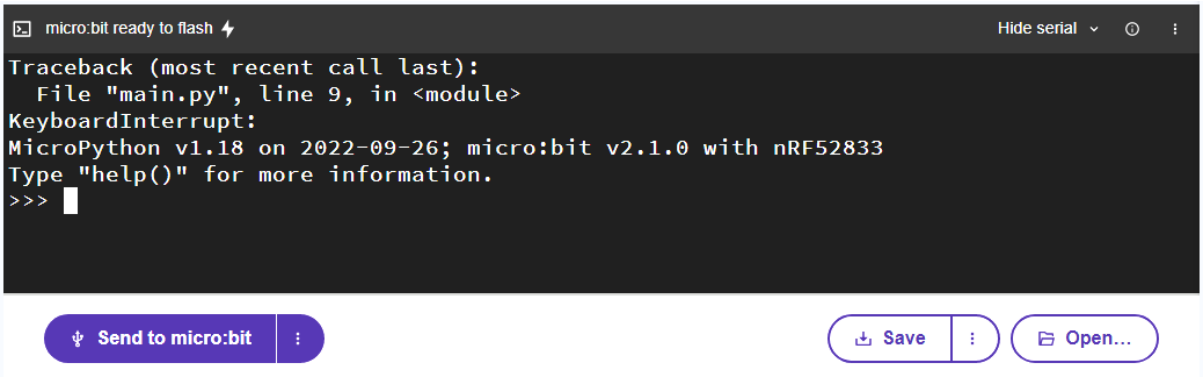
Cancel

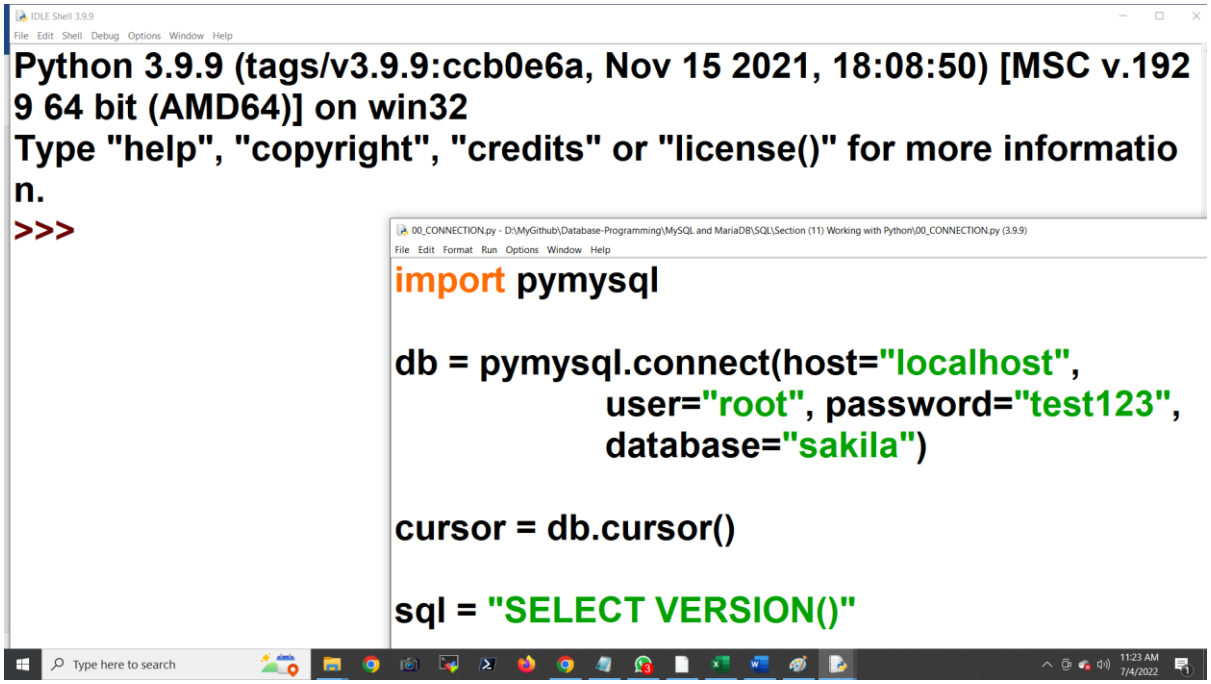
Next

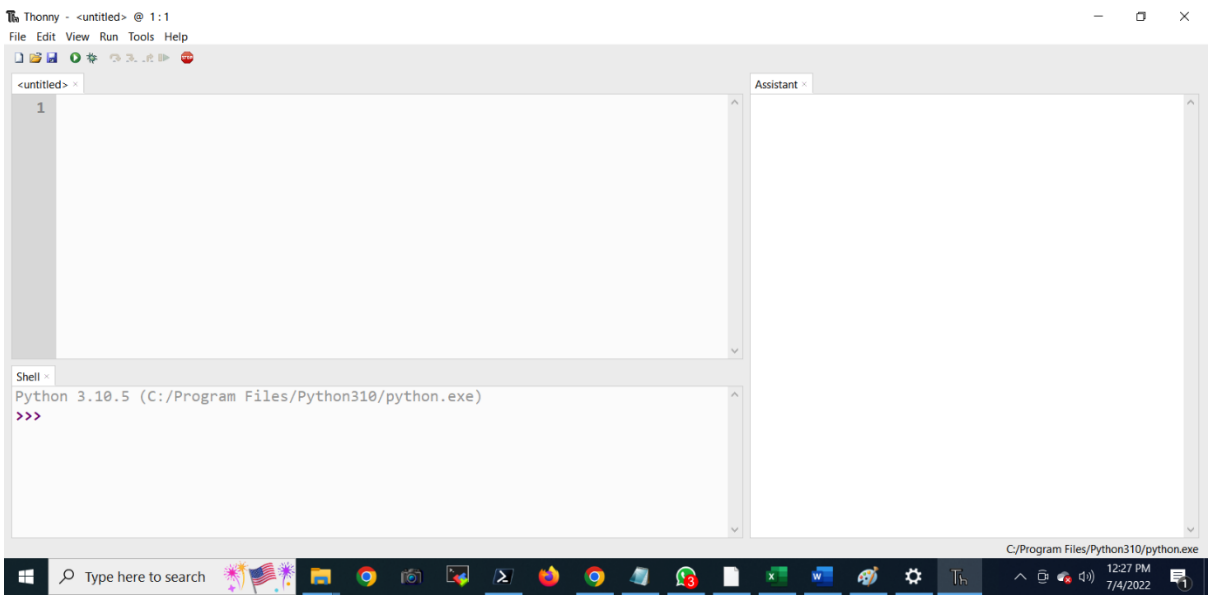

Manage
MICROBIT (F:)
File
Home
Share
View
Drive Tools
Pin to Quick access
Copy
Paste
Cut
Copy path
Paste shortcut
Clipboard
Move to
Copy to
Delete
Rename
Organize
New folder
New item
Easy access
New
Properties
Open
Edit
History
Open
Select all
Select none
Invert selection
Select
This PC
MICROBIT (F:)
Search MICROBIT (F:)
personal stuff
PythonOOP
RPiSupercomputer
RPiTips
Screenshots
Useful stuff
Name
Date modified
Type
Size
ASSERT.TXT
3/22/2016 4:30 PM
Text Document
DETAILS.TXT
3/22/2016 4:30 PM
Text Document
MICROBIT.HTM
3/22/2016 4:30 PM
Chrome HTML Do...
3 items

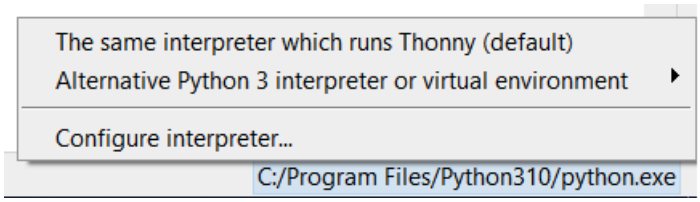

Select micro:bit
Python Editor for micro:bit
python.microbit.org/
python.microbit.org wants to connect
"BBC micro:bit CMSIS-DAP"
Cancel
Connect
Reference
Ideas
API
In next popup:
1
Choose your micro:bit
2
Select 'Connect'
Don't show this again
Back
Next

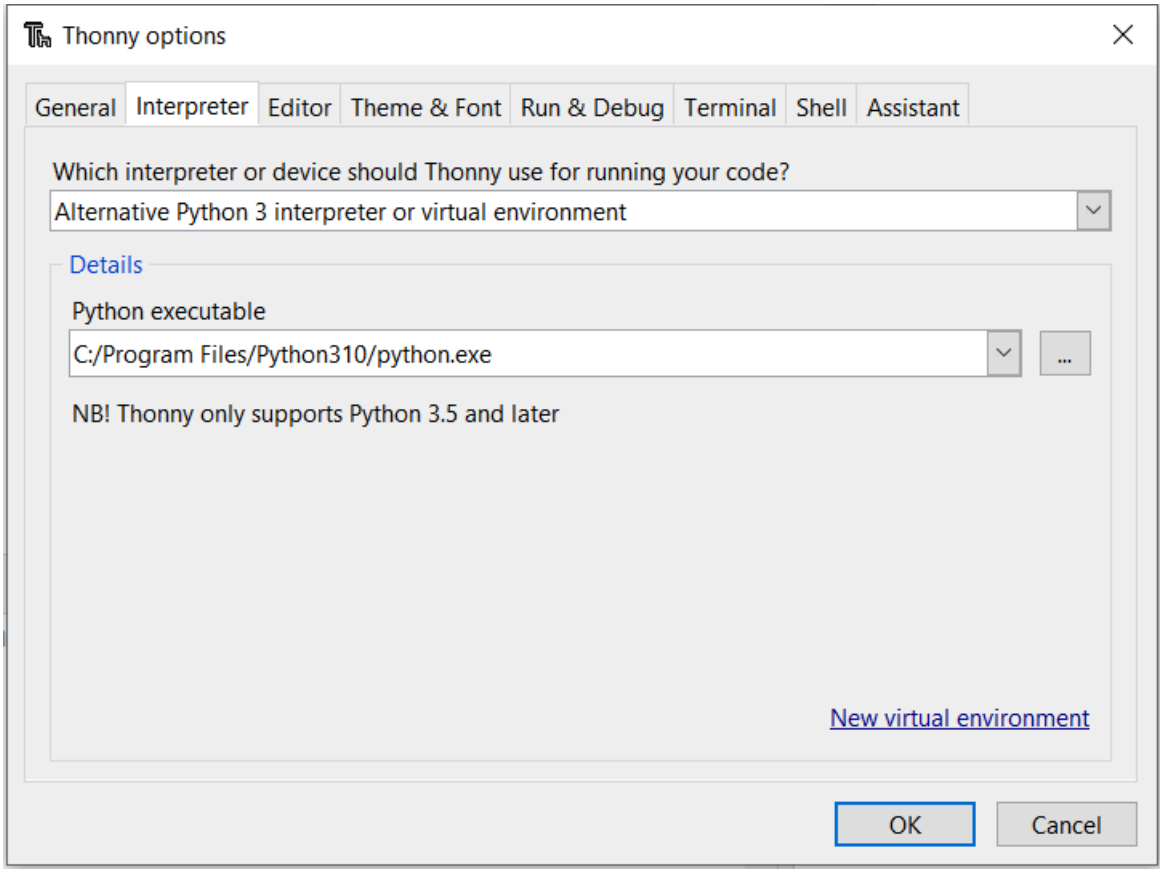

python.microbit.org wants to connect
"BBC micro:bit CMSIS-DAP"
Connect
Cancel

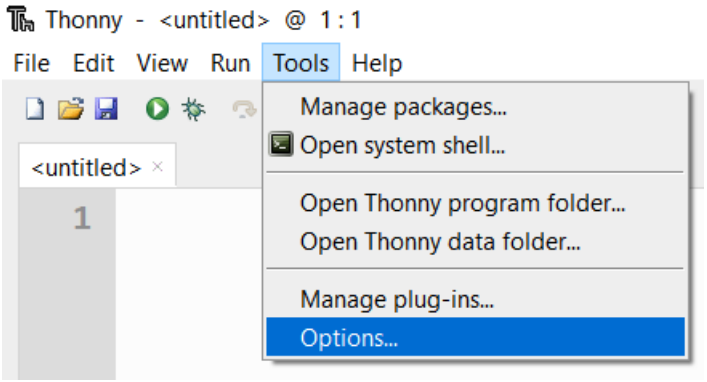

micro:bit ready to flash
Hide serial
Traceback (most recent call last):
File "main.py", line 9, in <module>
KeyboardInterrupt:
MicroPython v1.18 on 2022-09-26; micro:bit v2.1.0 with nRF52833
Type "help()" for more information.
>>>
Send to micro:bit
Save
Open...

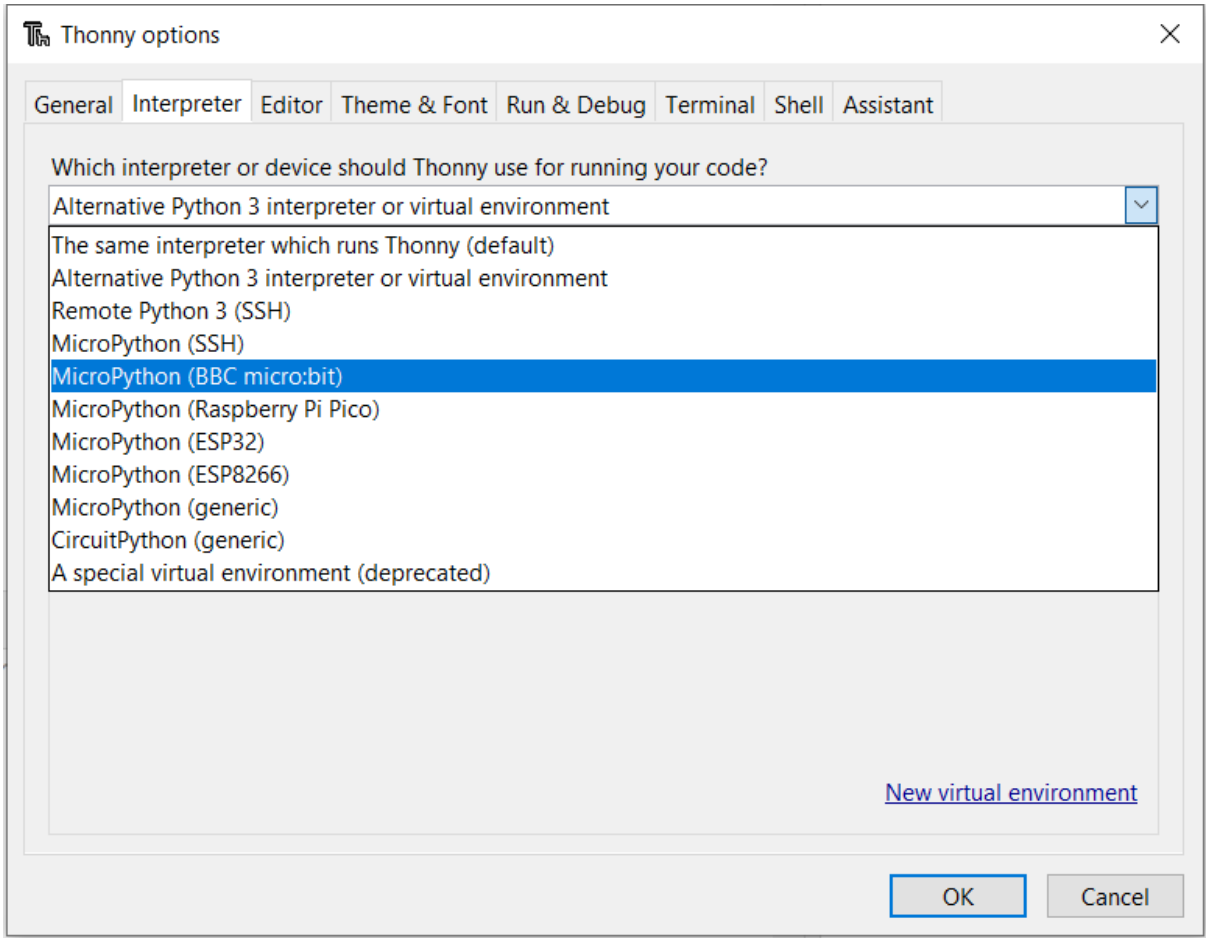

IDLE Shell 3.9.9
File Edit Shell Debug Options Window Help
Python 3.9.9 (tags/v3.9.9:ccb0e6a, Nov 15 2021, 18:08:50) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
00_CONNECTION.py - D:\MyGithub\Database-Programming\MySQL and MariaDB\SQL\Section (11) Working with Python\00_CONNECTION.py (3.9.9)
File Edit Format Run Options Window Help
import pymysql
db = pymysql.connect(host="localhost",
user="root", password="test123",
database="sakila")
cursor = db.cursor()
sql = "SELECT VERSION()"
Type here to search
11:23 AM
7/4/2022

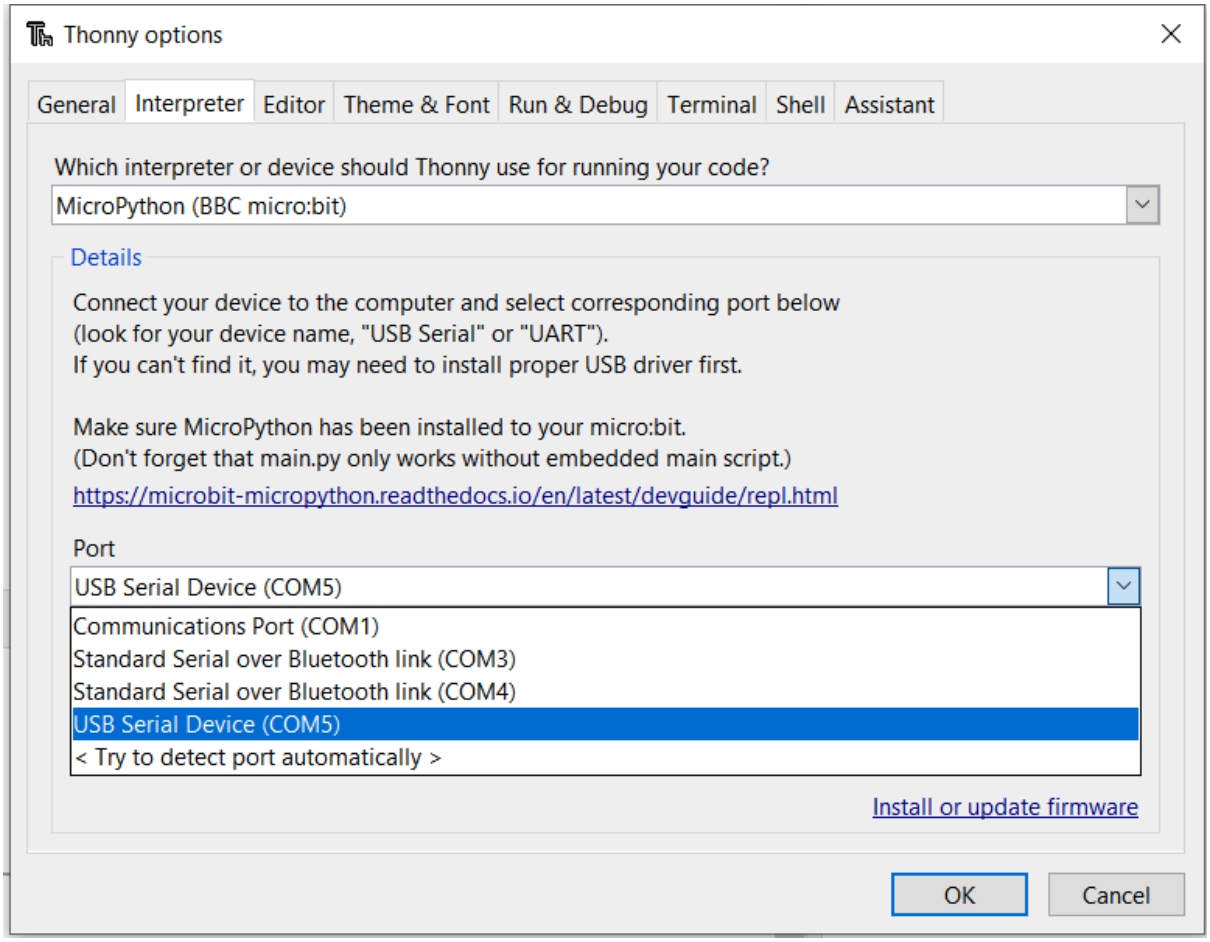

Thonny - <untitled> @ 1 : 1
File Edit View Run Tools Help
<untitled>
Assistant
Shell
Python 3.10.5 (C:/Program Files/Python310/python.exe)
>>>
C:/Program Files/Python310/python.exe
Type here to search
12:27 PM
7/4/2022

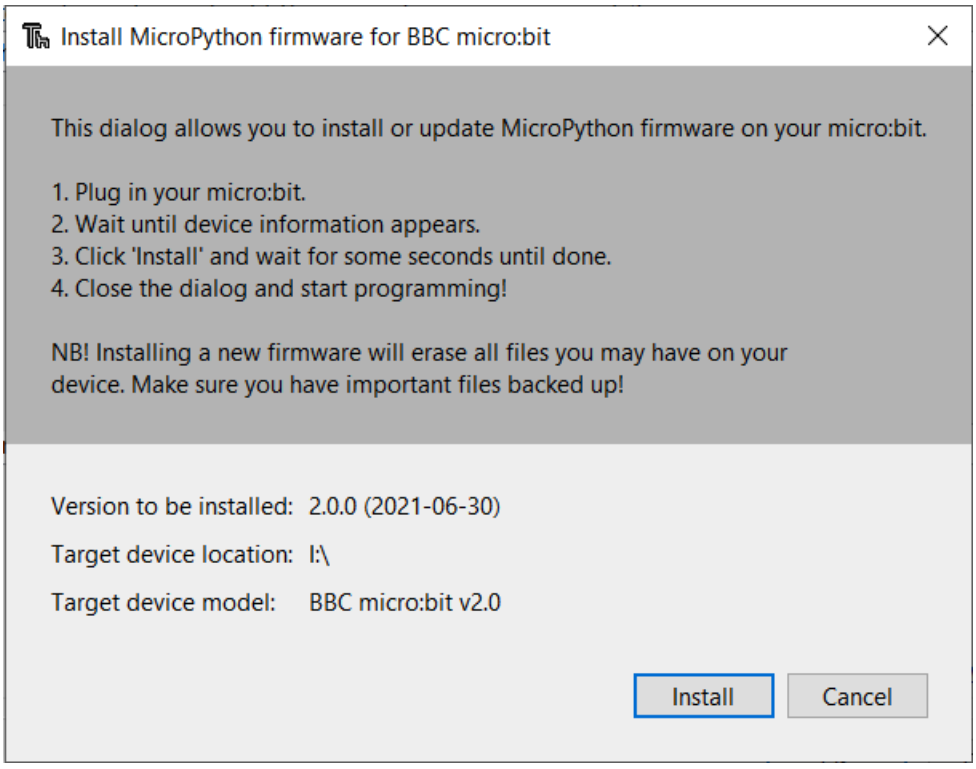

The same interpreter which runs Thonny (default)
Alternative Python 3 interpreter or virtual environment
Configure interpreter...
C:/Program Files/Python310/python.exe


Thonny options
General
Interpreter
Editor
Theme & Font
Run & Debug
Terminal
Shell
Assistant
Which interpreter or device should Thonny use for running your code?
Alternative Python 3 interpreter or virtual environment
Details
Python executable
C:/Program Files/Python310/python.exe
...
NB! Thonny only supports Python 3.5 and later
New virtual environment
OK
Cancel

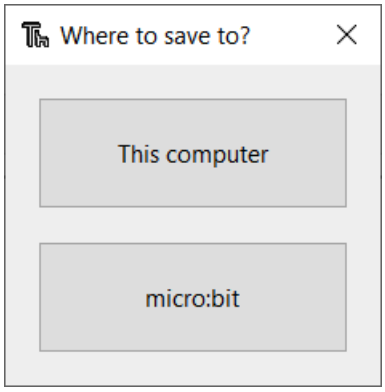

Thonny - <untitled> @ 1 : 1
File
Edit
View
Run
Tools
Help
<untitled>
1
Manage packages...
Open system shell...
Open Thonny program folder...
Open Thonny data folder...
Manage plug-ins...
Options...

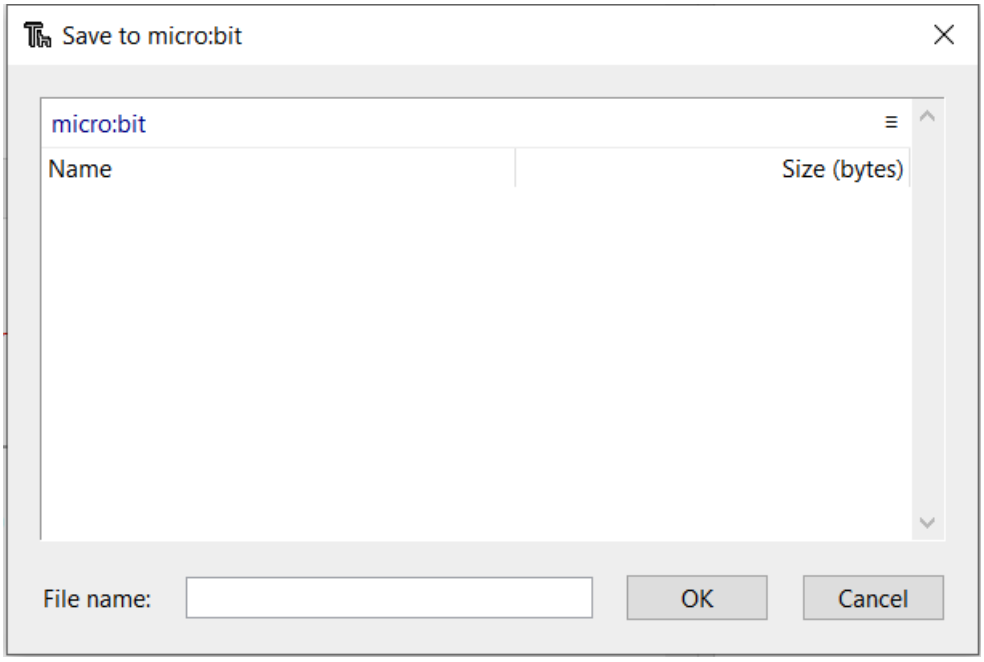

Thonny options
General
Interpreter
Editor
Theme & Font
Run & Debug
Terminal
Shell
Assistant
Which interpreter or device should Thonny use for running your code?
Alternative Python 3 interpreter or virtual environment
The same interpreter which runs Thonny (default)
Alternative Python 3 interpreter or virtual environment
Remote Python 3 (SSH)
MicroPython (SSH)
MicroPython (BBC micro:bit)
MicroPython (Raspberry Pi Pico)
MicroPython (ESP32)
MicroPython (ESP8266)
MicroPython (generic)
CircuitPython (generic)
A special virtual environment (deprecated)
New virtual environment
OK
Cancel

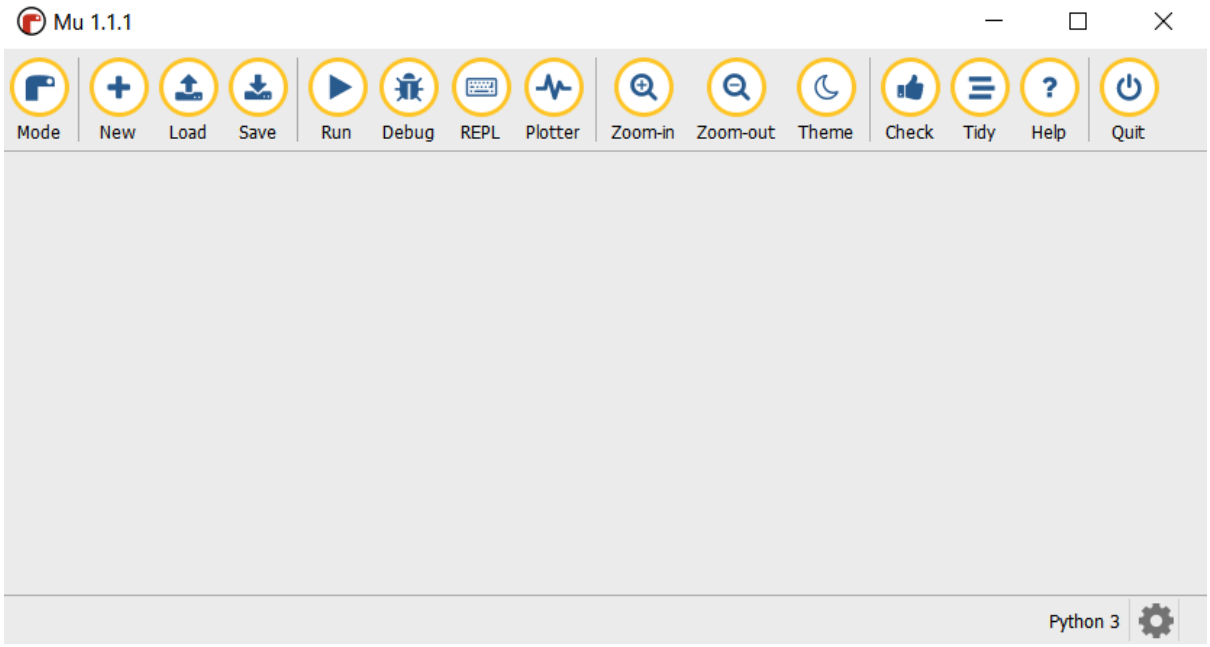

Thonny options
General
Interpreter
Editor
Theme & Font
Run & Debug
Terminal
Shell
Assistant
Which interpreter or device should Thonny use for running your code?
MicroPython (BBC micro:bit)
Details
Connect your device to the computer and select corresponding port below
(look for your device name, "USB Serial" or "UART").
If you can't find it, you may need to install proper USB driver first.
Make sure MicroPython has been installed to your micro:bit.
(Don't forget that main.py only works without embedded main script.)
https://microbit-micropython.readthedocs.io/en/latest/devguide/repl.html
Port
USB Serial Device (COM5)
Communications Port (COM1)
Standard Serial over Bluetooth link (COM3)
Standard Serial over Bluetooth link (COM4)
USB Serial Device (COM5)
< Try to detect port automatically >
Install or update firmware
OK
Cancel

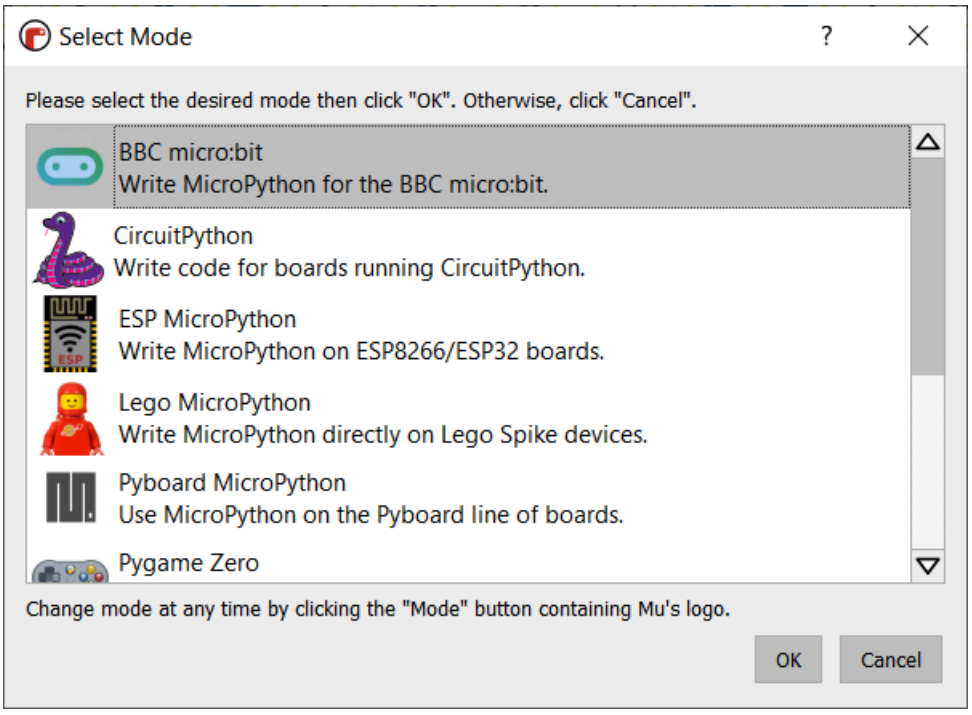

Install MicroPython firmware for BBC micro:bit
This dialog allows you to install or update MicroPython firmware on your micro:bit.
1. Plug in your micro:bit.
2. Wait until device information appears.
3. Click 'Install' and wait for some seconds until done.
4. Close the dialog and start programming!
NB! Installing a new firmware will erase all files you may have on your device. Make sure you have important files backed up!
Version to be installed: 2.0.0 (2021-06-30)
Target device location: I:\
Target device model: BBC micro:bit v2.0
Install
Cancel

```
MicroPython v1.15-64-g1e2f0d280 on 2021-06-30; micro:bit v2.0.0 with nRF52833
Type "help()" for more information.
>>>
```





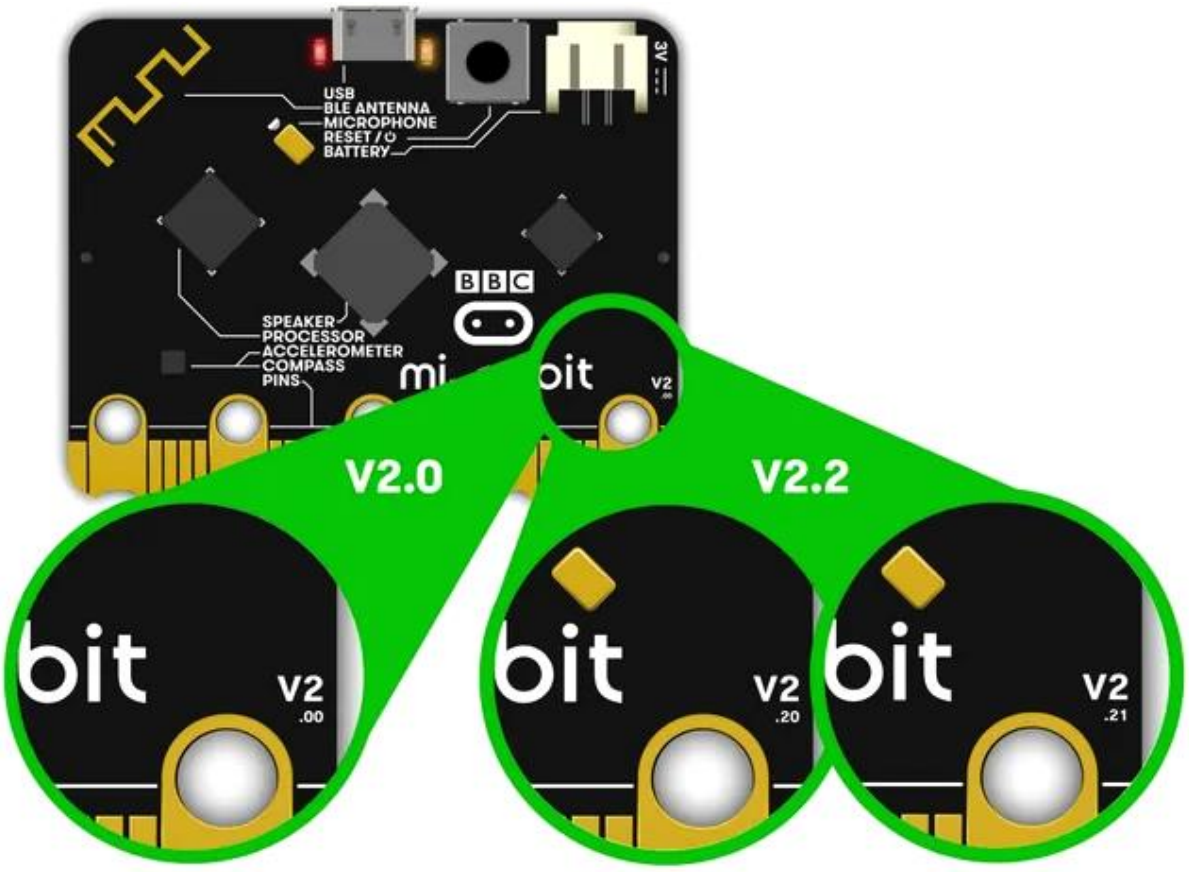

Mu 1.1.1
Mode
New
Load
Save
Run
Debug
REPL
Plotter
Zoom-in
Zoom-out
Theme
Check
Tidy
Help
Quit
Python 3

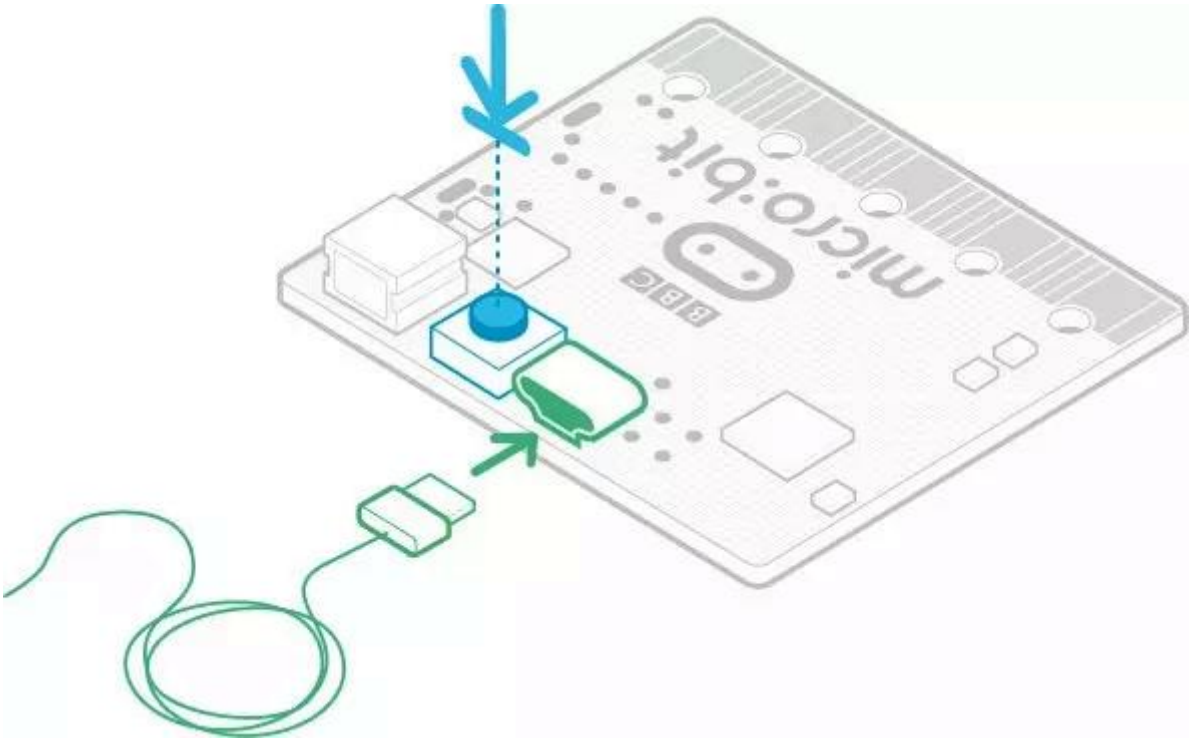

Select Mode
Please select the desired mode then click "OK". Otherwise, click "Cancel".
BBC micro:bit
Write MicroPython for the BBC micro:bit.
CircuitPython
Write code for boards running CircuitPython.
ESP MicroPython
Write MicroPython on ESP8266/ESP32 boards.
Lego MicroPython
Write MicroPython directly on Lego Spike devices.
Pyboard MicroPython
Use MicroPython on the Pyboard line of boards.
Pygame Zero
Change mode at any time by clicking the "Mode" button containing Mu's logo.
OK
Cancel

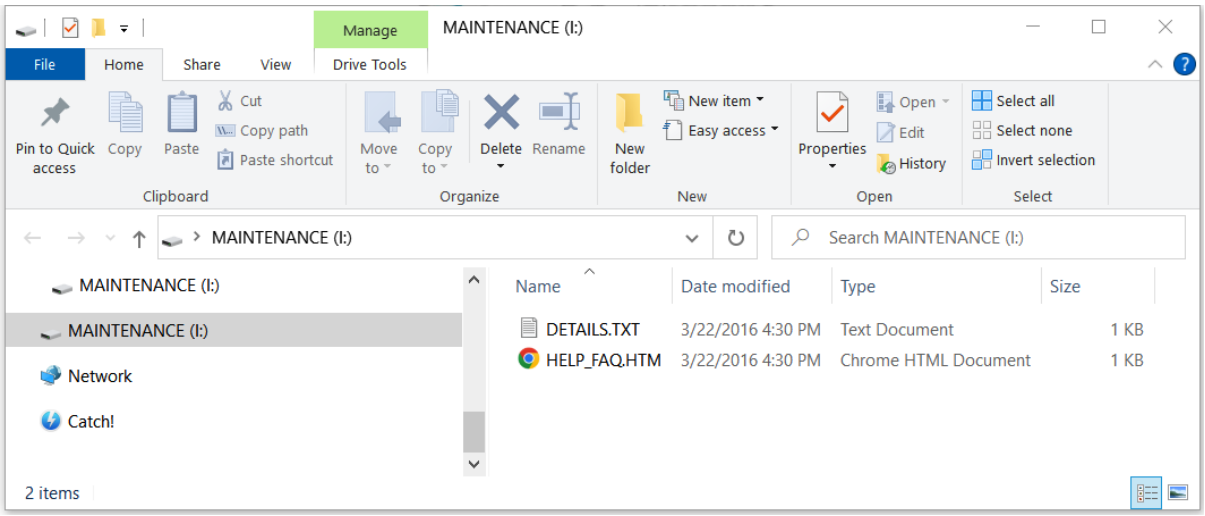
USB
BLE ANTENNA
MICROPHONE
RESET / ⏻
BATTERY
3V
SPEAKER
PROCESSOR
ACCELEROMETER
COMPASS
PINS
BBC
micro:bit
V2
.00
USB
BLE ANTENNA
RESET
BATTERY
PROCESSOR
COMPASS
ACCELEROMETER
PINS
BBC
micro:bit
V1.5

V2
.00

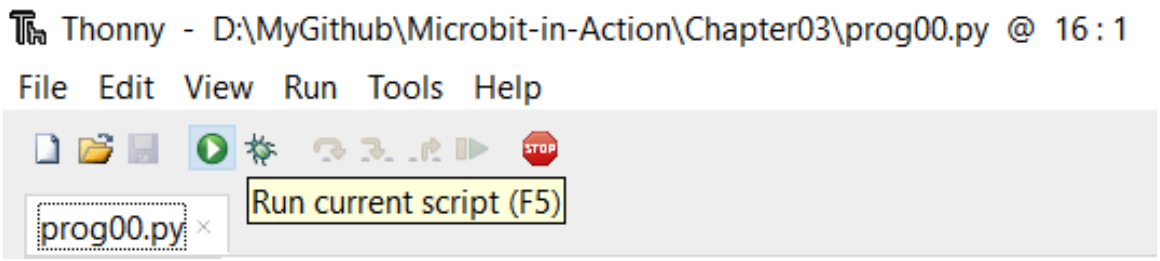
V1.5

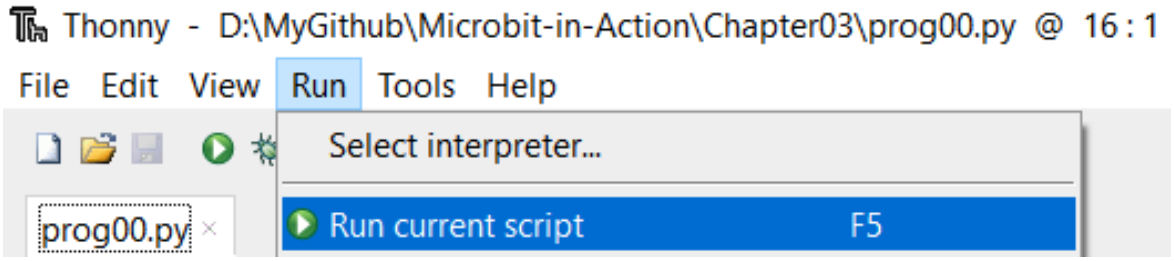

USB
BLE ANTENNA
MICROPHONE
RESET / ⏻
BATTERY
3V
SPEAKER
PROCESSOR
ACCELEROMETER
COMPASS
PINS
BBC
V2.0
V2.2
bit
V2
.00
bit
V2
.20
bit
V2
.21


micro:bit


Manage
MAINTENANCE (I:)
File
Home
Share
View
Drive Tools
Pin to Quick access
Copy
Paste
Cut
Copy path
Paste shortcut
Clipboard
Move to
Copy to
Delete
Rename
Organize
New folder
New item
Easy access
New
Properties
Open
Edit
History
Open
Select all
Select none
Invert selection
Select
MAINTENANCE (I:)
Search MAINTENANCE (I:)
MAINTENANCE (I:)
MAINTENANCE (I:)
Network
Catch!
Name
Date modified
Type
Size
DETAILS.TXT
3/22/2016 4:30 PM
Text Document
1 KB
HELP_FAQ.HTM
3/22/2016 4:30 PM
Chrome HTML Document
1 KB
2 items

Chapter 3: Basics of Python





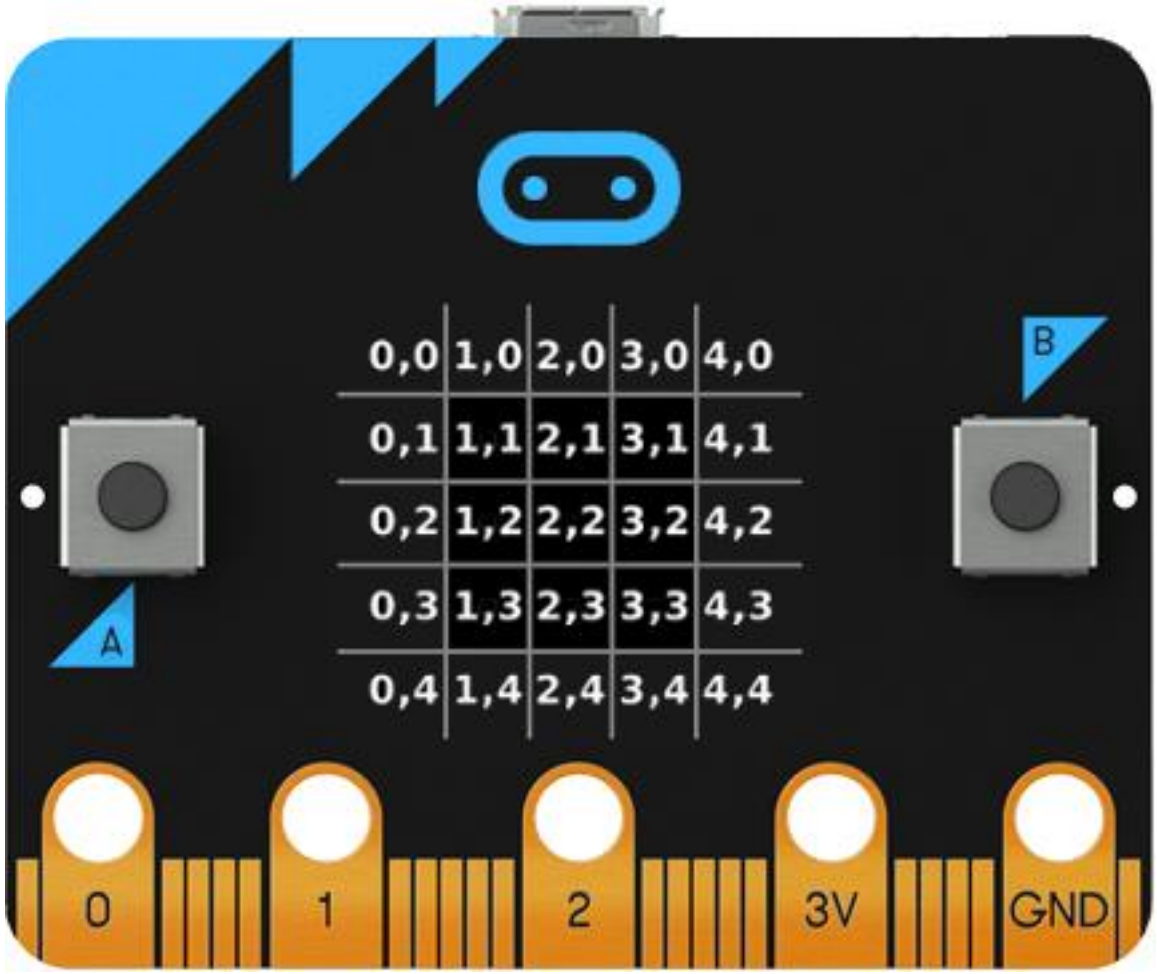

```
>>> print("Hello, World!")
 Hello, World!
>>>
```

Chapter 4: Advanced Python

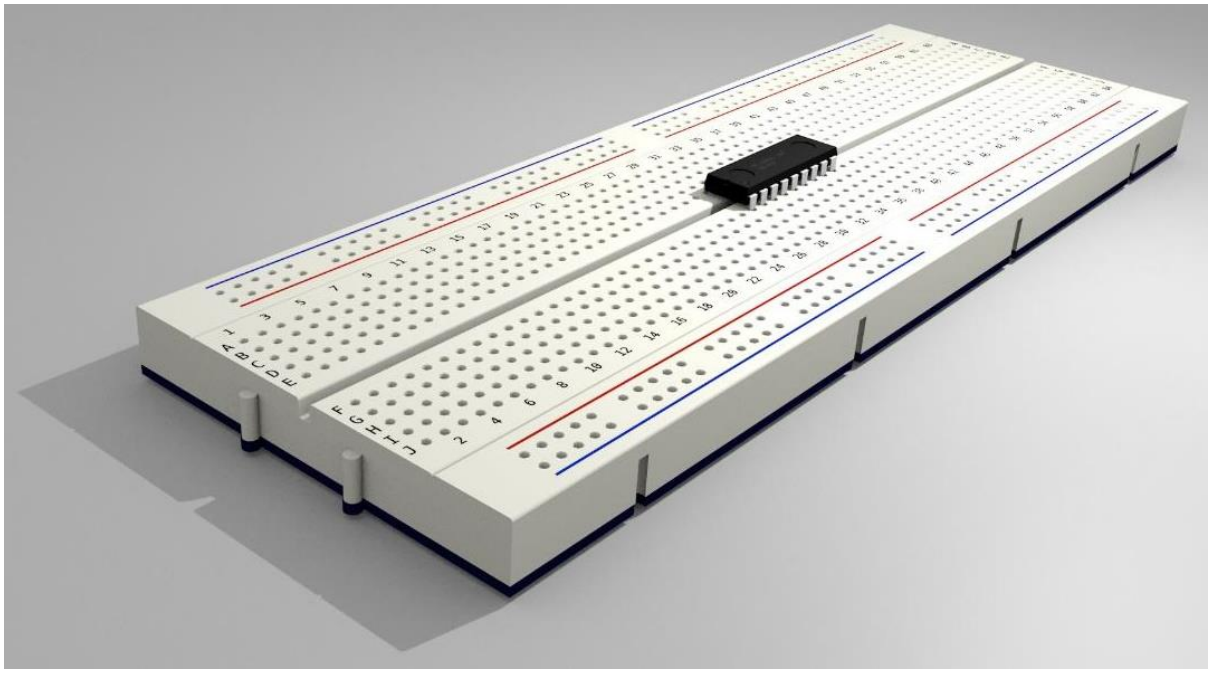
```
>>> help('modules')
__main__            machine             os                  uerrno
antigravity         math                radio               urandom
audio               microbit            speech              ustruct
builtins            micropython         this                usys
gc                  music               uarray              utime
love                neopixel            ucollections
Plus any modules on the filesystem
```

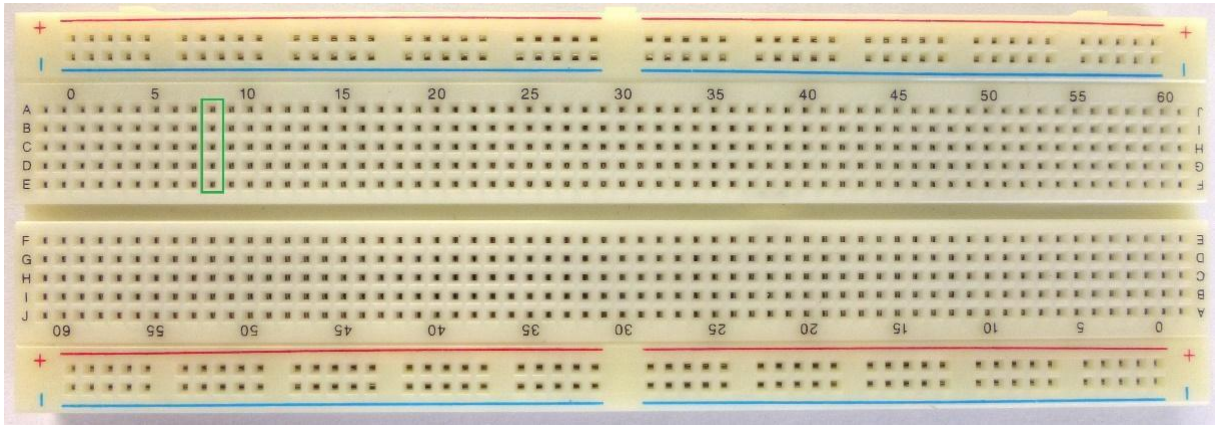
```
>>> help('os')
object os is of type str
  decode -- <function>
  encode -- <function>
  find -- <function>
  rfind -- <function>
  index -- <function>
  rindex -- <function>
  join -- <function>
```

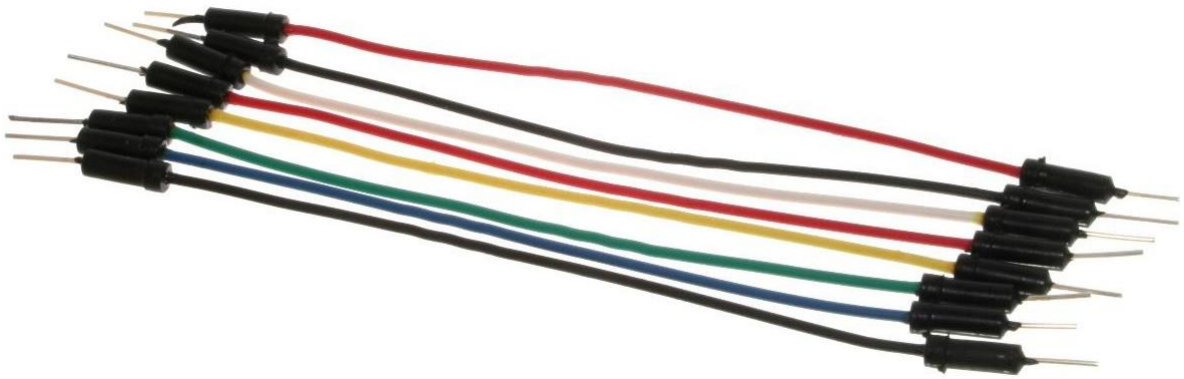
Chapter 5: Built-in LED Matrix Display and Push Buttons

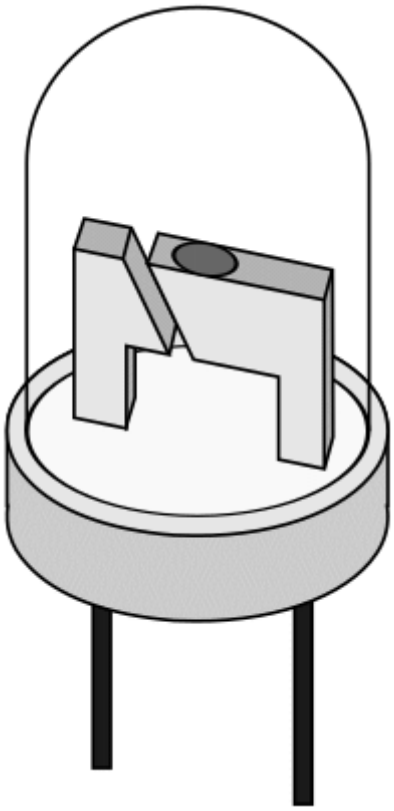


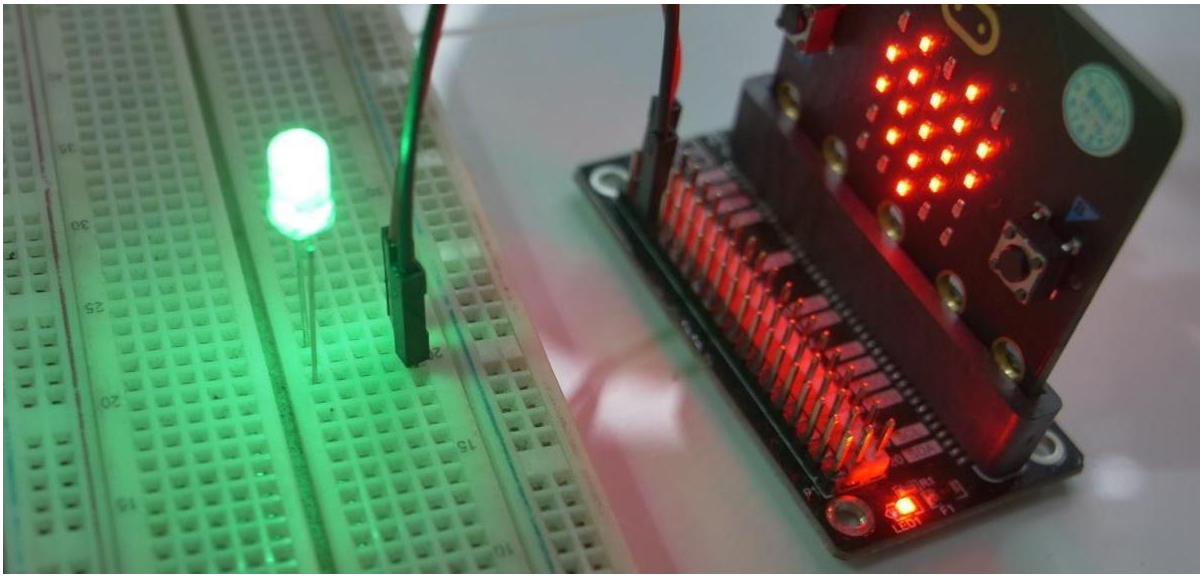
Chapter 6: Interfacing External LEDs

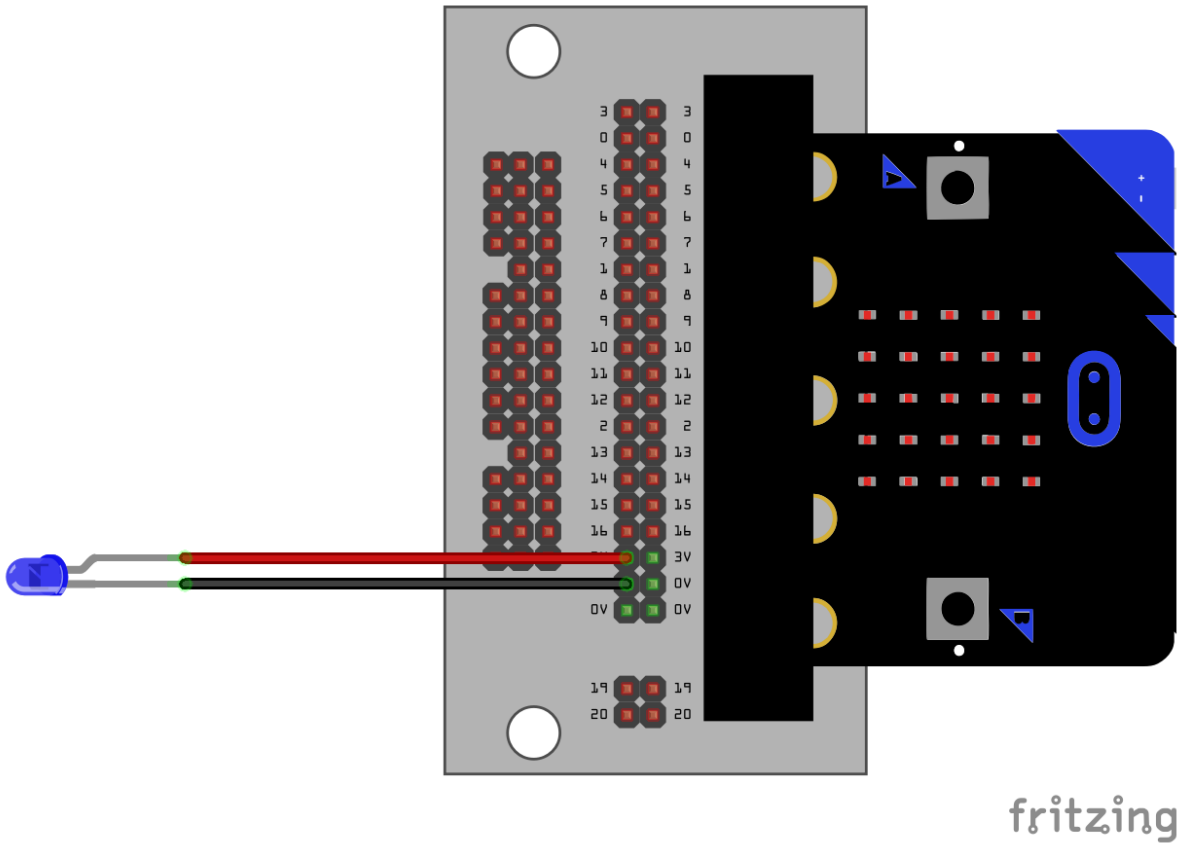








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3V
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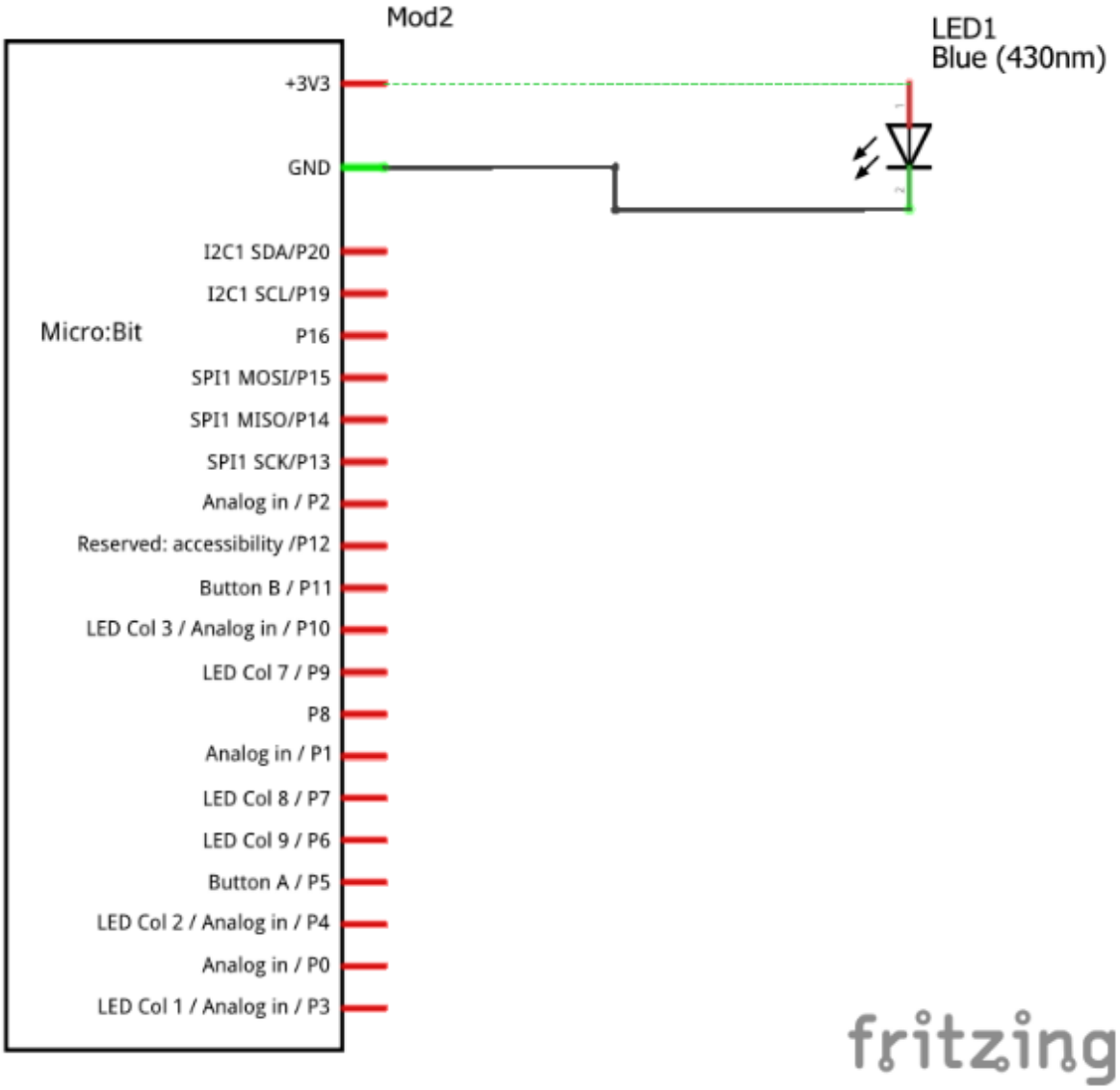
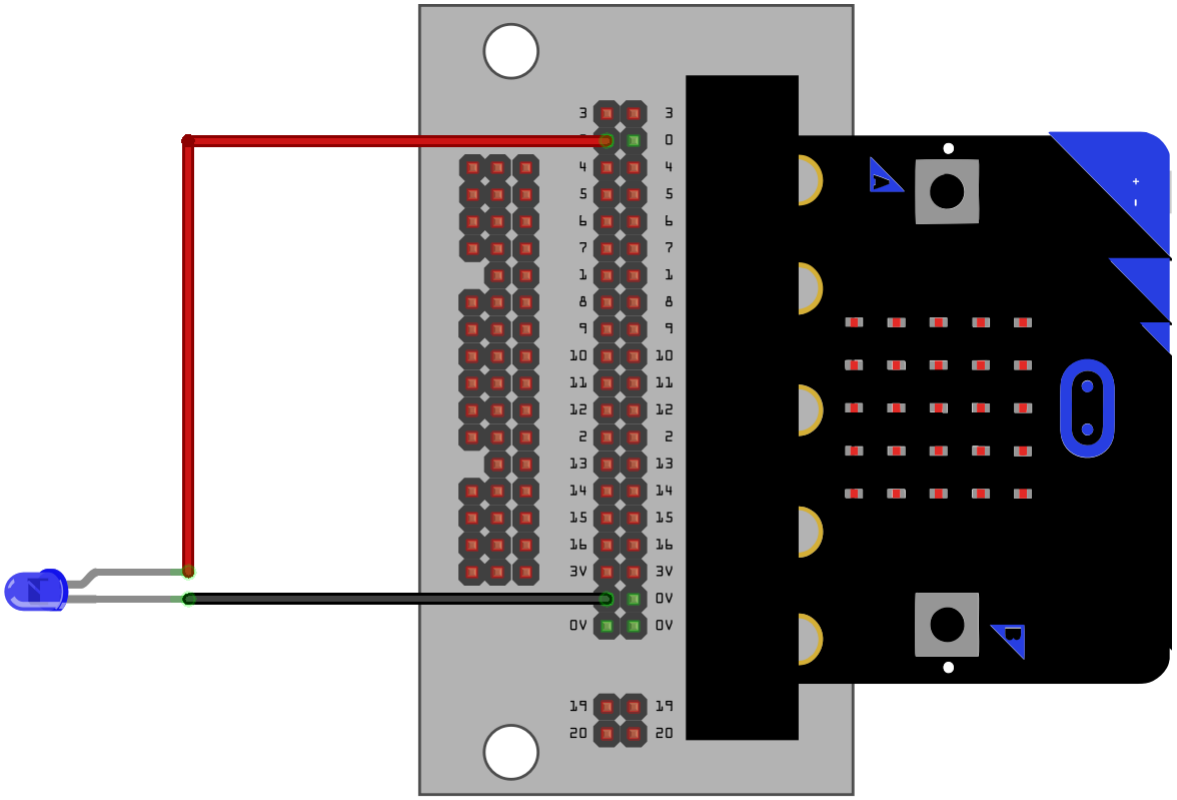
0V
0V
19
20
fritzing


Mod2
LED1
Blue (430nm)
+3V3
GND
I2C1 SDA/P20
I2C1 SCL/P19
Micro:Bit
P16
SPI1 MOSI/P15
SPI1 MISO/P14
SPI1 SCK/P13
Analog in / P2
Reserved: accessibility /P12
Button B / P11
LED Col 3 / Analog in / P10
LED Col 7 / P9
P8
Analog in / P1
LED Col 8 / P7
LED Col 9 / P6
Button A / P5
LED Col 2 / Analog in / P4
Analog in / P0
LED Col 1 / Analog in / P3
fritzing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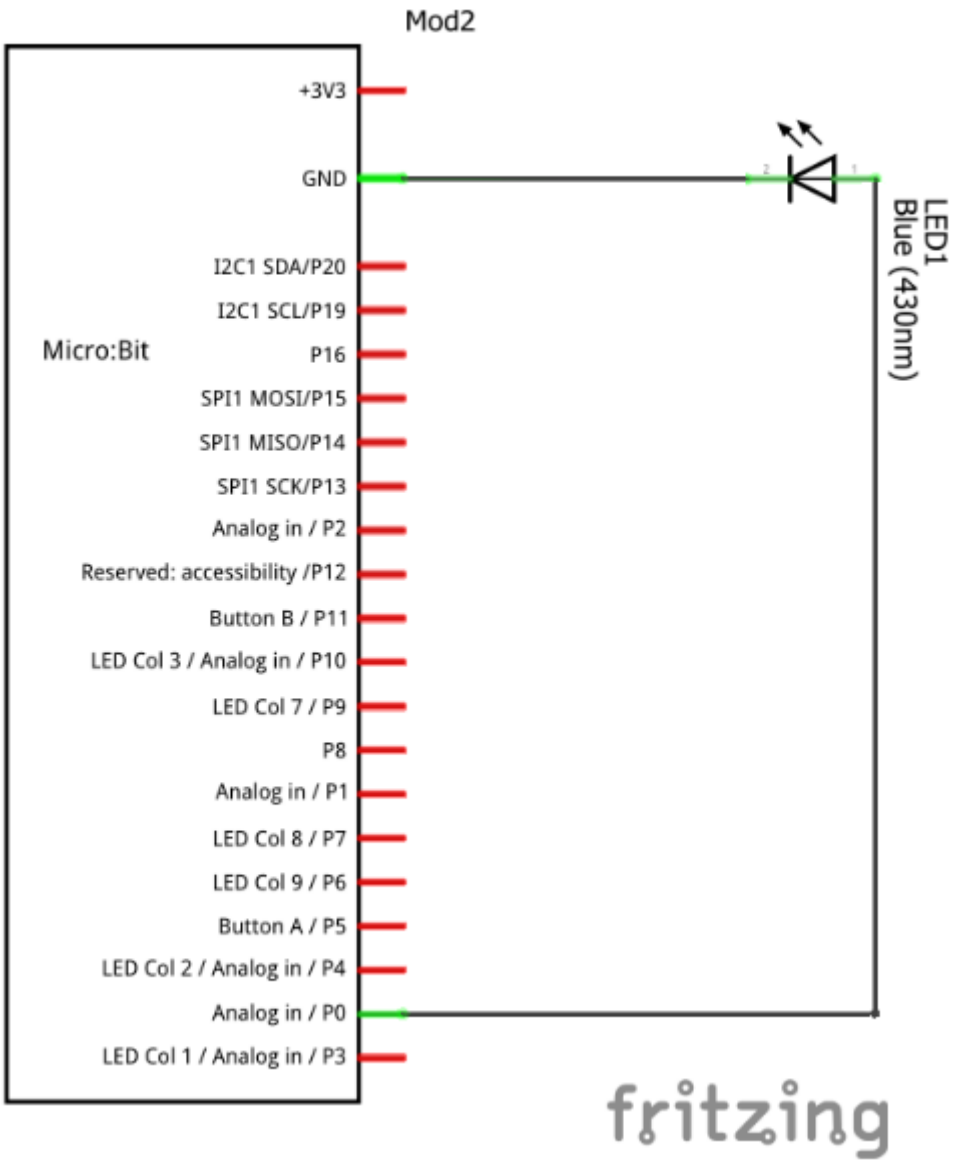
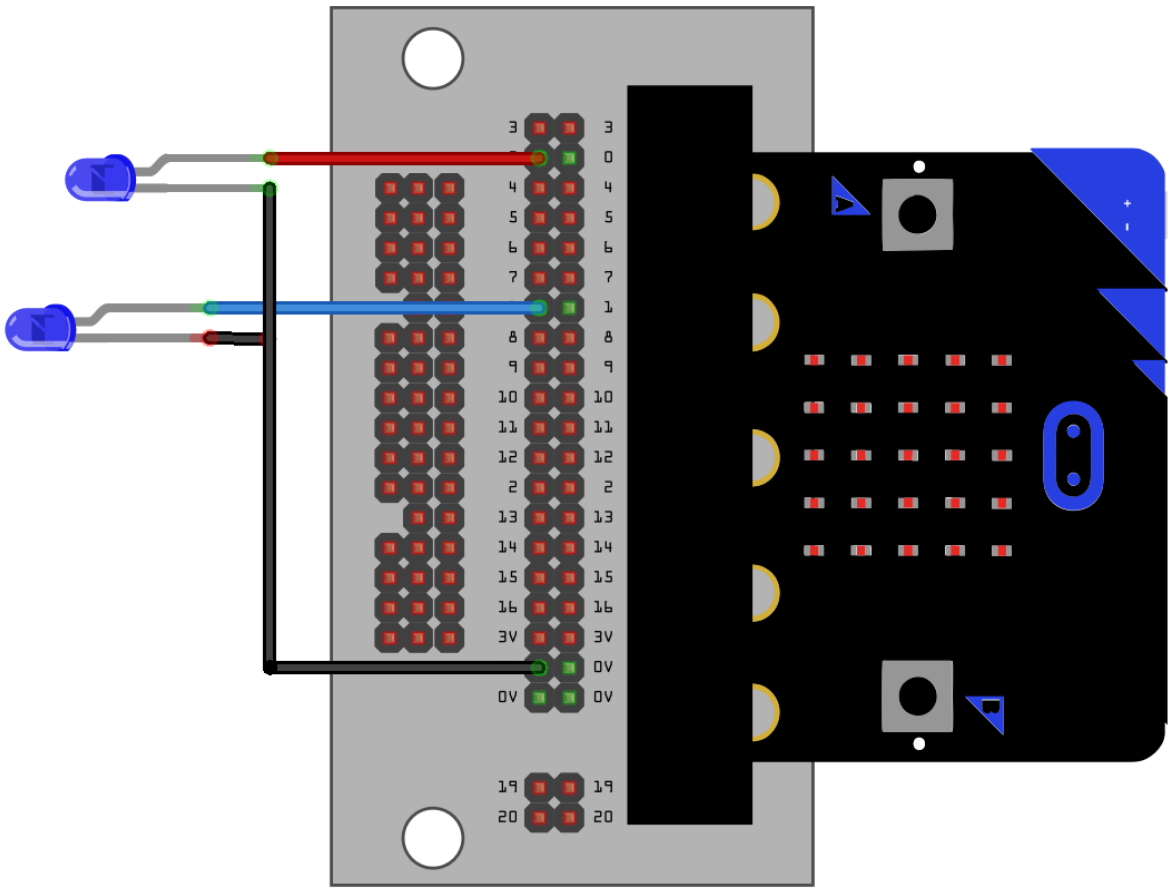
fritzing


Mod2
+3V3
GND
I2C1 SDA/P20
I2C1 SCL/P19
Micro:Bit
P16
SPI1 MOSI/P15
SPI1 MISO/P14
SPI1 SCK/P13
Analog in / P2
Reserved: accessibility /P12
Button B / P11
LED Col 3 / Analog in / P10
LED Col 7 / P9
P8
Analog in / P1
LED Col 8 / P7
LED Col 9 / P6
Button A / P5
LED Col 2 / Analog in / P4
Analog in / P0
LED Col 1 / Analog in / P3
LED1
Blue (430nm)
fritzing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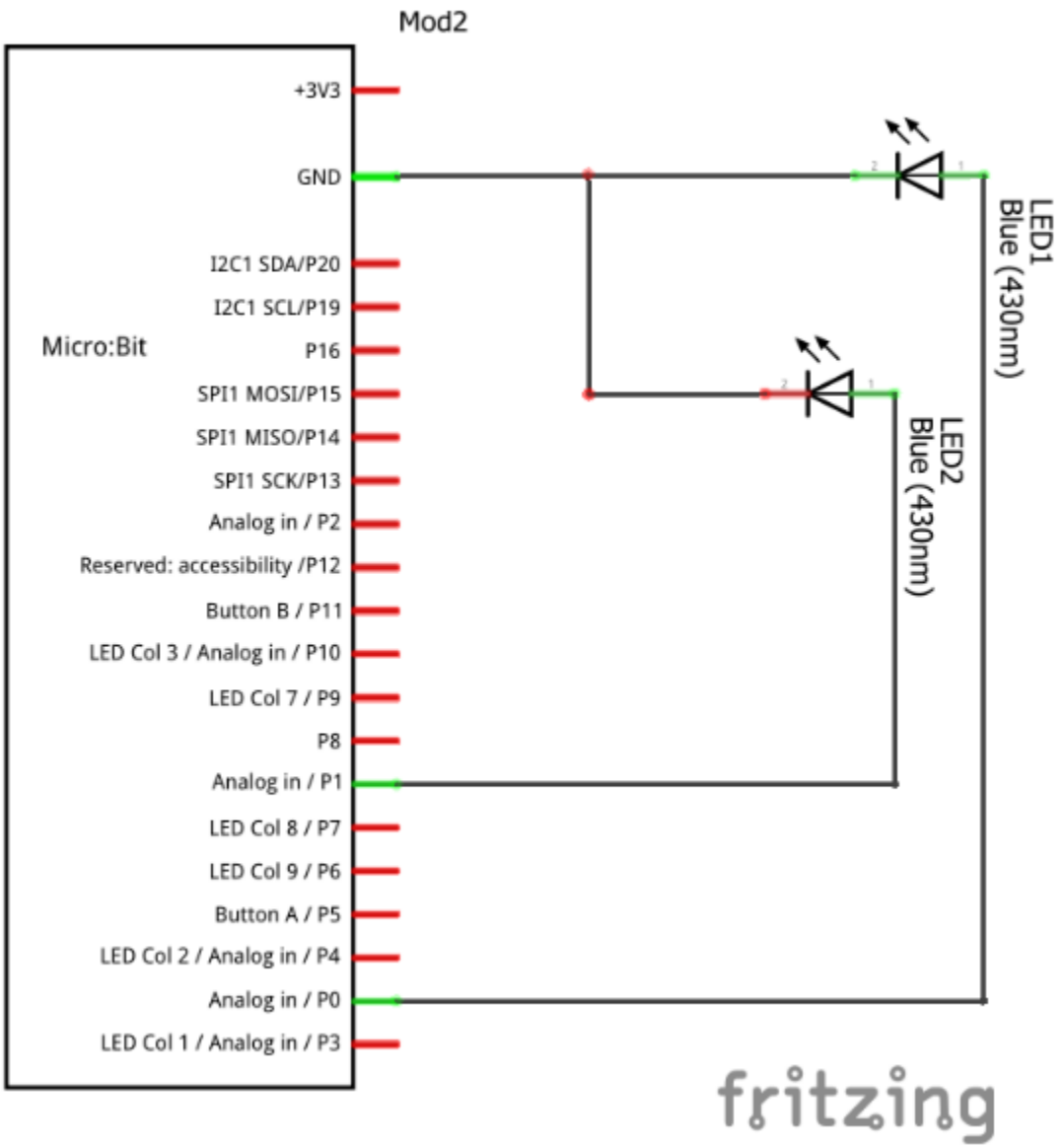
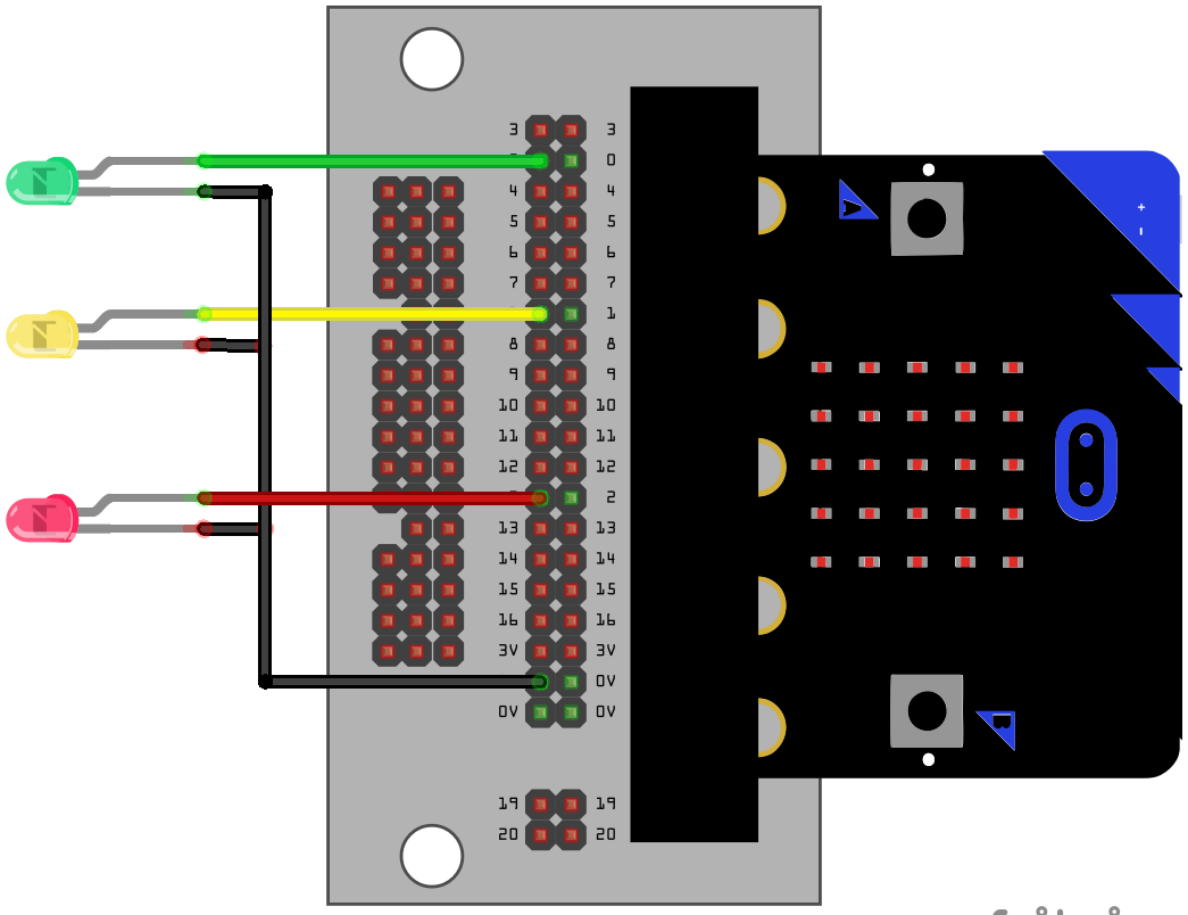
16
3V
0V
0V
19
20
fritzing


Mod2
+3V3
GND
I2C1 SDA/P20
I2C1 SCL/P19
Micro:Bit
P16
SPI1 MOSI/P15
SPI1 MISO/P14
SPI1 SCK/P13
Analog in / P2
Reserved: accessibility /P12
Button B / P11
LED Col 3 / Analog in / P10
LED Col 7 / P9
P8
Analog in / P1
LED Col 8 / P7
LED Col 9 / P6
Button A / P5
LED Col 2 / Analog in / P4
Analog in / P0
LED Col 1 / Analog in / P3
LED1
Blue (430nm)
LED2
Blue (430nm)
fritzing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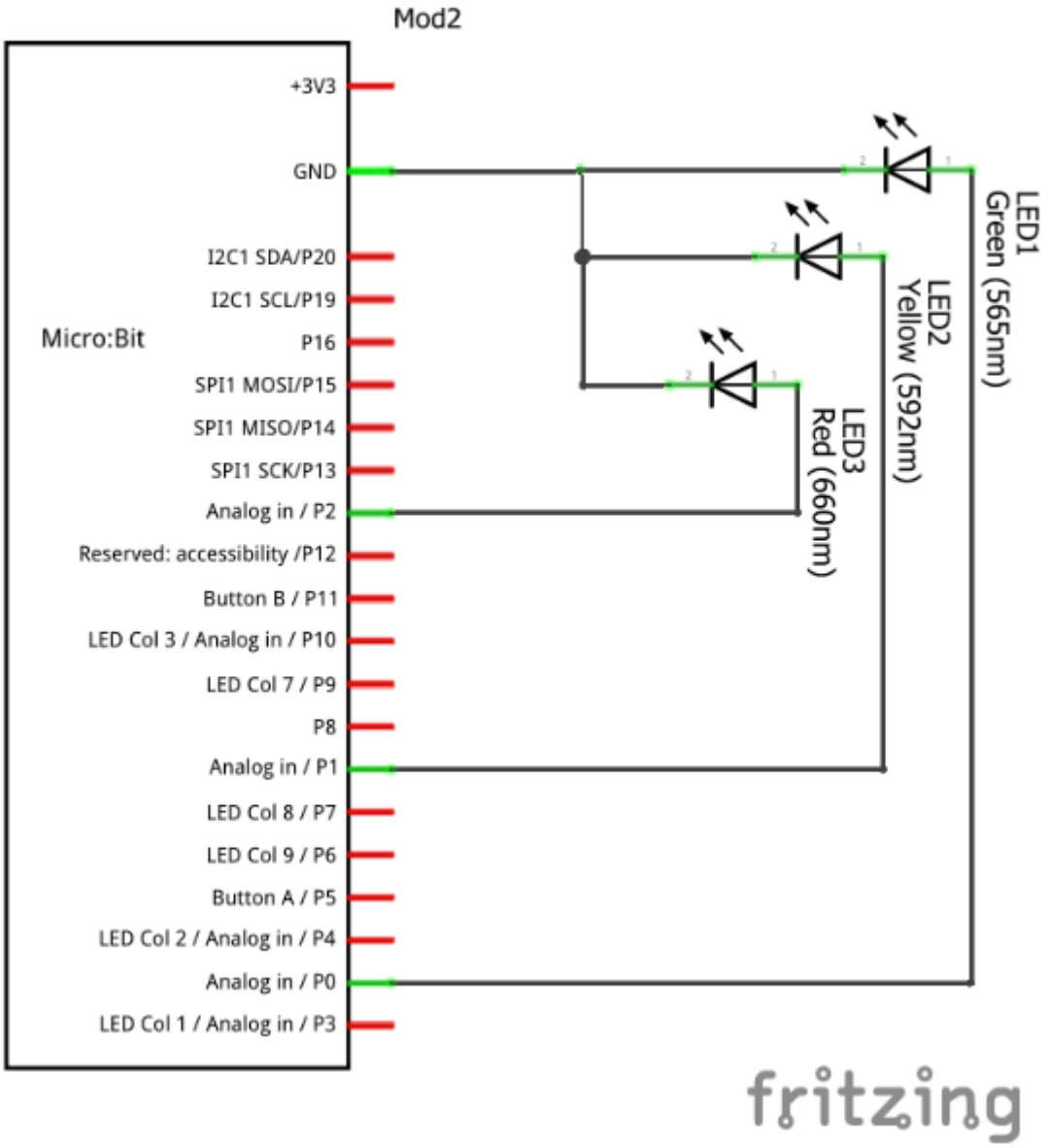
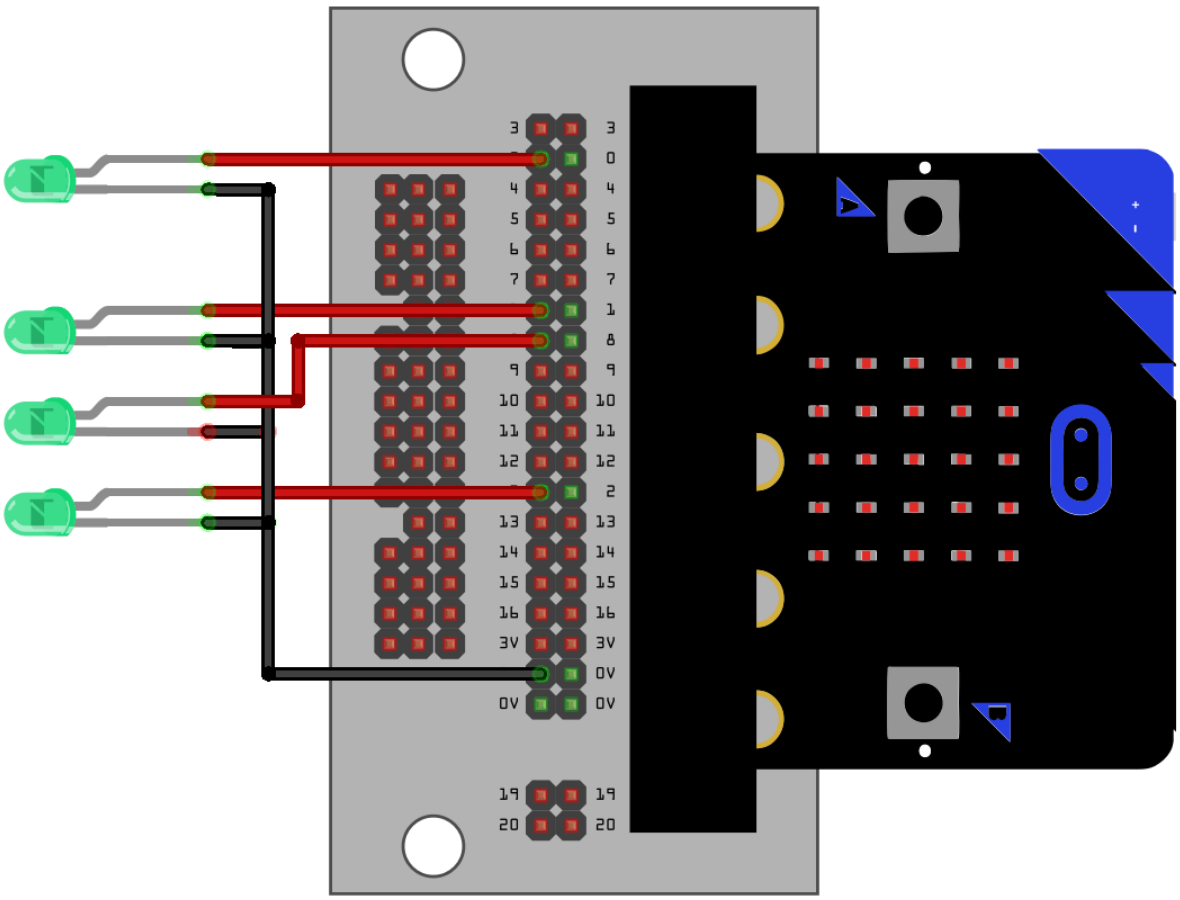
16
3V
0V
0V
19
20
fritzing


Mod2
Micro:Bit
+3V3
GND
I2C1 SDA/P20
I2C1 SCL/P19
P16
SPI1 MOSI/P15
SPI1 MISO/P14
SPI1 SCK/P13
Analog in / P2
Reserved: accessibility /P12
Button B / P11
LED Col 3 / Analog in / P10
LED Col 7 / P9
P8
Analog in / P1
LED Col 8 / P7
LED Col 9 / P6
Button A / P5
LED Col 2 / Analog in / P4
Analog in / P0
LED Col 1 / Analog in / P3
LED1
Green (565nm)
LED2
Yellow (592nm)
LED3
Red (660nm)
fritzing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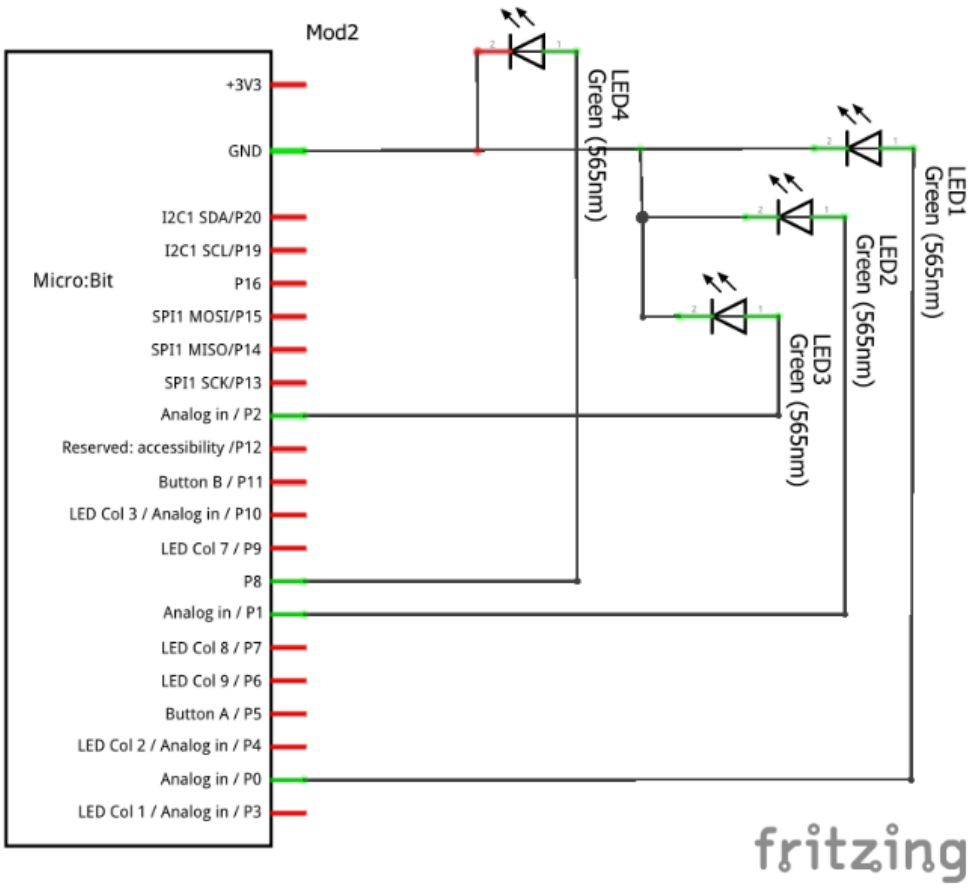
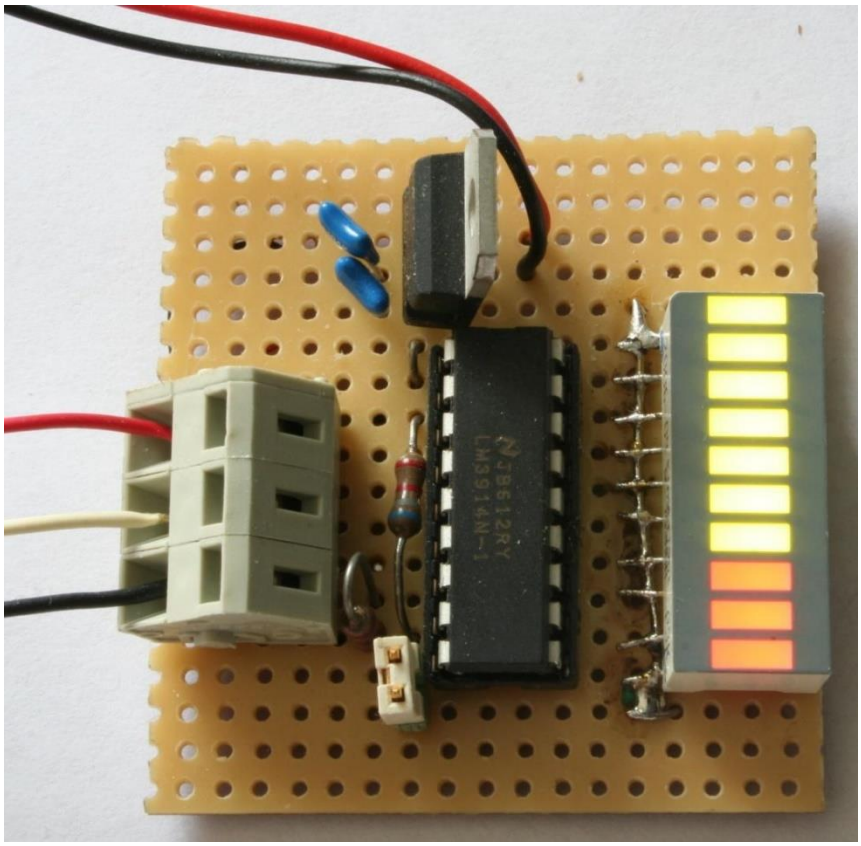
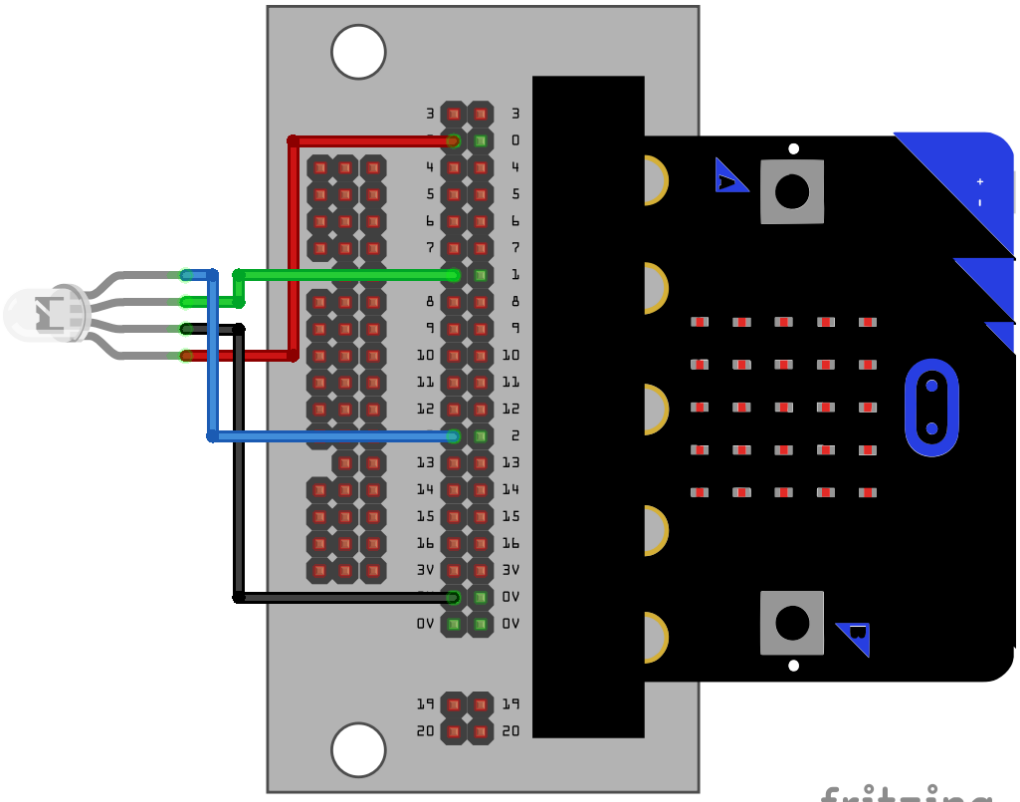
16
3V
0V
0V
19
20
fritzing


Mod2
+3V3
GND
I2C1 SDA/P20
I2C1 SCL/P19
Micro:Bit
P16
SPI1 MOSI/P15
SPI1 MISO/P14
SPI1 SCK/P13
Analog in / P2
Reserved: accessibility /P12
Button B / P11
LED Col 3 / Analog in / P10
LED Col 7 / P9
P8
Analog in / P1
LED Col 8 / P7
LED Col 9 / P6
Button A / P5
LED Col 2 / Analog in / P4
Analog in / P0
LED Col 1 / Analog in / P3
LED4 Green (565nm)
LED1 Green (565nm)
LED2 Green (565nm)
LED3 Green (565nm)
fritzing

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16
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0V
0V
19
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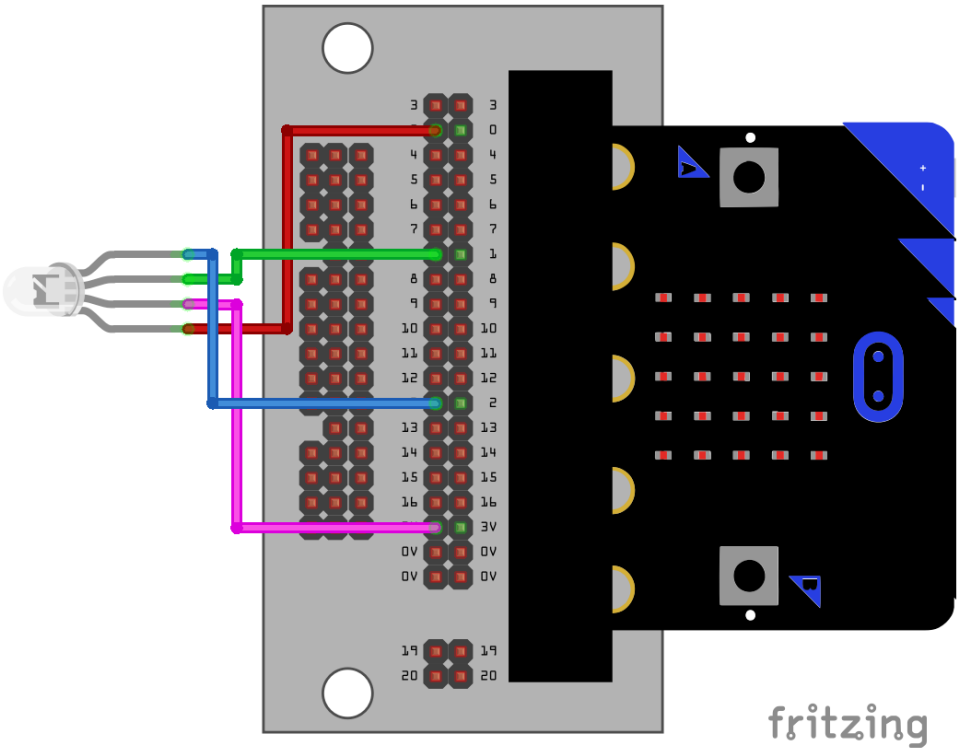
fritzing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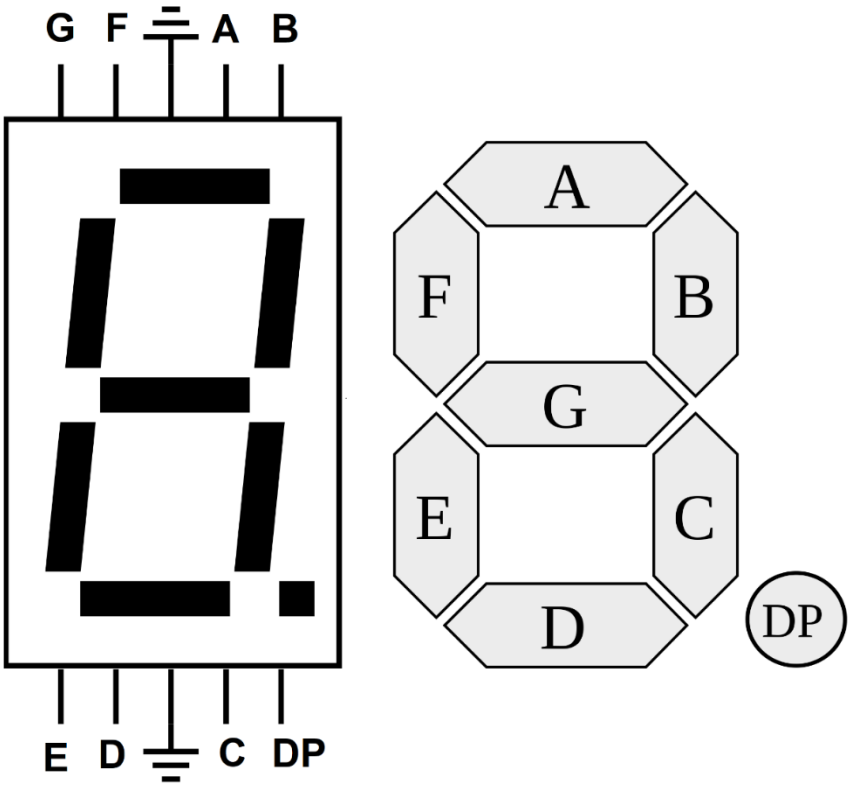
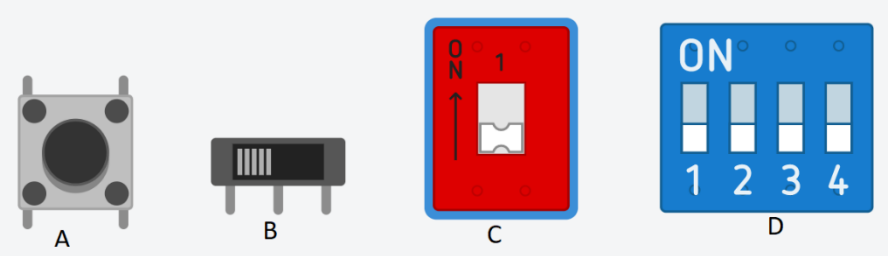
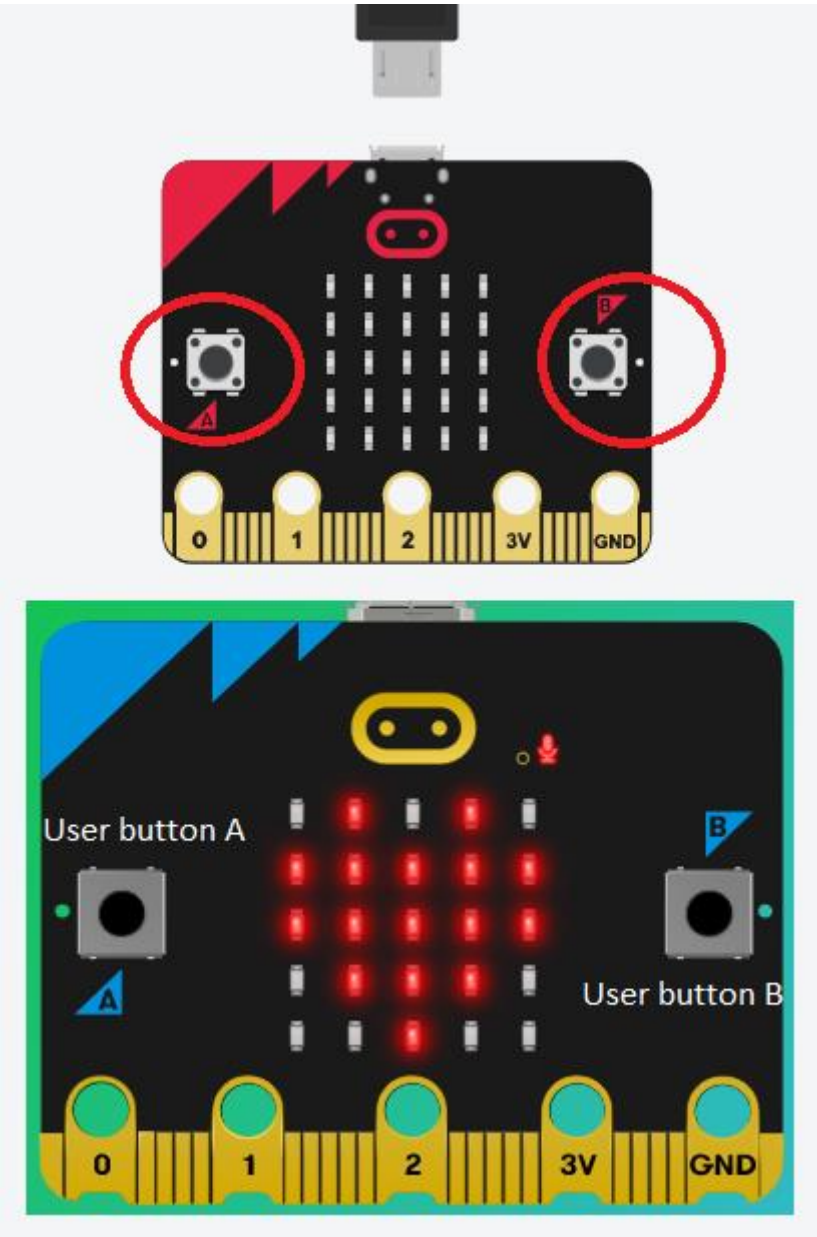
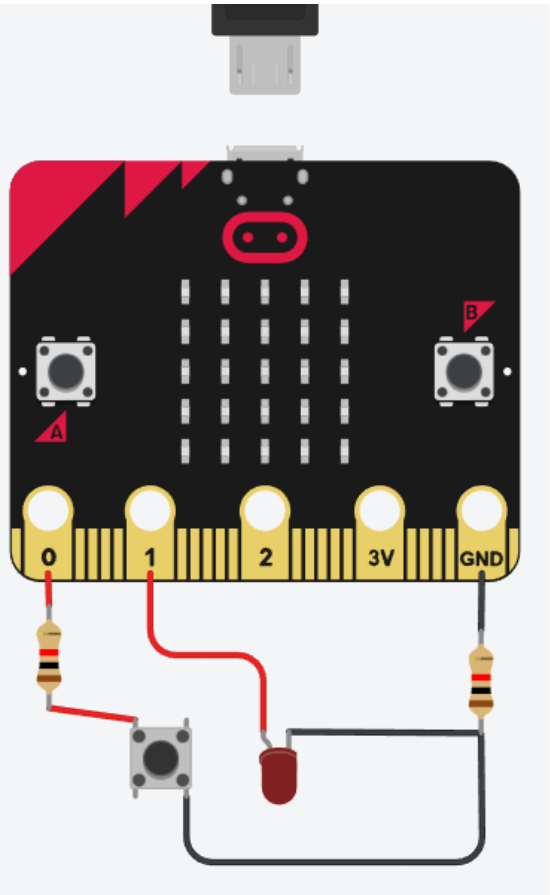
fritzing

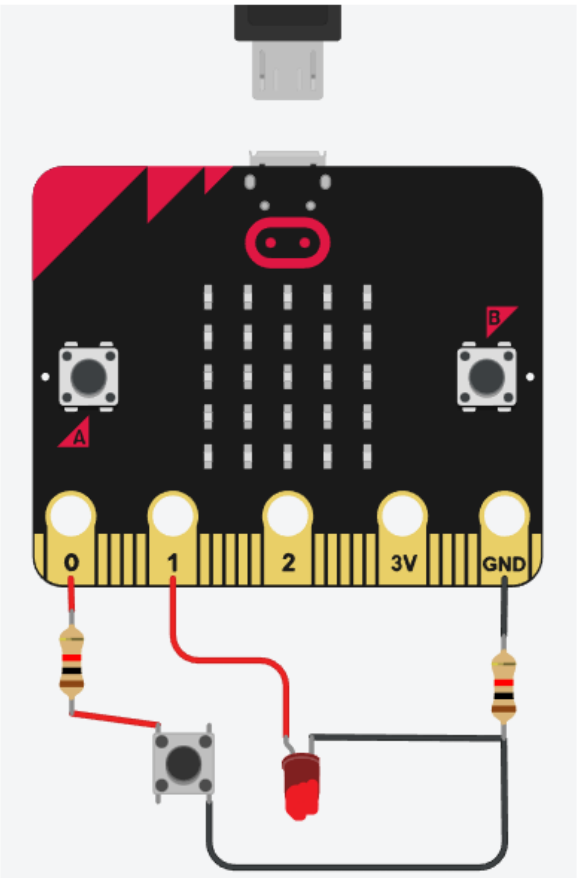

G F A B
E D C DP
A
F
B
G
E
C
D
DP

Chapter 7: Programming External Push Buttons, Buzzers, and Stepper Motors






A
B
0
1
2
3V
GND


A
B
0
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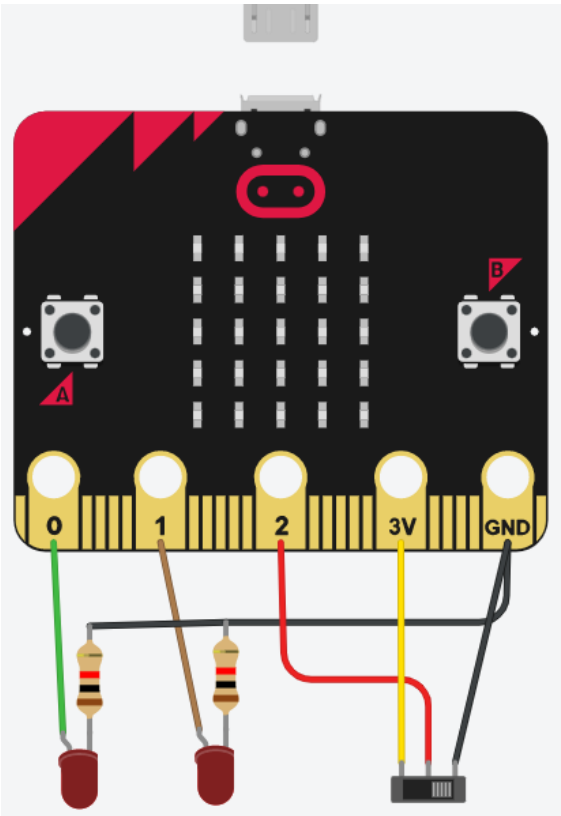
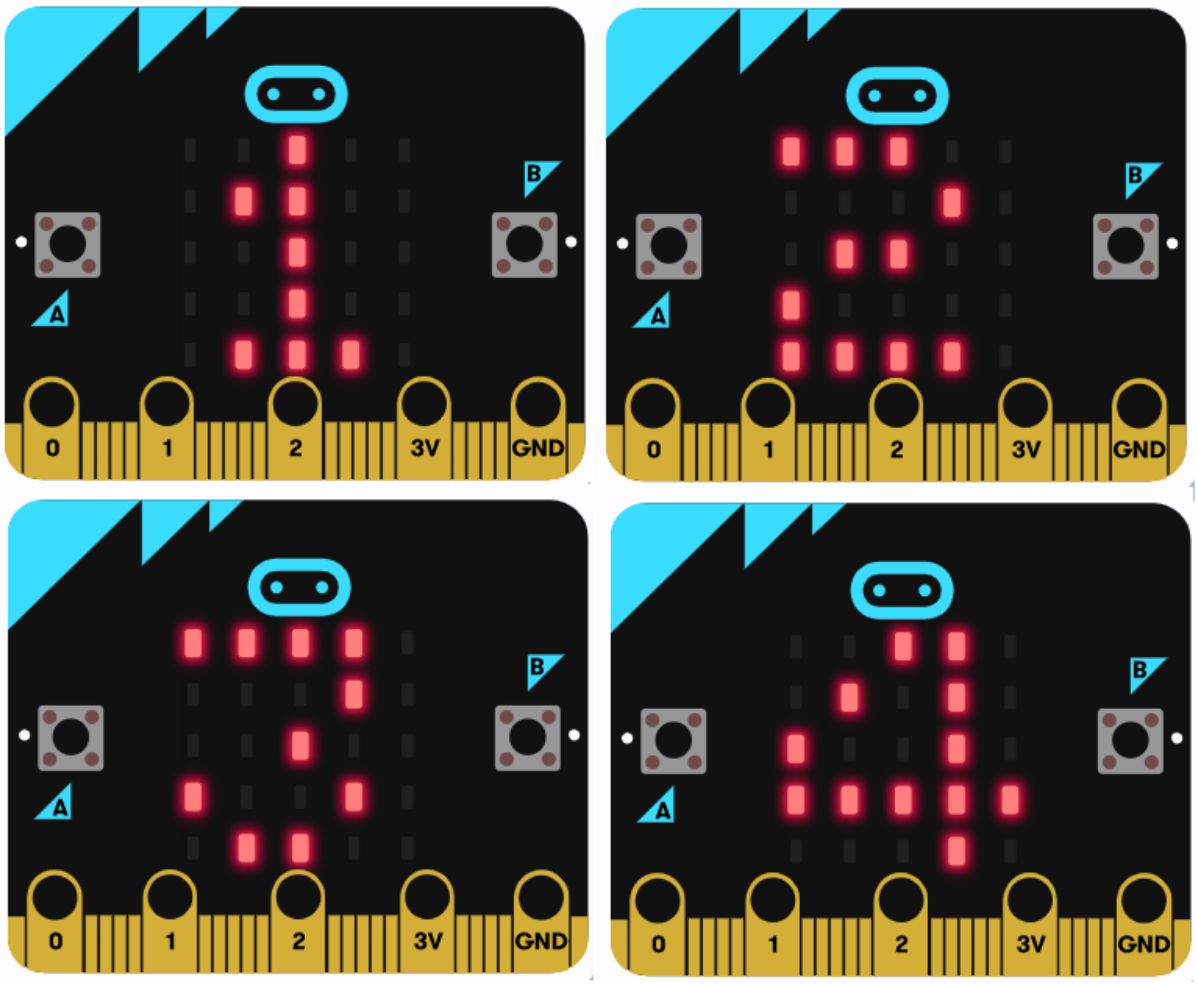
3V
GND


A
B
0
1
2
3V
GND


A
B
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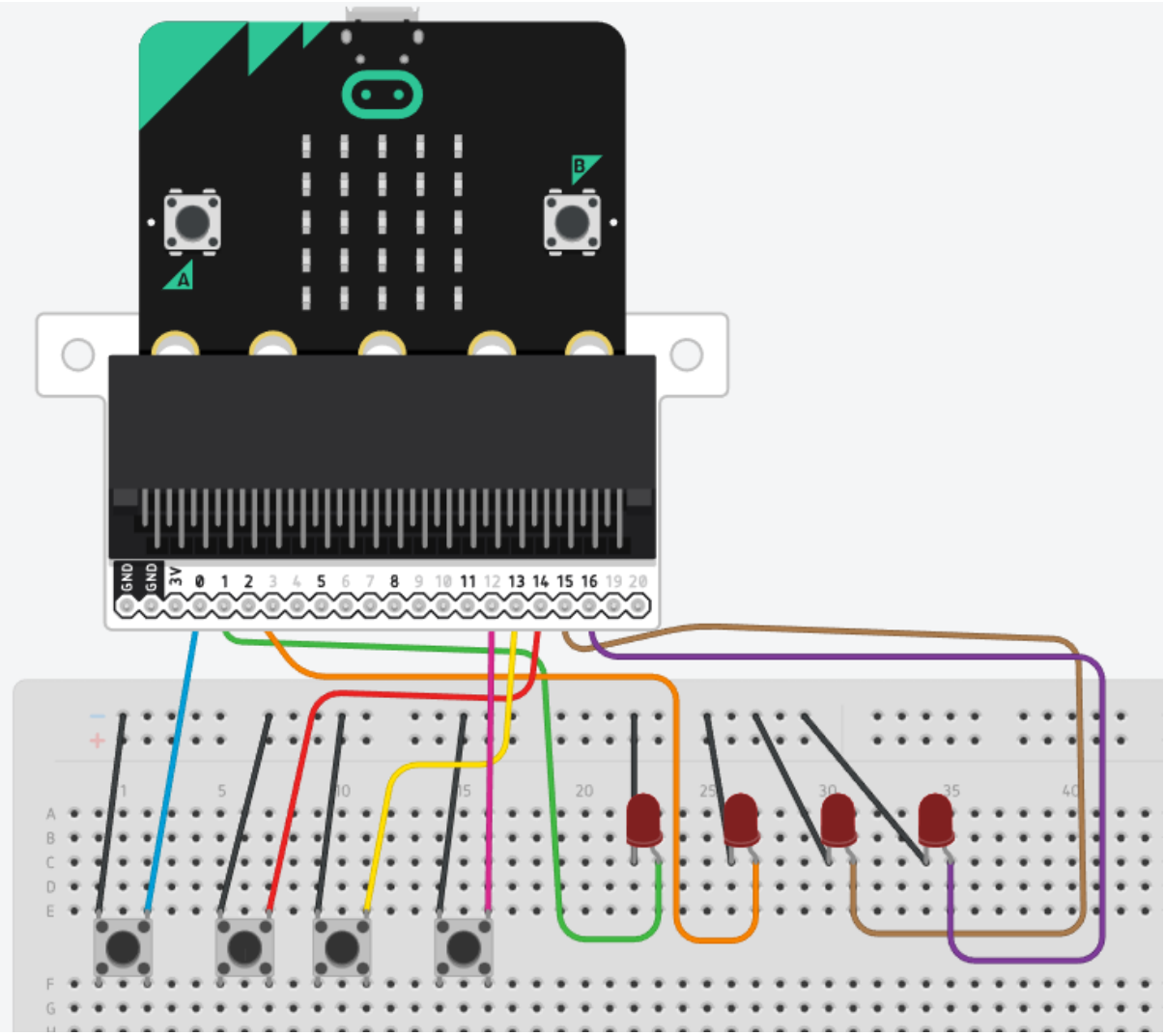
1
2
3V
GND


A
B
GND
GND
3V
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 19 20
A
B
C
D
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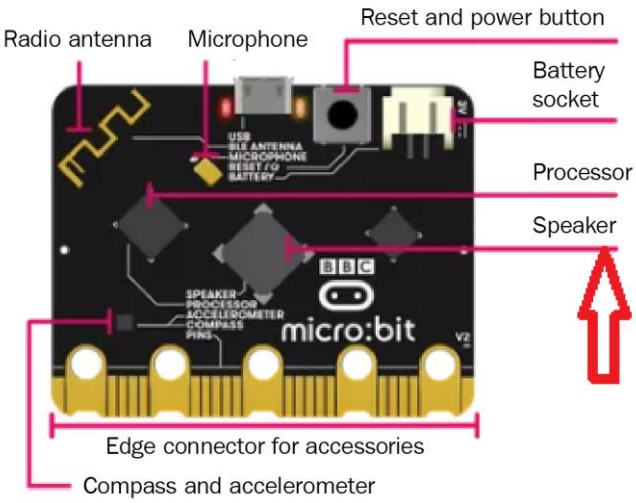
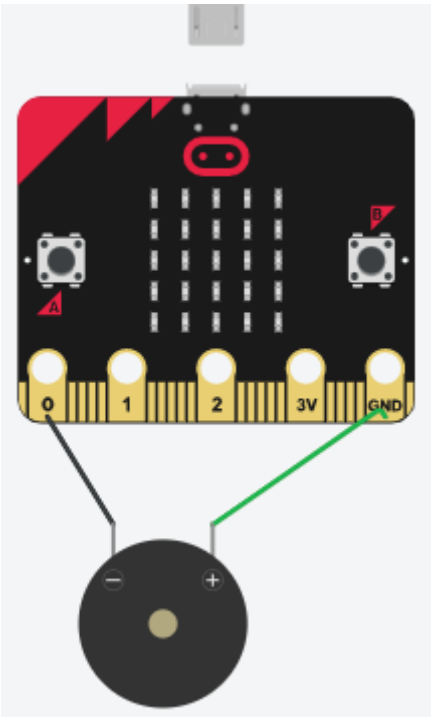
G


Radio antenna
Microphone
Reset and power button
Battery socket
Processor
Speaker
Edge connector for accessories
Compass and accelerometer
micro:bit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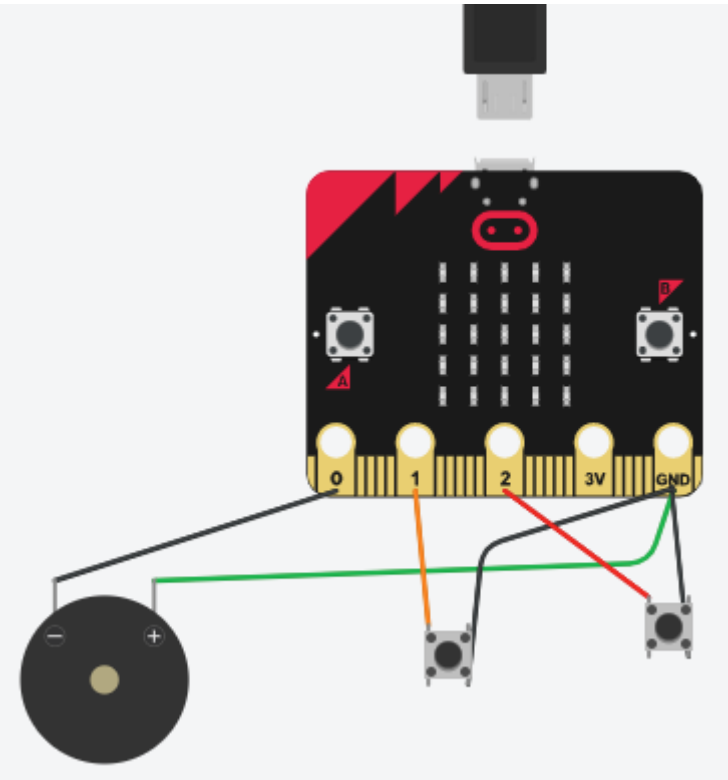
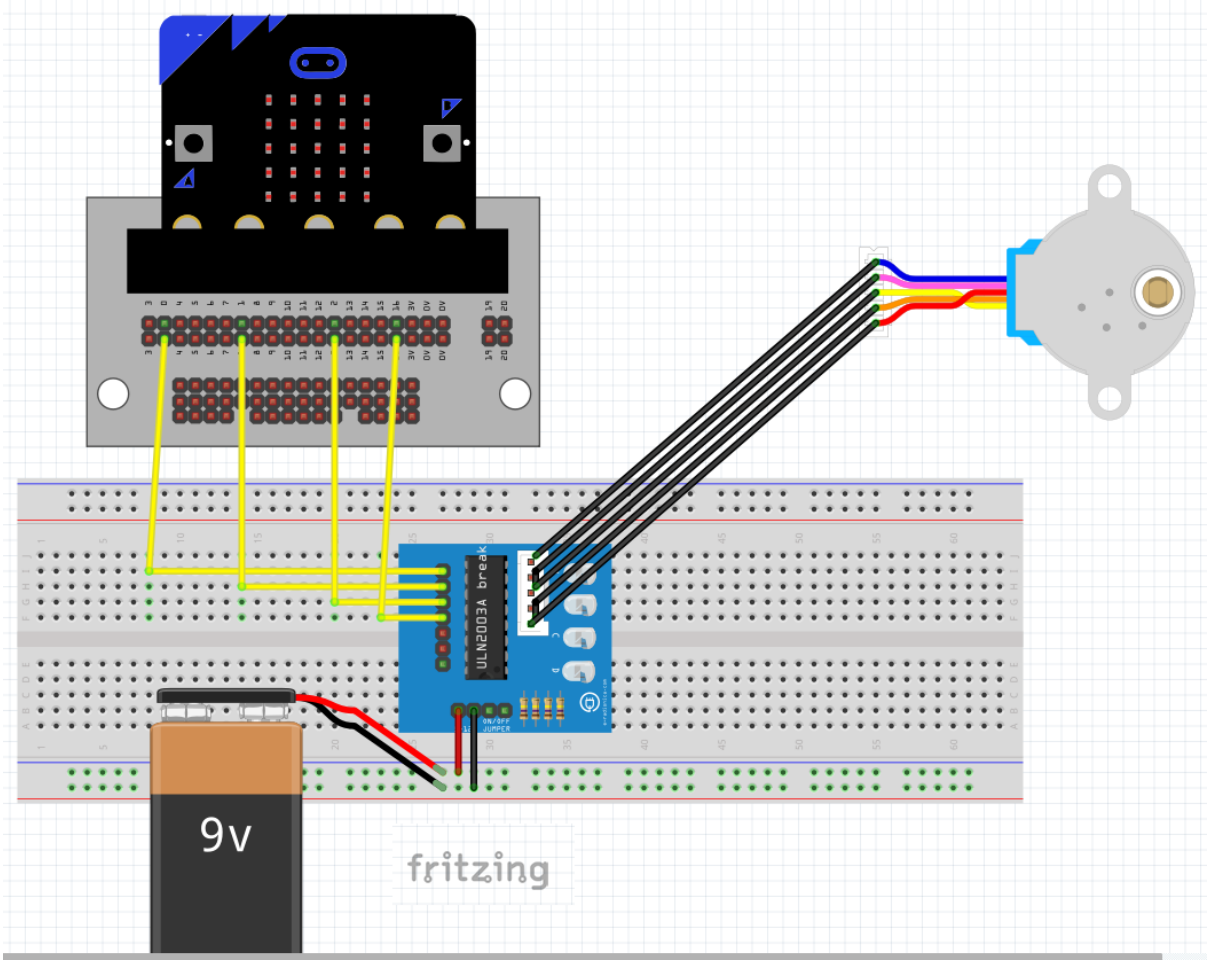
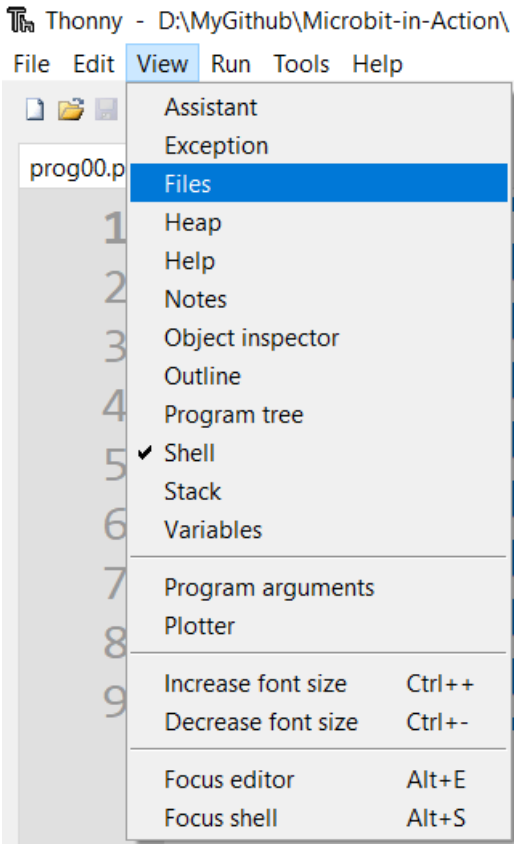
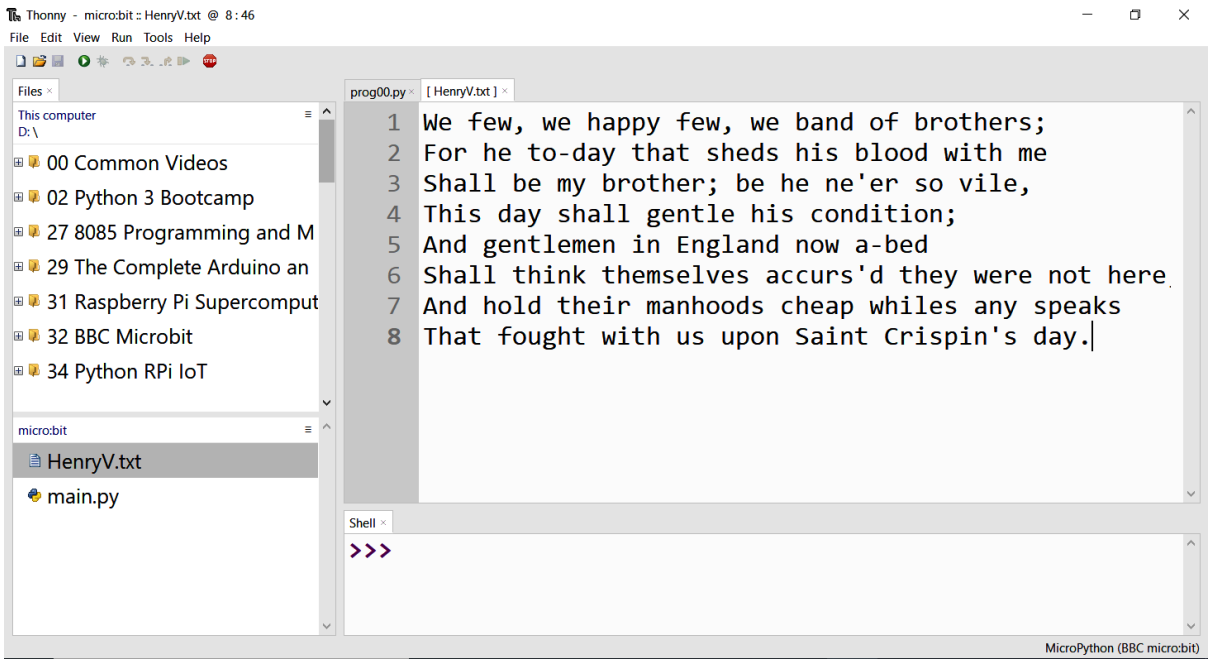
GND

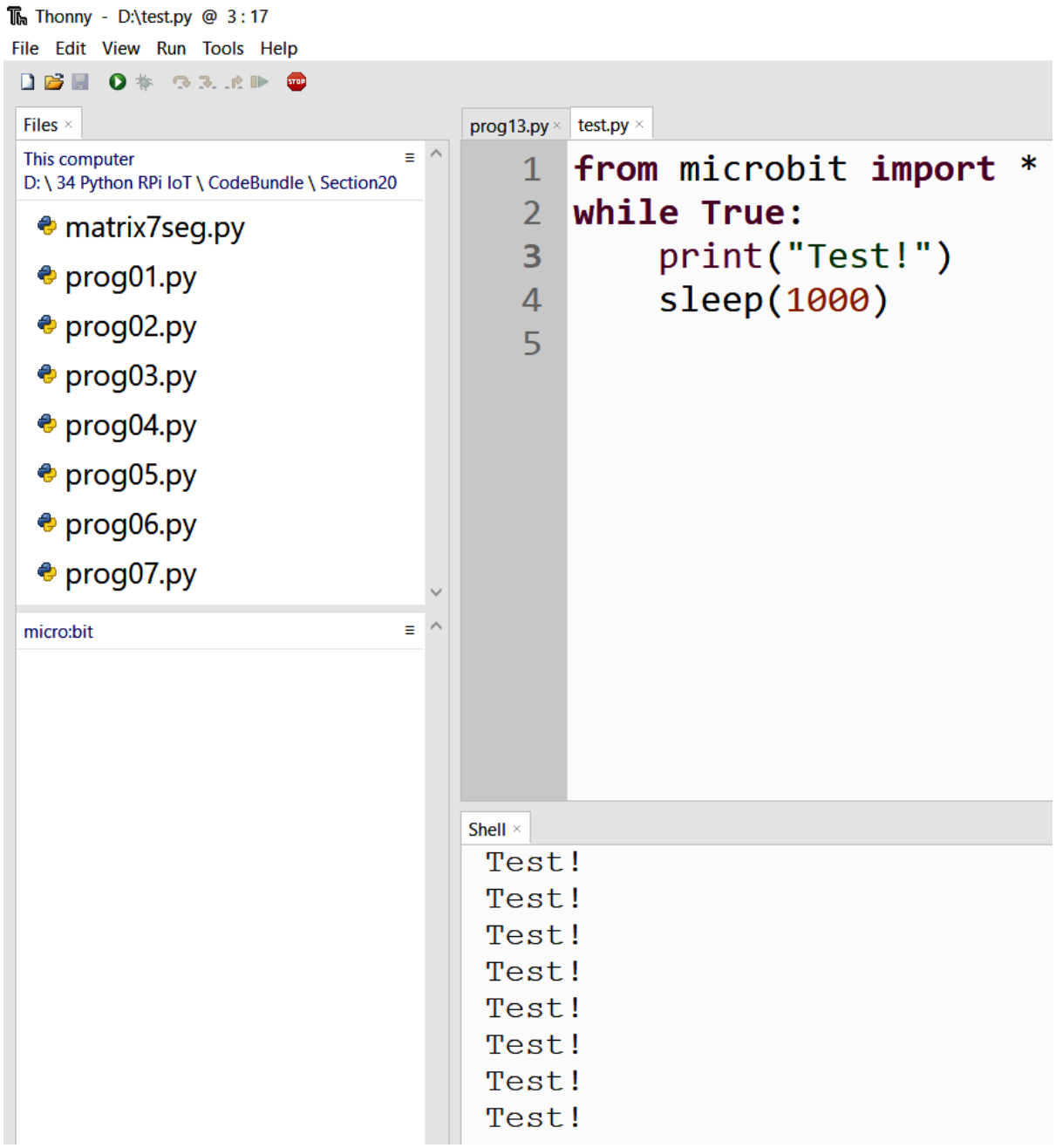

0
1
2
3V
GND

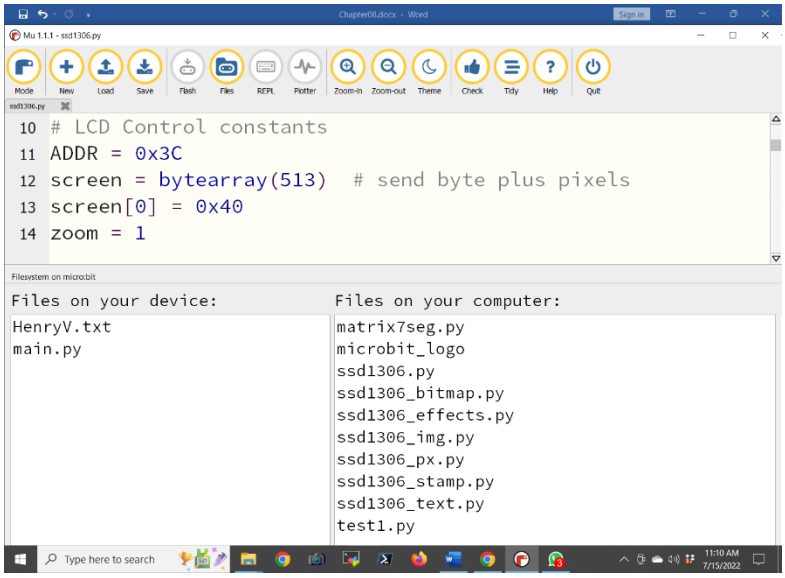

ULN2003A breakout
9v
fritzing

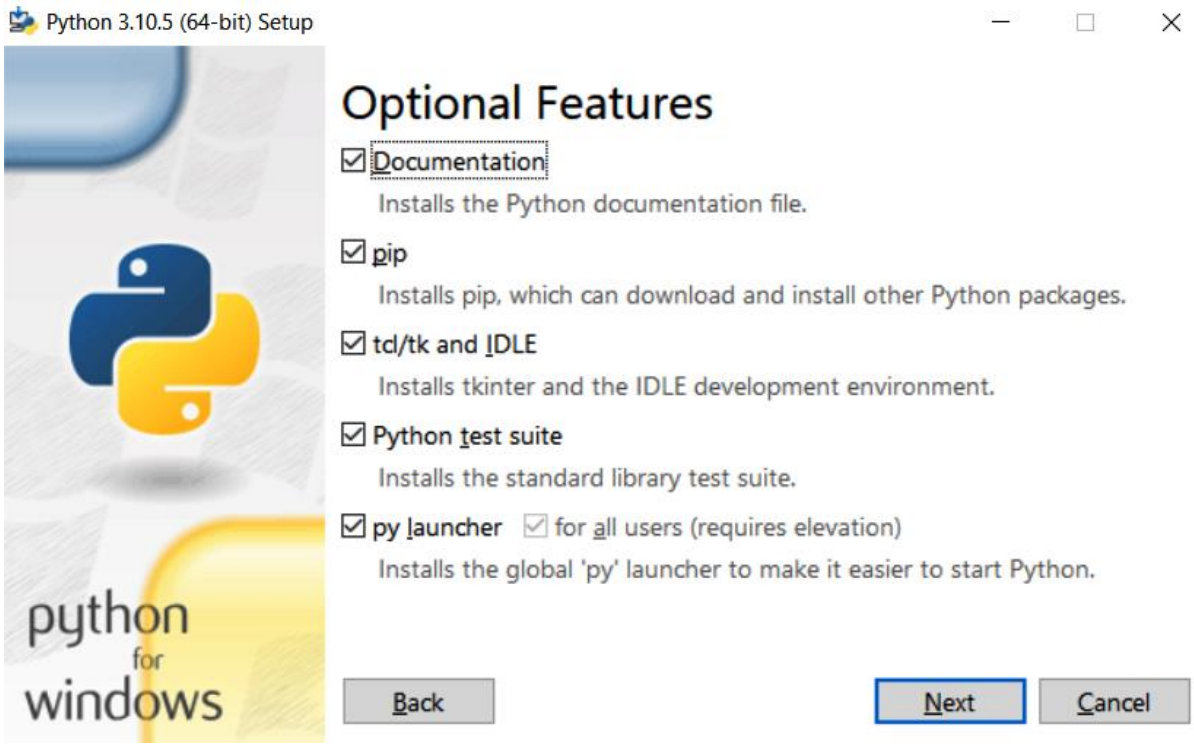
Chapter 8: Exploring the Filesystem

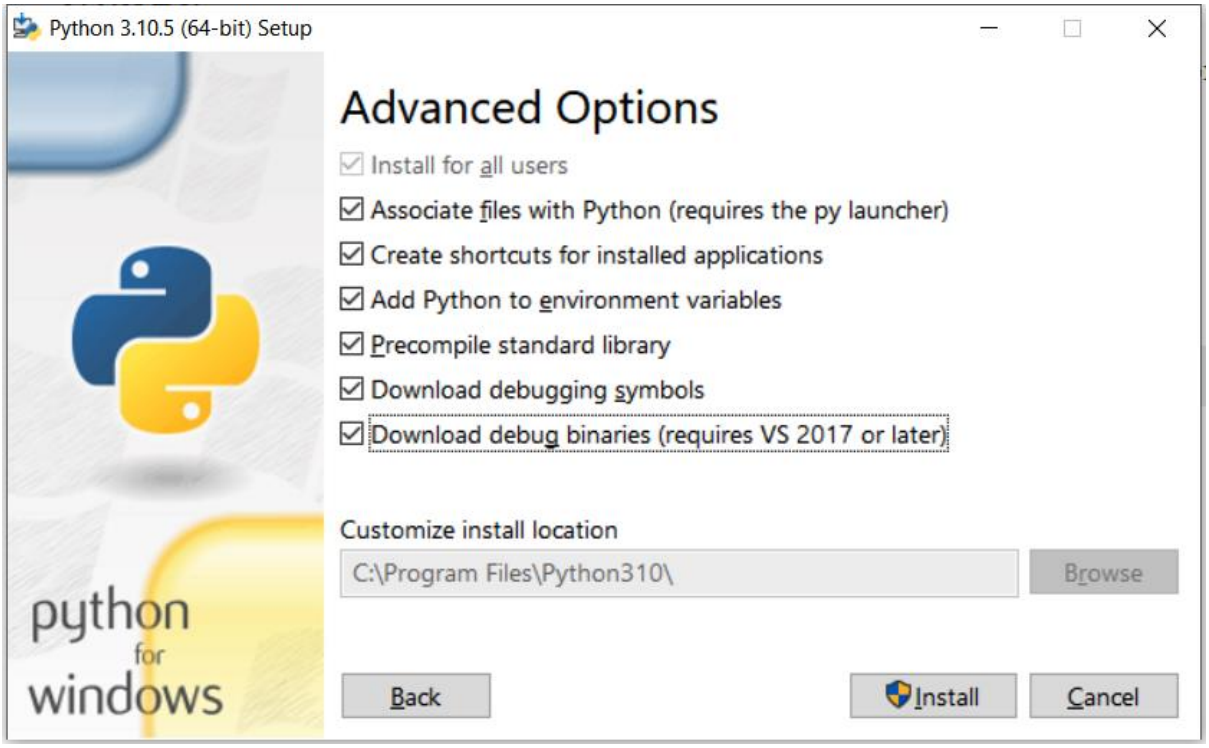




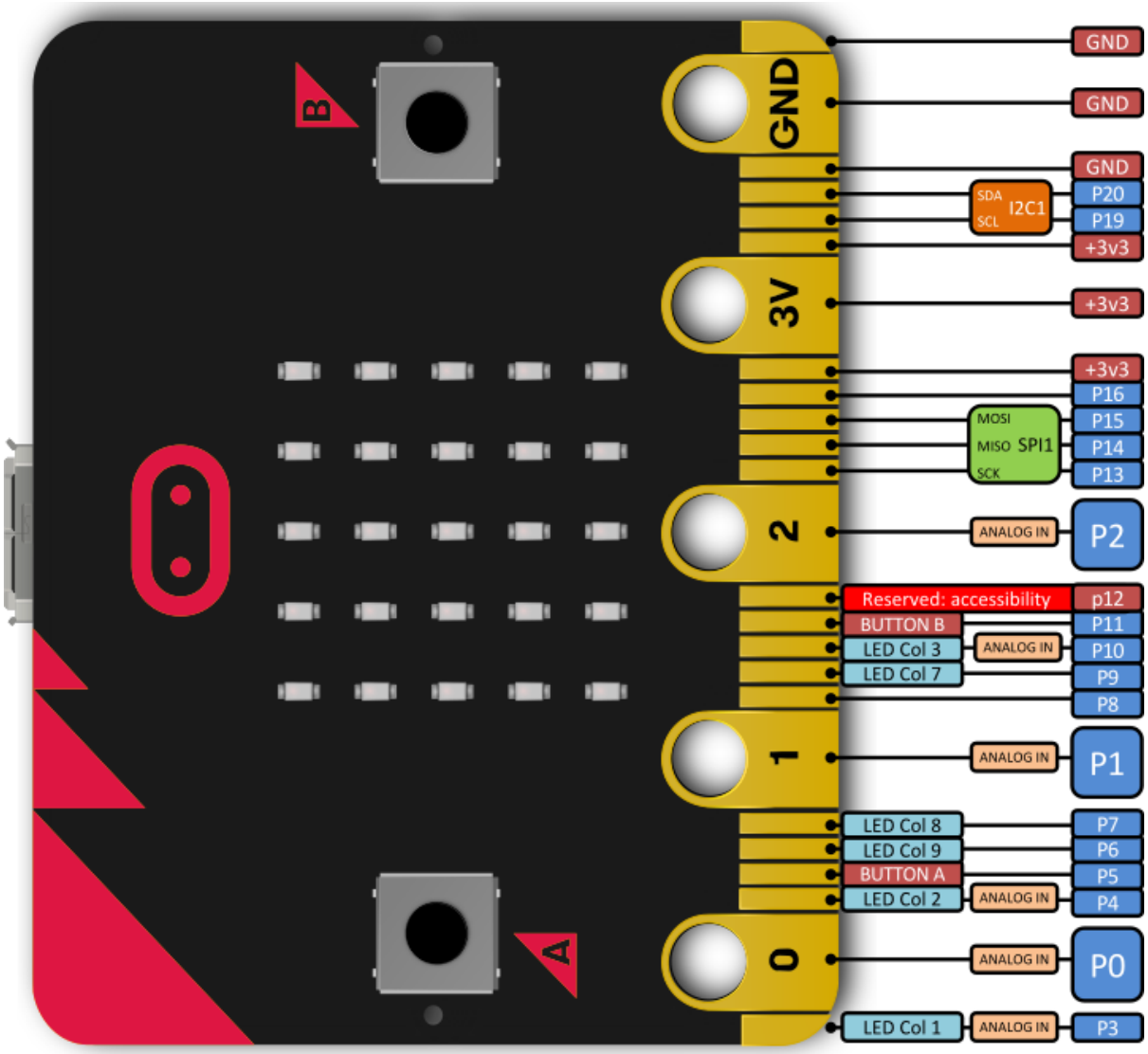

Thonny - D:\test.py @ 3 : 17
File Edit View Run Tools Help
Files
This computer
D: \ 34 Python RPi IoT \ CodeBundle \ Section20
matrix7seg.py
prog01.py
prog02.py
prog03.py
prog04.py
prog05.py
prog06.py
prog07.py
micro:bit
prog13.py
test.py
1 from microbit import *
2 while True:
3 print("Test!")
4 sleep(1000)
5
Shell
Test!
Test!
Test!
Test!
Test!
Test!
Test!
Test!

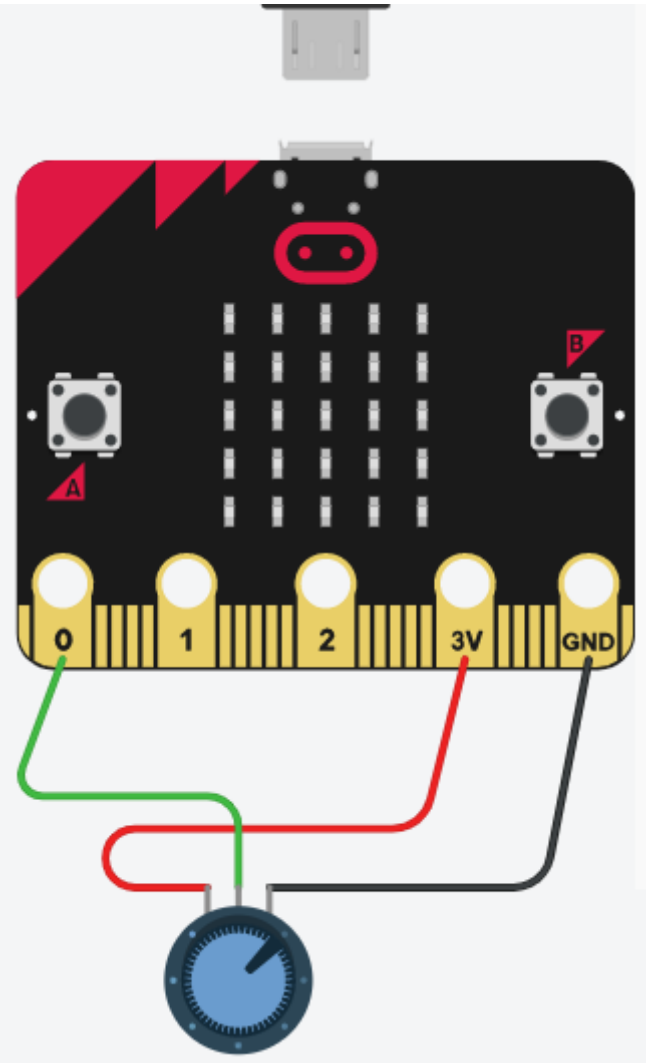

Mu 1.1.1 - ssd1306.py
Mode
New
Load
Save
Flash
Files
REPL
Plotter
Zoom-in
Zoom-out
Theme
Check
Tidy
Help
Quit
ssd1306.py
10 # LCD Control constants
11 ADDR = 0x3C
12 screen = bytearray(513) # send byte plus pixels
13 screen[0] = 0x40
14 zoom = 1
Filesystem on microbit
Files on your device:
HenryV.txt
main.py
Files on your computer:
matrix7seg.py
microbit_logo
ssd1306.py
ssd1306_bitmap.py
ssd1306_effects.py
ssd1306_img.py
ssd1306_px.py
ssd1306_stamp.py
ssd1306_text.py
test1.py
Type here to search
11:10 AM
7/15/2022


Python 3.10.5 (64-bit) Setup
Optional Features
Documentation
Installs the Python documentation file.
pip
Installs pip, which can download and install other Python packages.
tcl/tk and IDLE
Installs tkinter and the IDLE development environment.
Python test suite
Installs the standard library test suite.
py launcher
for all users (requires elevation)
Installs the global 'py' launcher to make it easier to start Python.
python
for
windows
Back
Next
Cancel


Python 3.10.5 (64-bit) Setup
Advanced Options
Install for all users
Associate files with Python (requires the py launcher)
Create shortcuts for installed applications
Add Python to environment variables
Precompile standard library
Download debugging symbols
Download debug binaries (requires VS 2017 or later)
Customize install location
C:\Program Files\Python310\
Browse
python
for
windows
Back
Install
Cancel

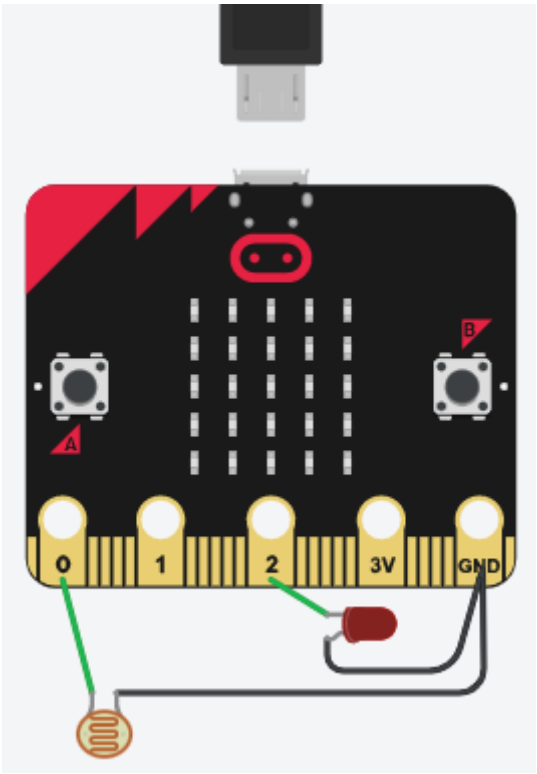
Chapter 9: Working with Analog Input and PWM

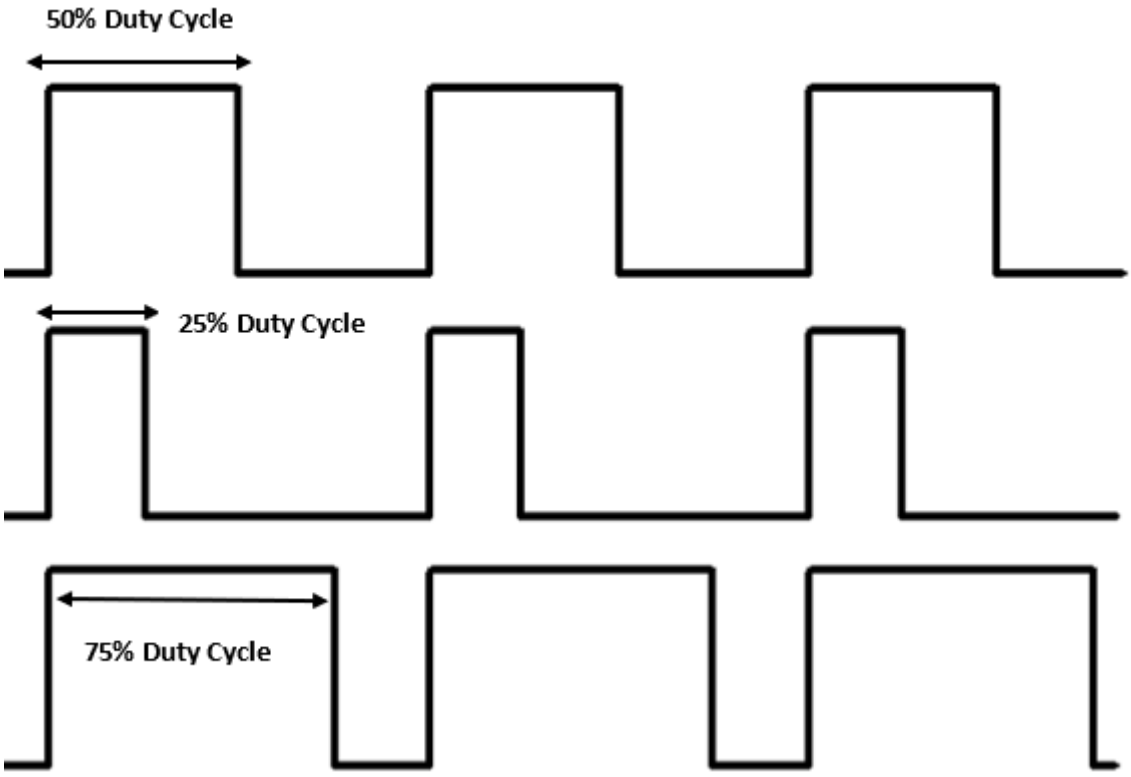


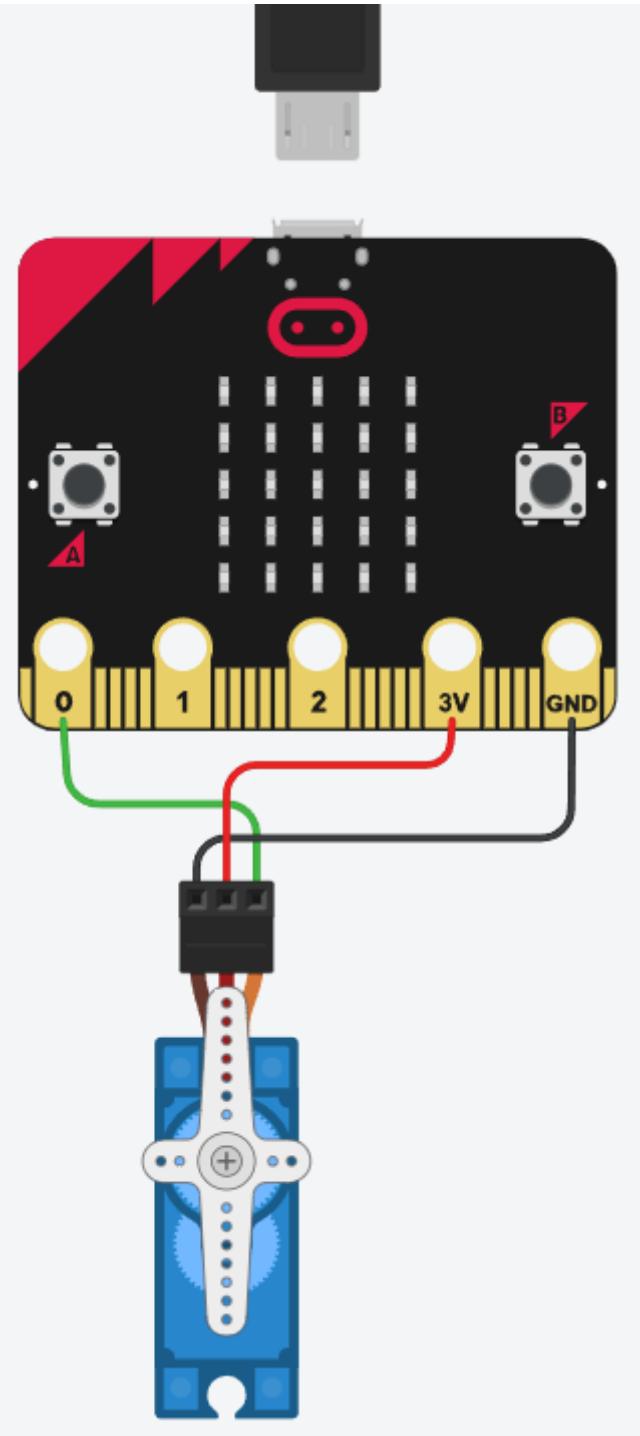


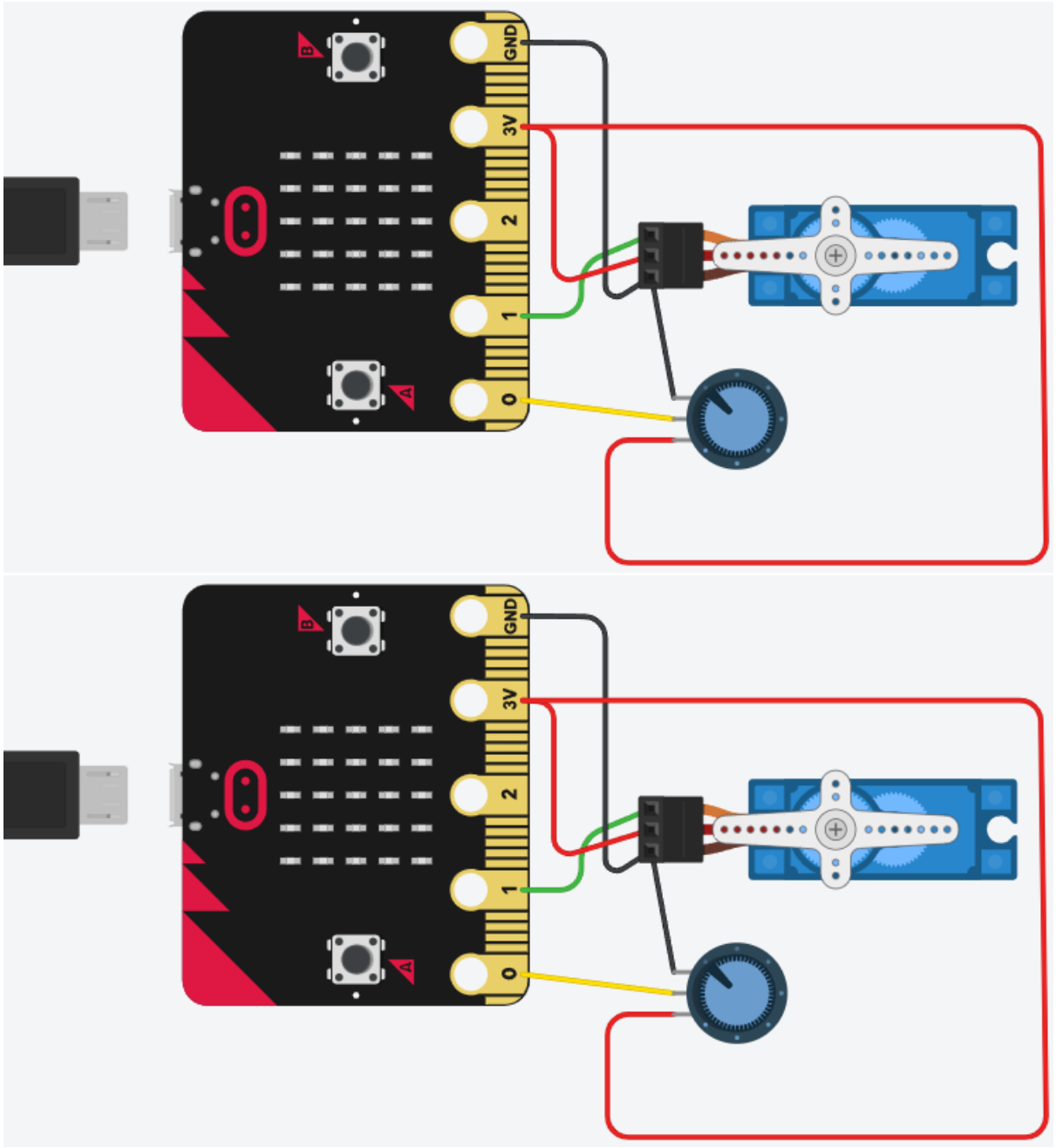
Shell

```
108
125
124
102
56
20
13
14
29
94
126
125
111
49
43
44
69
127
138
138
```


B
A
0
1
2
3V
GND


50% Duty Cycle
25% Duty Cycle
75% Duty Cycle


B
A
0
1
2
3V
GND



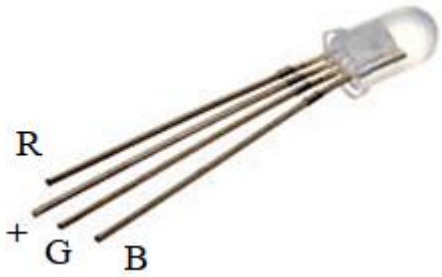
File Edit View Run Device Tools Help

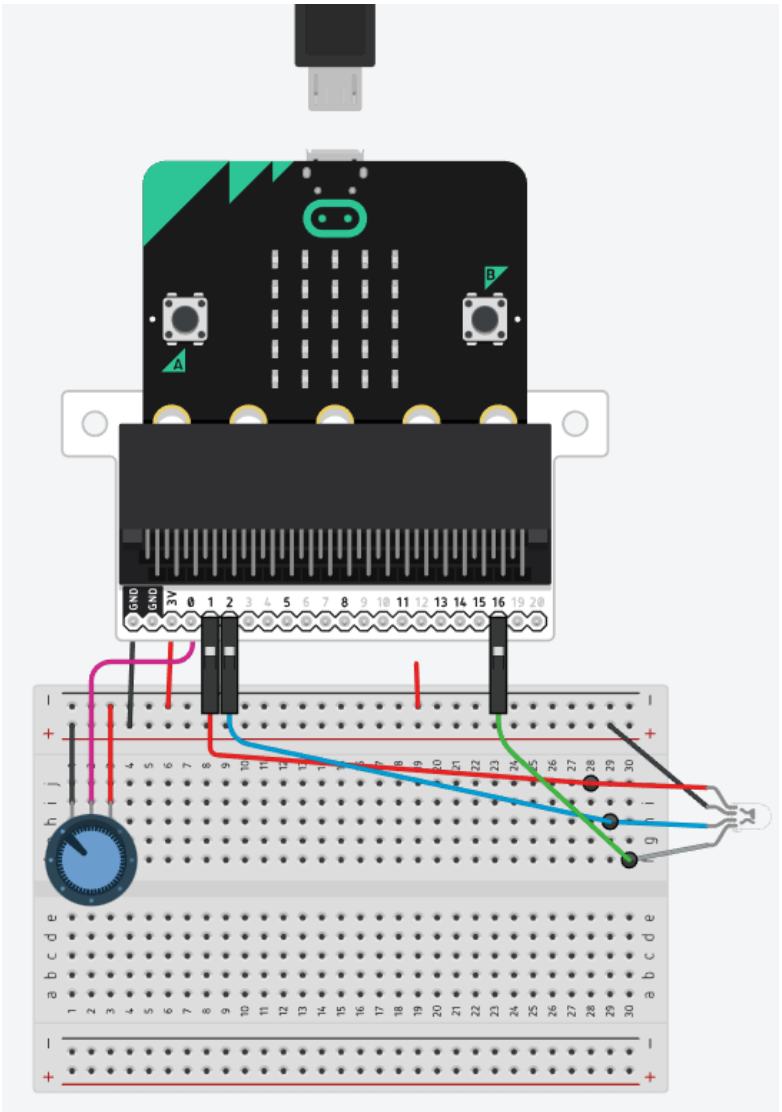
usingServo.py * | pot code 1.py

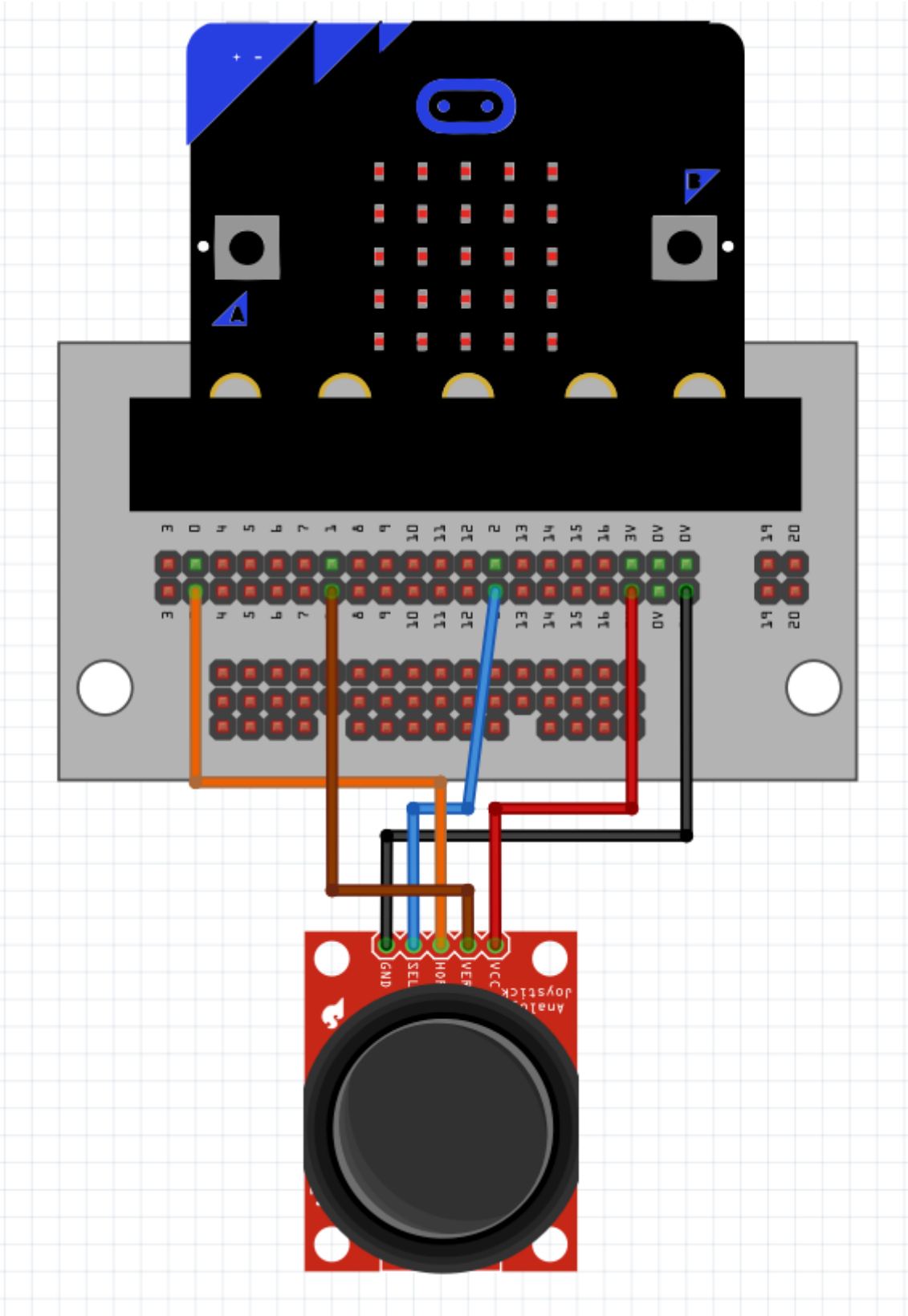
```
1  from microbit import *
2
3  while True:
4
5      pot_value=pin0.read_analog()
6      print(pot_value)
7      pin1.write_analog(pot_value)
8      sleep(1000)
```

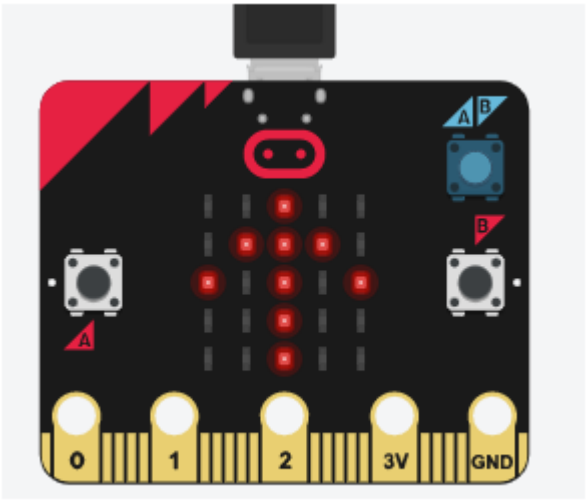
Shell

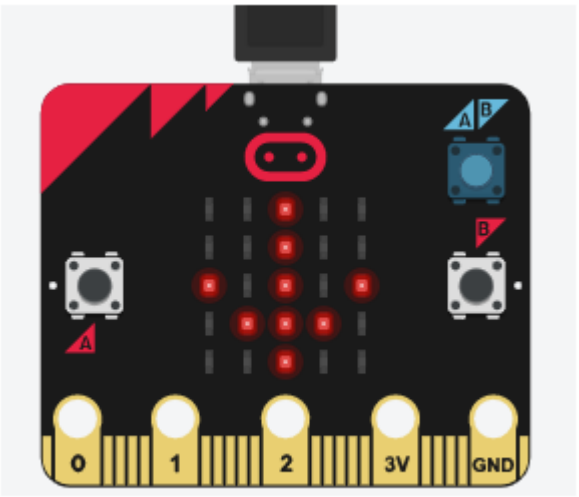
```
126
125
157
155
154
256
208
104
104
86
83
87
83
27
24
```

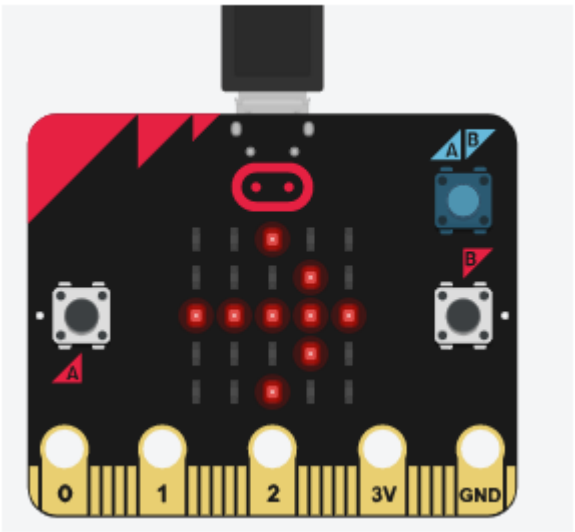

R
+
G
B

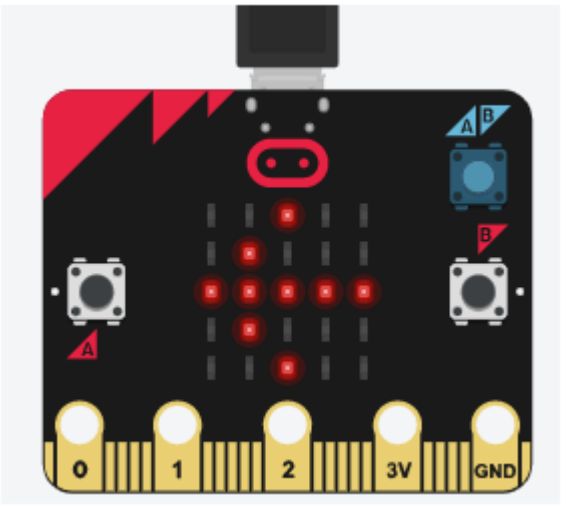

GND
GND
3V
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 19 20
A
B


3 0 4 5 6 7 1 8 9 10 11 12 2 13 14 15 16 3V 0V 0V 19 20
GND
SEL
VCC

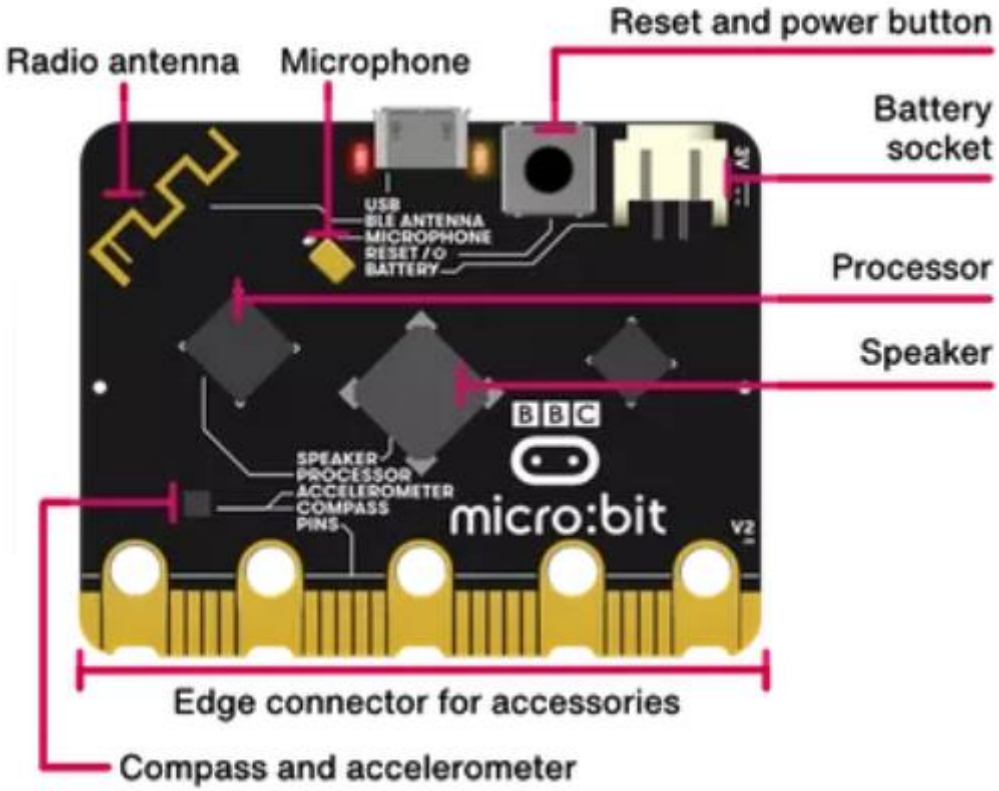

A
B
B
A
0
1
2
3V
GND

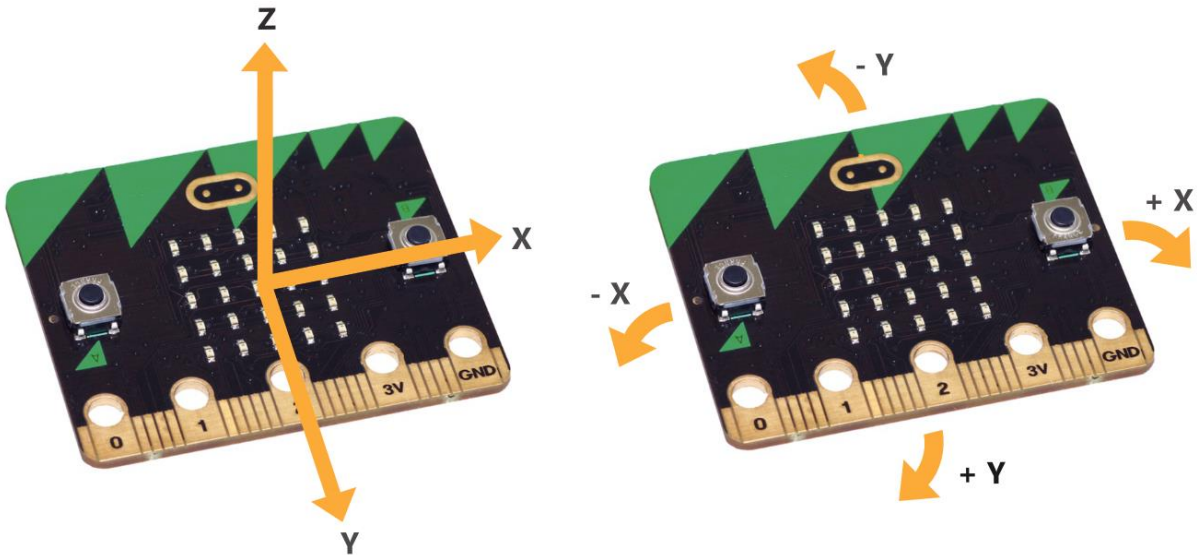

A
B
B
A
0
1
2
3V
GND

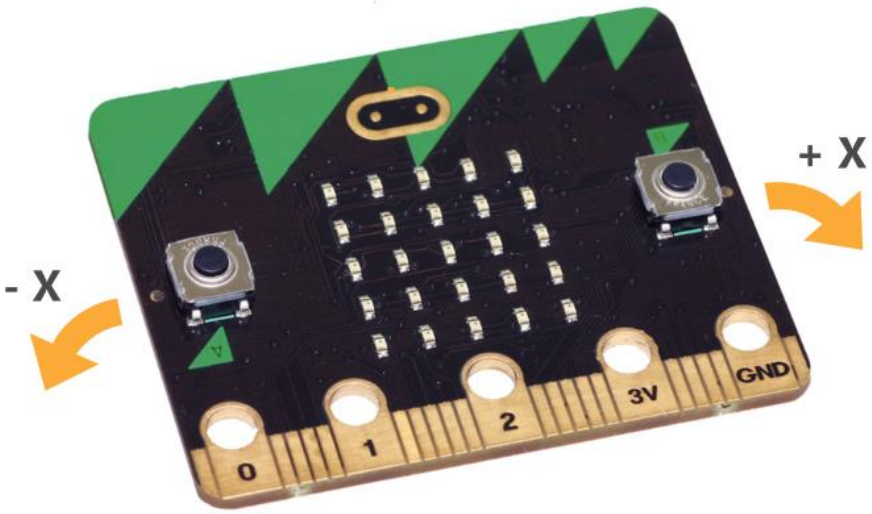

A
B
B
A
0
1
2
3V
GND


A
B
B
A
0
1
2
3V
GND

Chapter 10: Working with Acceleration and Direction







Shell

```
Tilt_x  -388
Tilt_x  -384
Tilt_x  616
Tilt_x  772
Tilt_x  844
Tilt_x  -1068
Tilt_x  -1080
Tilt_x  -720
Tilt_x  -696
Tilt_x  832
Tilt_x  864
Tilt_x  888
Tilt_x  876
Tilt_x  -1152
```

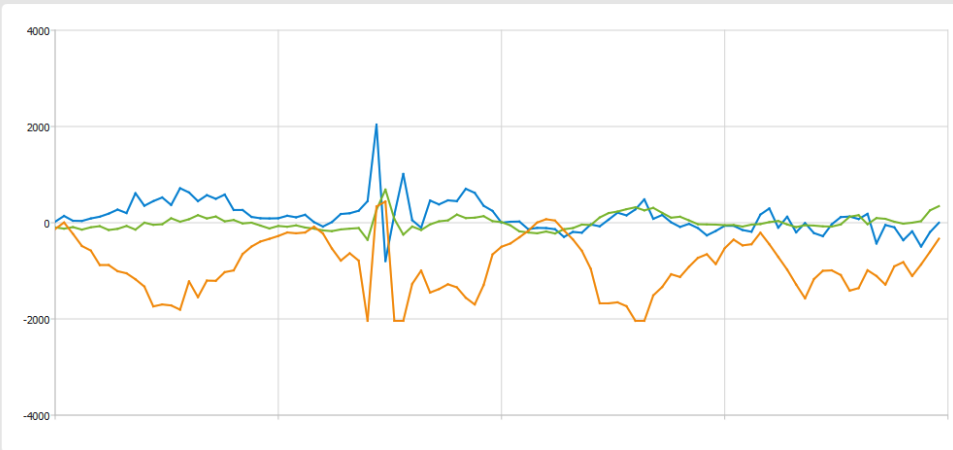
Mu 1.1.1 - datalog.py

Mode | New | Load | Save | Flash | Files | REPL | Plotter | Zoom-in | Zoom-out | Theme | Check | Tidy | Help | Quit

datalog.py

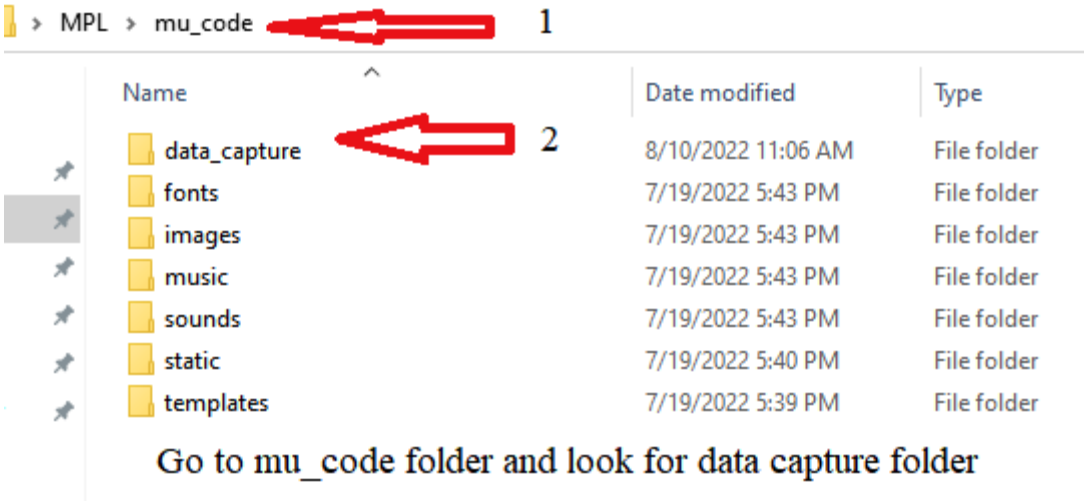
```
1  # Write your code here :-)
2  from microbit import *
3  while True:
4      sleep(20)
5      print(accelerometer.get_values())
6      movement = accelerometer.current_gesture()
7      if movement == "shake":
8          display.show(Image.ANGRY)
9      else:
10         display.show(Image.HAPPY)
11
12
13
```

BBC micro:bit Plotter

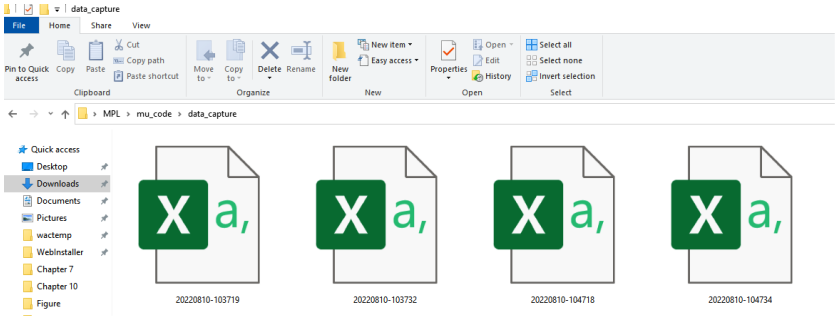


BBC micro:bit REPL

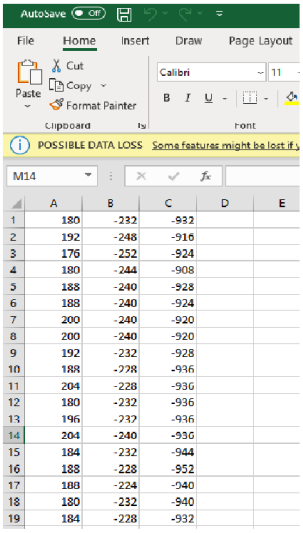
```
(-104, 36, -712)
(124, -36, -976)
(-200, -92, -1284)
(-8, -52, -1572)
(-216, -60, -1172)
(-280, -76, -1000)
(-32, -80, -992)
(116, -36, -1088)
(128, 124, -1412)
(76, 156, -1360)
(184, -32, -988)
(-432, 96, -1108)
(-48, 80, -1288)
(-96, 20, -908)
(-364, -20, -820)
(-180, 0, -1108)
(-496, 32, -868)
(-196, 256, -604)
(0, 344, -332)
```



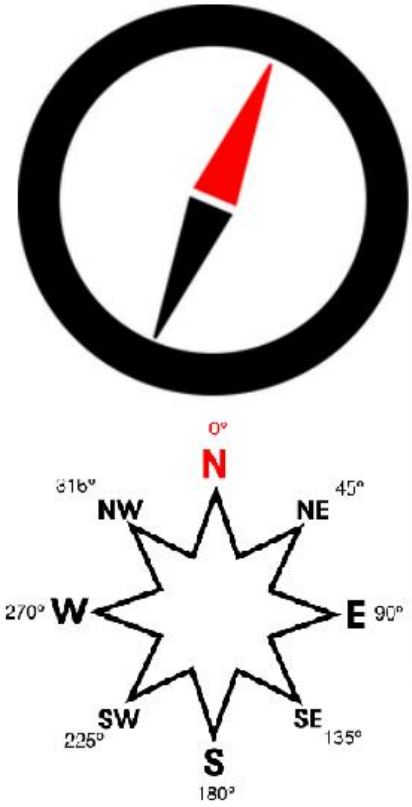
Go to mu_code folder and look for data capture folder

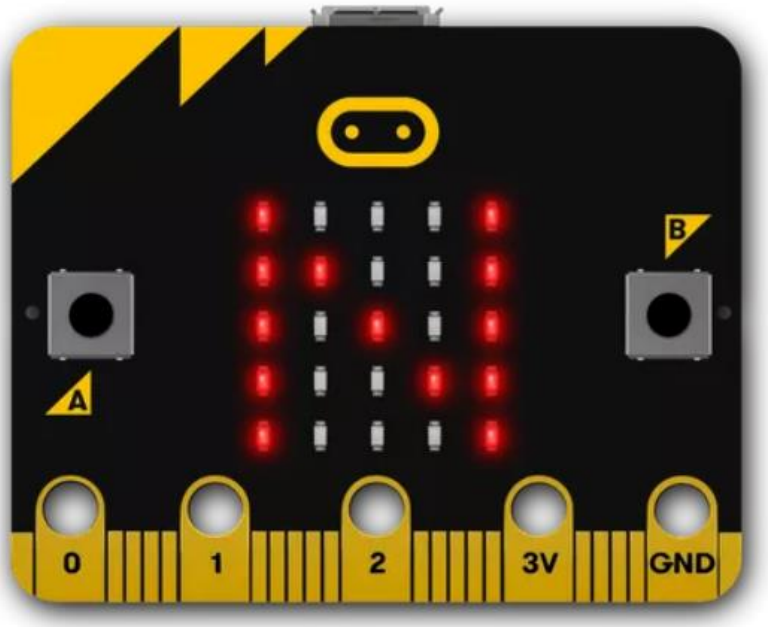


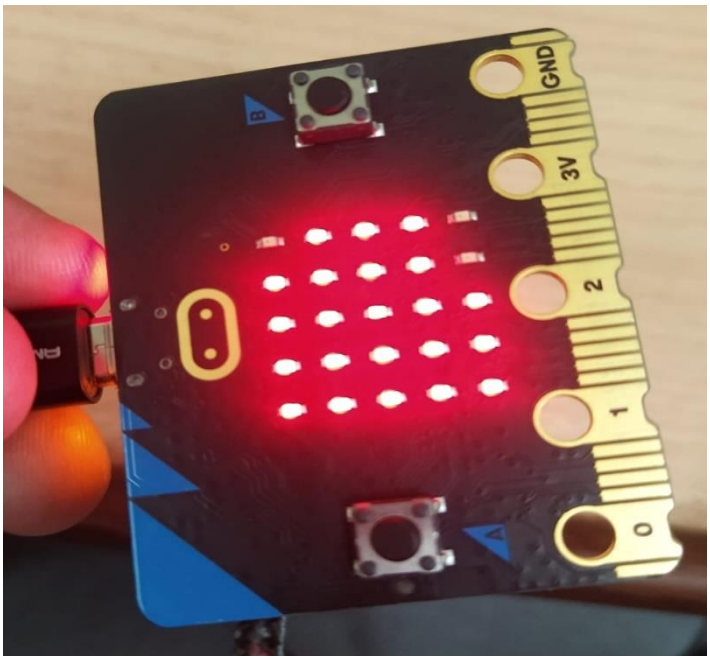
open the file

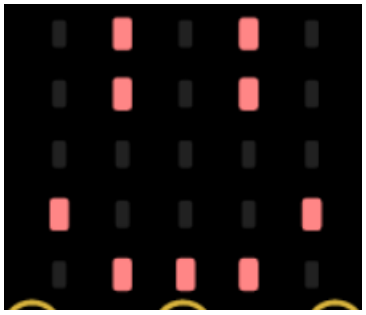


	A	B	C	D	E
1	180	-232	-932		
2	192	-248	-916		
3	176	-252	-924		
4	180	-244	-908		
5	188	-240	-928		
6	188	-240	-924		
7	200	-240	-920		
8	200	-240	-920		
9	192	-232	-928		
10	188	-228	-936		
11	204	-228	-936		
12	180	-232	-936		
13	196	-232	-936		
14	204	-240	-936		
15	184	-232	-944		
16	188	-228	-952		
17	188	-224	-940		
18	180	-232	-940		
19	184	-228	-932		


0°
N
315°
NW
45°
NE
270°
W
E
90°
SW
SE
225°
135°
S
180°


B
A
0
1
2
3V
GND


B
GND
3V
2
1
0
A



Shell ×

```
>>> %Run -c $ED

  359
  0
  359
  358
  351
  198
  281
  268
  291
  343
  114
  146
  127
```

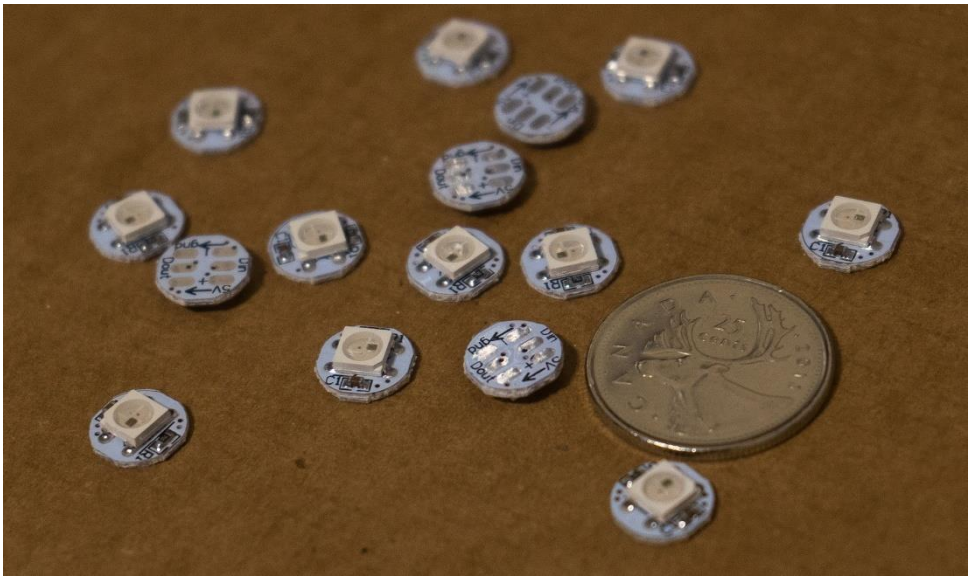
Shell ×

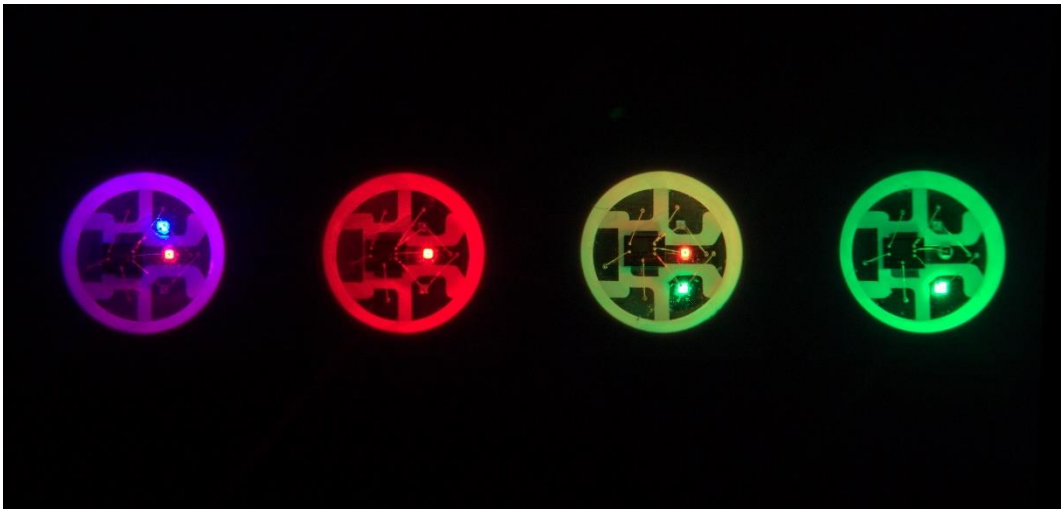
```
  14676
  15123
  15155
  15309
  14715
  14539
  14696
  14927
```

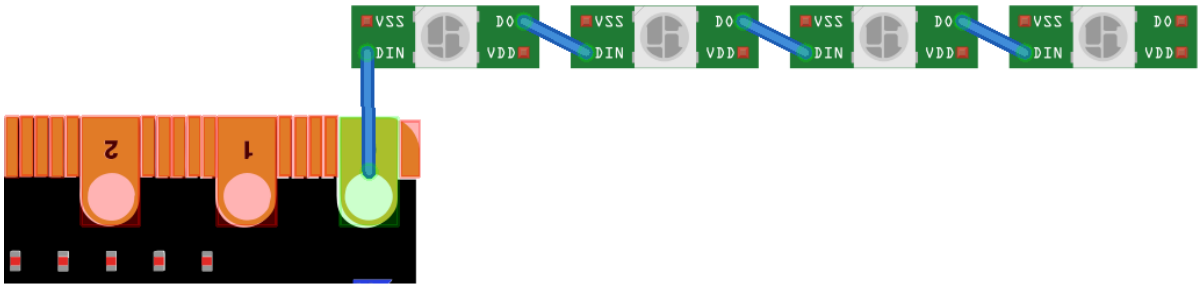
Shell

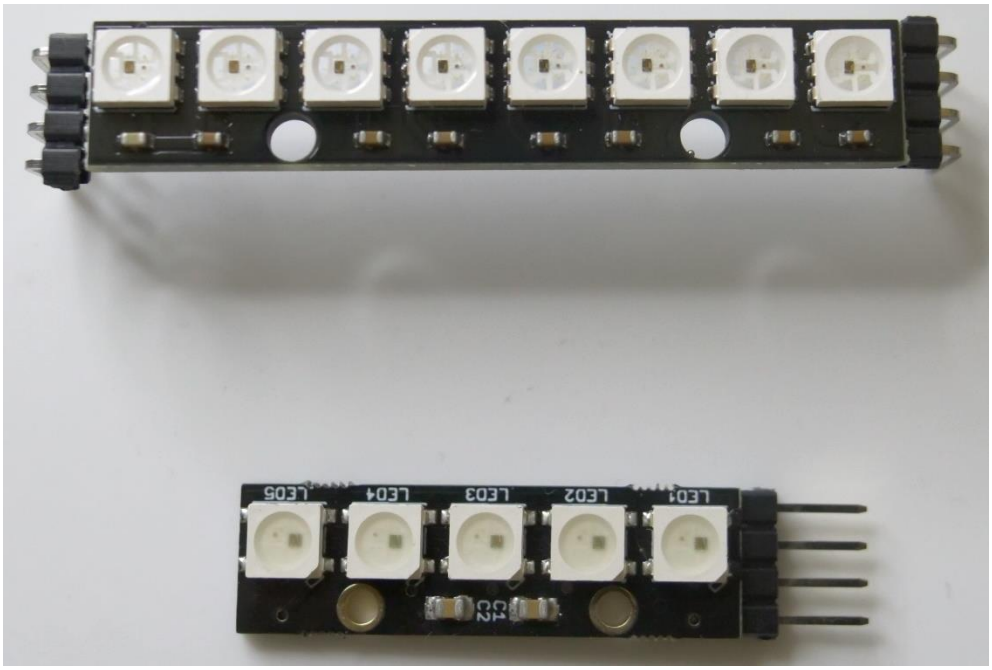
```
degrees:321 magnitude:56989 x_values:-47956 y_values:29606 z_values-8458
degrees:4 magnitude:46264 x_values:-10306 y_values:33356 z_values-30358
degrees:2 magnitude:46064 x_values:-7156 y_values:29606 z_values-34558
degrees:309 magnitude:38170 x_values:-32206 y_values:18506 z_values8792
degrees:42 magnitude:44620 x_values:-6706 y_values:32006 z_values-30358
degrees:312 magnitude:27709 x_values:-17806 y_values:19256 z_values8942
degrees:316 magnitude:36403 x_values:-26956 y_values:23306 z_values7442
degrees:36 magnitude:49341 x_values:-8806 y_values:30206 z_values-38008
degrees:351 magnitude:25972 x_values:-5206 y_values:25406 z_values-1408
degrees:11 magnitude:19195 x_values:4244 y_values:18656 z_values-1558
degrees:13 magnitude:19690 x_values:4244 y_values:19106 z_values-2158
degrees:14 magnitude:23237 x_values:4844 y_values:22406 z_values-3808
degrees:15 magnitude:23846 x_values:4994 y_values:22706 z_values-5308
degrees:13 magnitude:23924 x_values:4094 y_values:23156 z_values-4408
degrees:13 magnitude:23634 x_values:4394 y_values:22856 z_values-4108
```

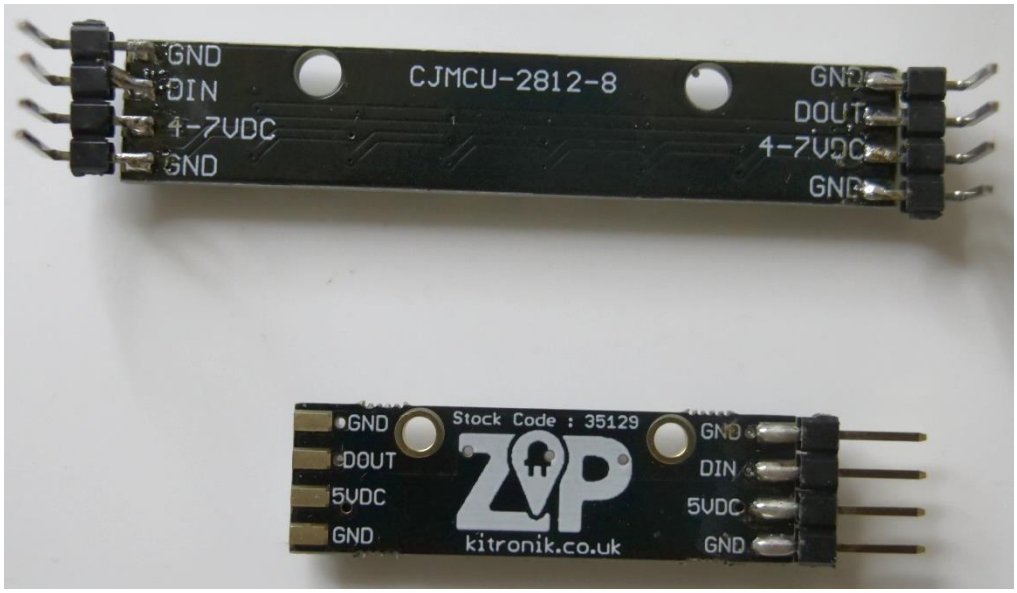
Chapter 11: Working with NeoPixels and a MAX7219 Display

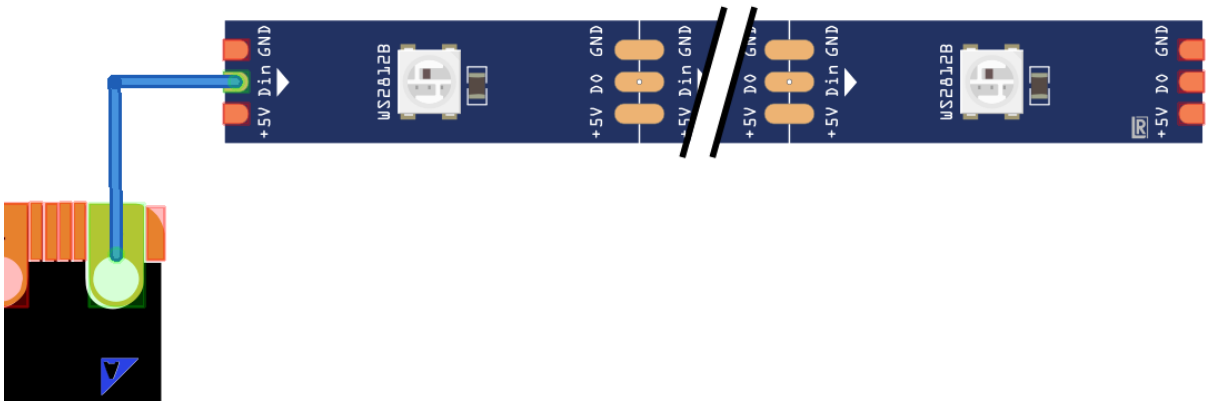




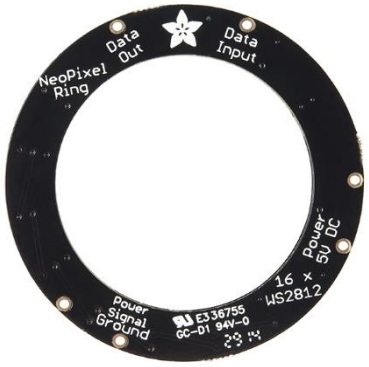


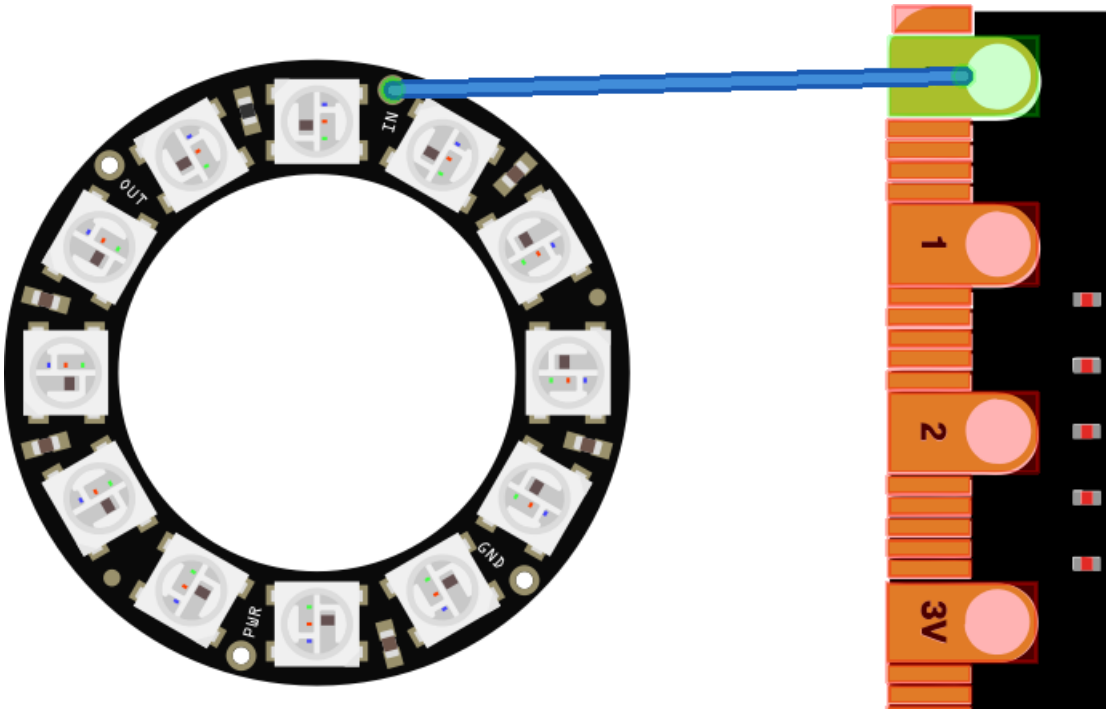

LED5
LED4
LED3
LED2
LED1


GND
DIN
4-7VDC
GND
CJMCU-2812-8
GND
DOUT
4-7VDC
GND
GND
DOUT
5VDC
GND
Stock Code : 35129
kitronik.co.uk
GND
DIN
5VDC
GND

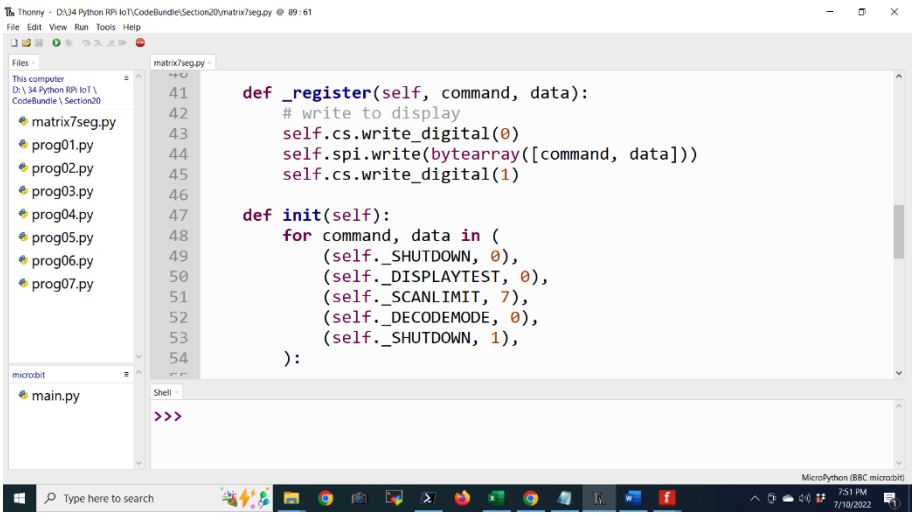

+5V Din GND
WS2812B
+5V Do GND
+5V Din GND
+5V Do GND
+5V Din GND
WS2812B
+5V Do GND

5V
IN
out
G

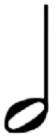

Data
Out
Data
Input
NeoPixel
Ring
Power
5V DC
16 x
WS2812
Power
Signal
Ground
E336755
GC-D1 94V-0

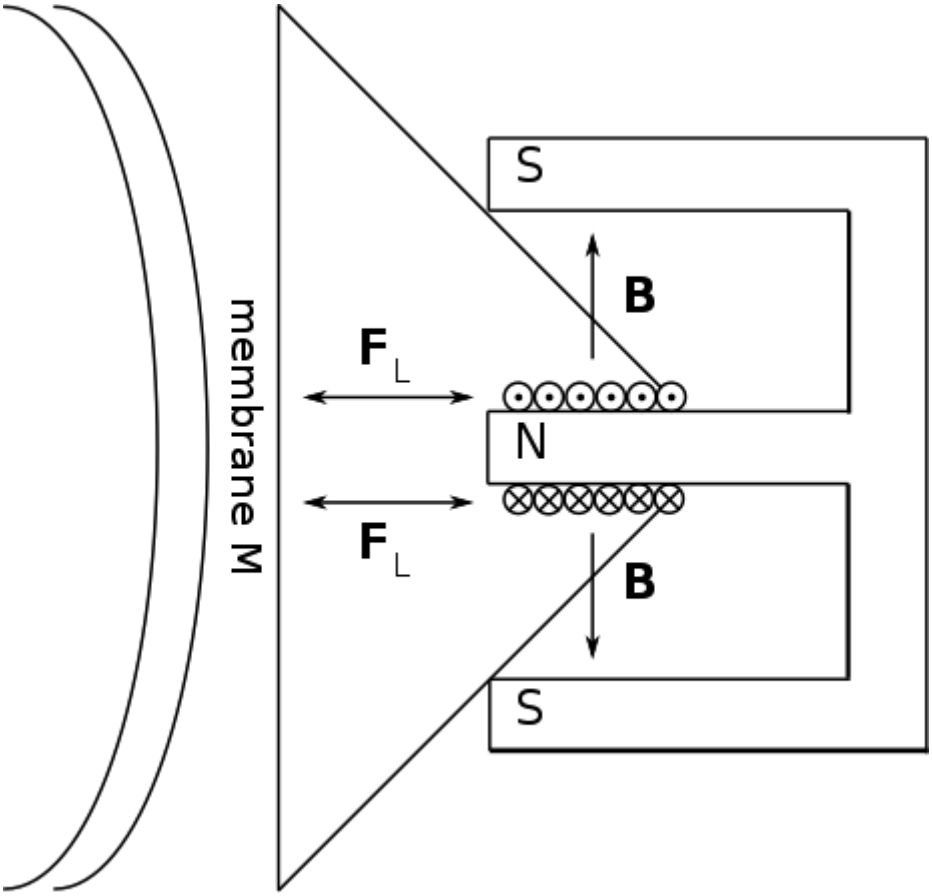

IN
OUT
GND
PWR
1
2
3V

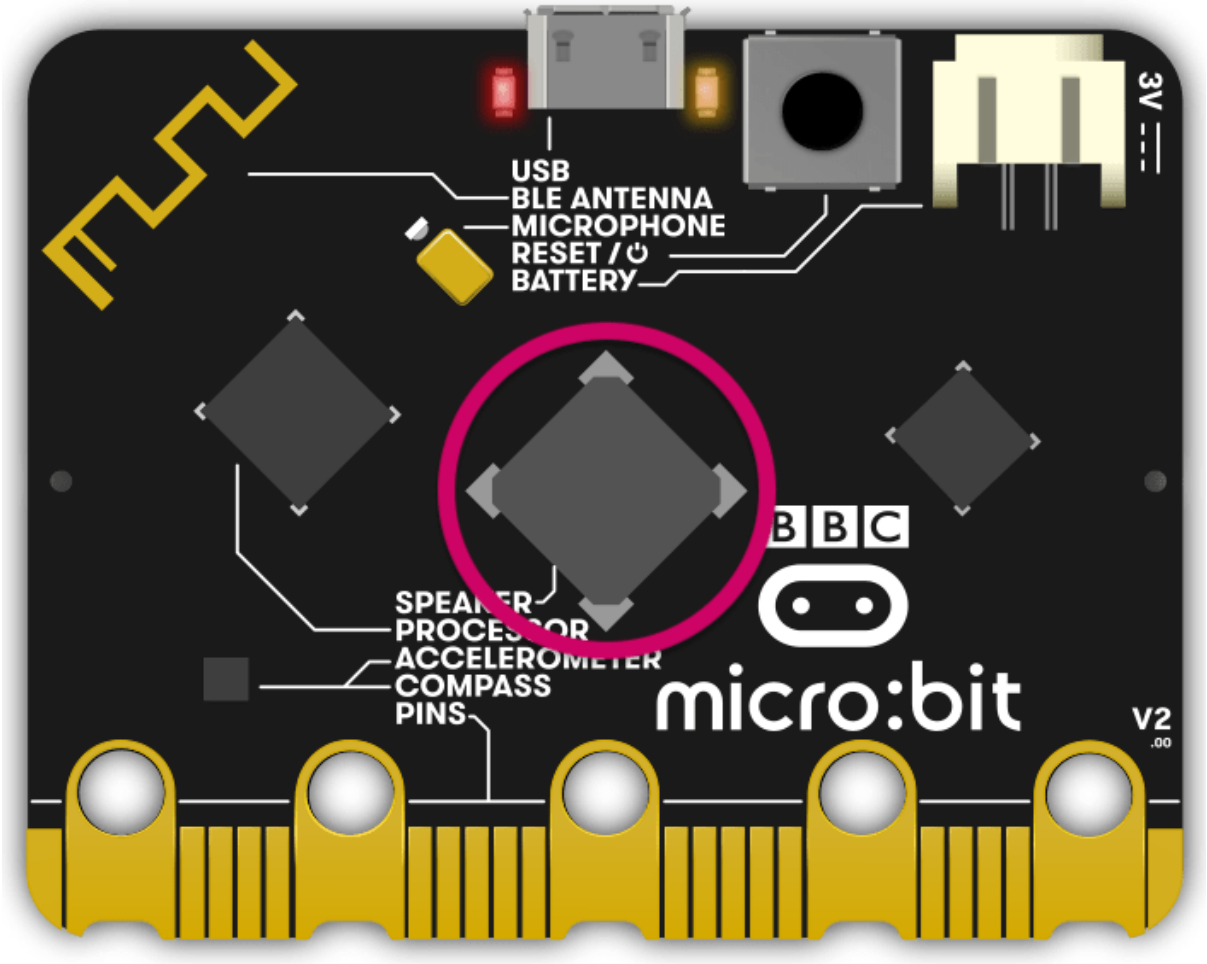
VCC
GND
DIN
CS
CLK

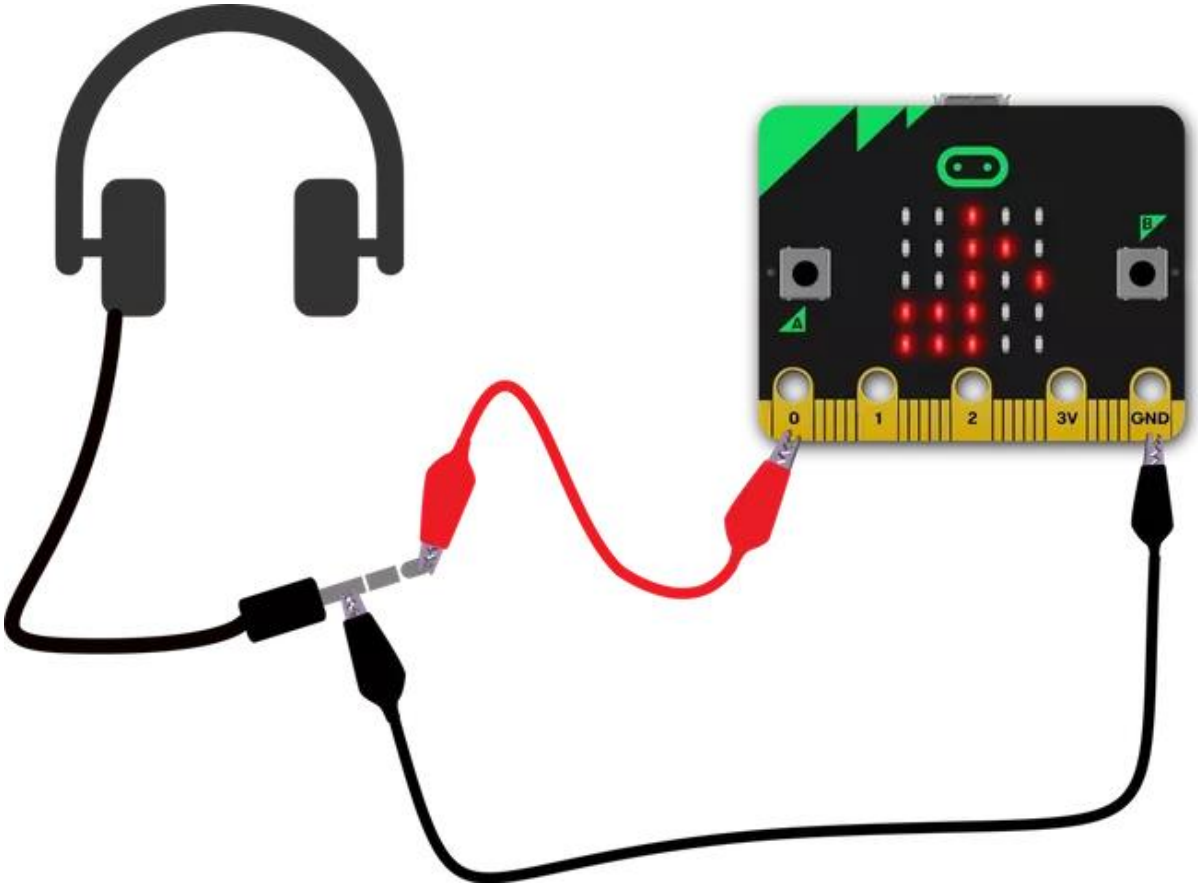

Thonny - D:\34 Python RPi IoT\CodeBundle\Section20\matrix7seg.py @ 89 : 61
File Edit View Run Tools Help
Files
This computer
D:\ 34 Python RPi IoT \ CodeBundle \ Section20
matrix7seg.py
prog01.py
prog02.py
prog03.py
prog04.py
prog05.py
prog06.py
prog07.py
microbit
main.py
matrix7seg.py
41 def _register(self, command, data):
42 # write to display
43 self.cs.write_digital(0)
44 self.spi.write(bytearray([command, data]))
45 self.cs.write_digital(1)
46
47 def init(self):
48 for command, data in (
49 (self._SHUTDOWN, 0),
50 (self._DISPLAYTEST, 0),
51 (self._SCANLIMIT, 7),
52 (self._DECODEMODE, 0),
53 (self._SHUTDOWN, 1),
54):
Shell
>>>
MicroPython (BBC micro:bit)
Type here to search
7:51 PM
7/10/2022

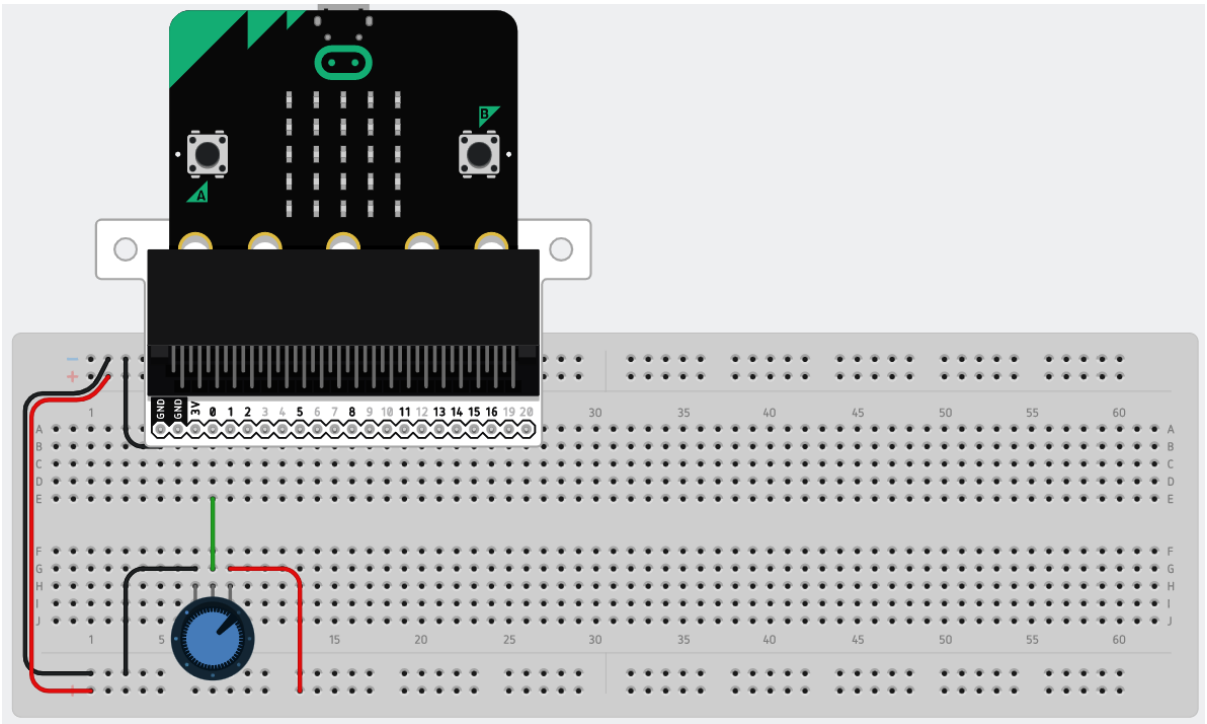
Chapter 12: Producing Music and Speech

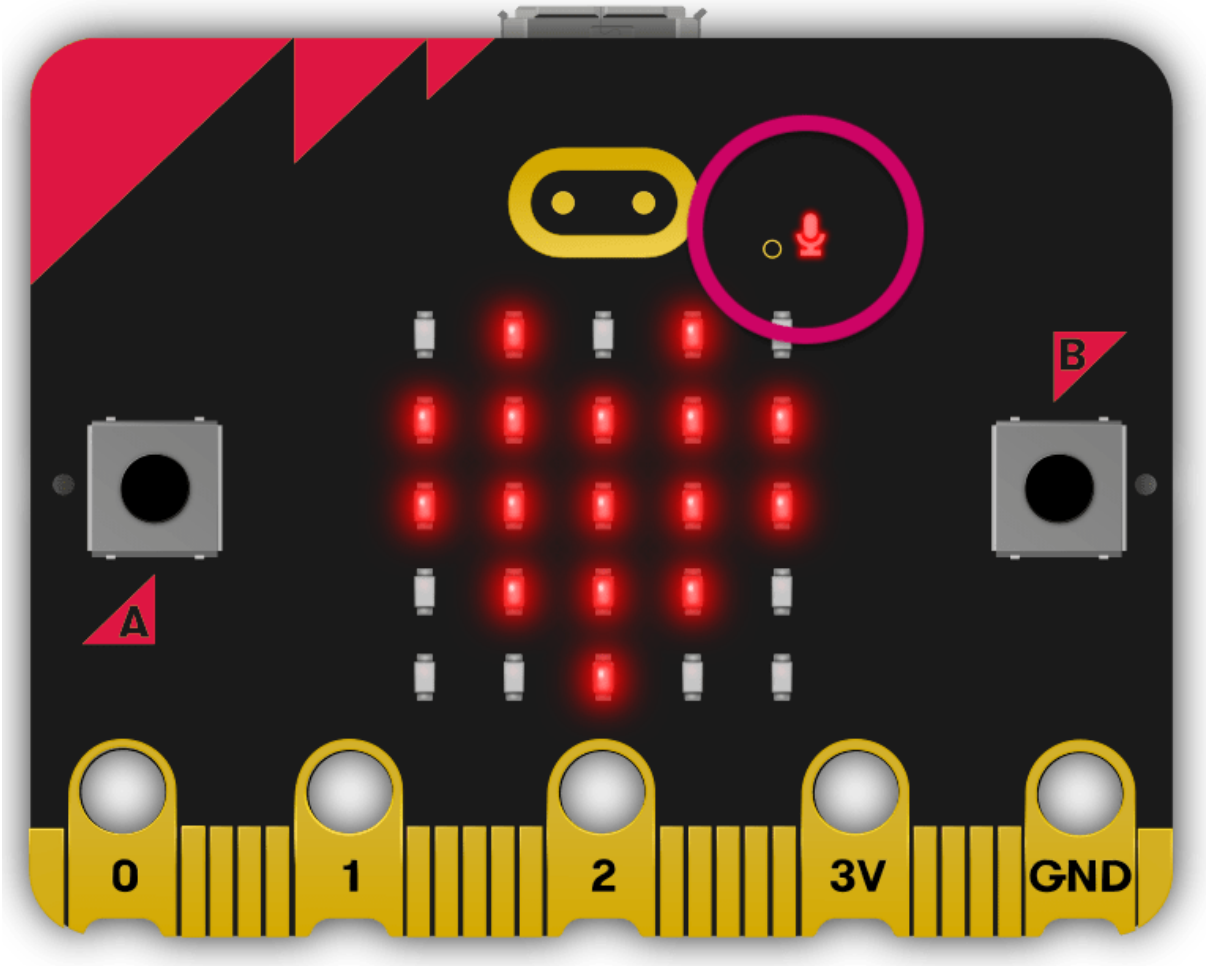
Note Type	Whole Note	Half Note	Quarter Note	Eighth Note	Sixteenth Note
Symbol					
Name	Semibreve	Minim	Crotchet	Quaver	Semiquaver
Duration (in MicroPython)	16	8	4	2	1



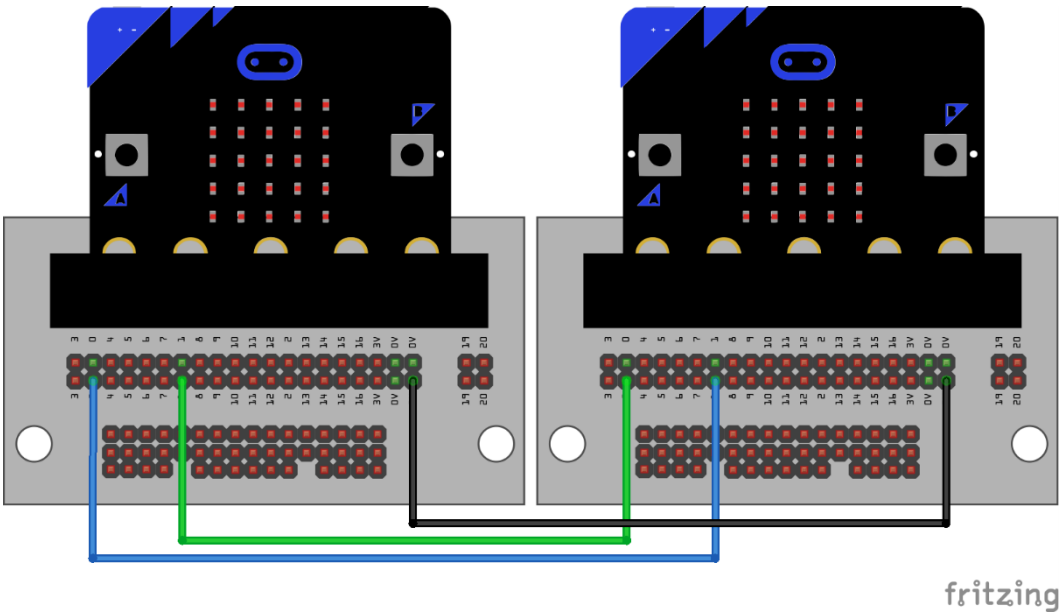

USB
BLE ANTENNA
MICROPHONE
RESET / ⏻
BATTERY
3V
BBC
micro:bit
V2
.00
ACCELEROMETER
COMPASS
PINS

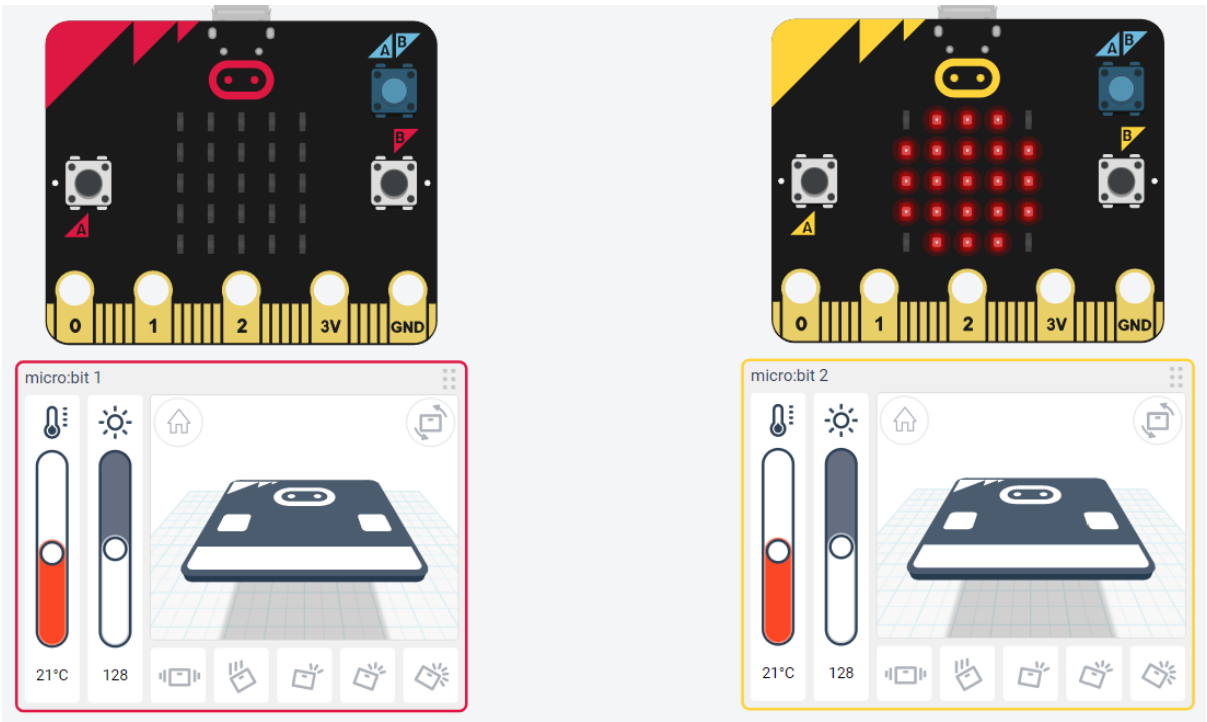

0
1
2
3V
GND

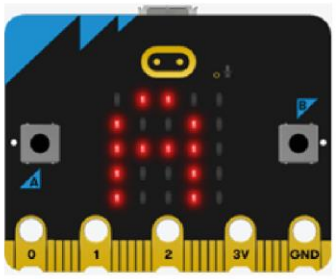
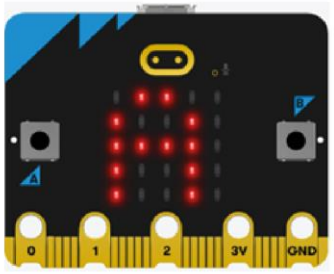
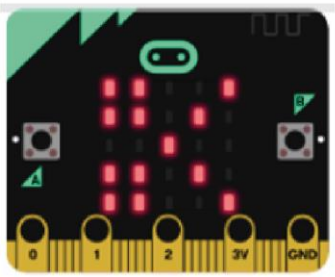
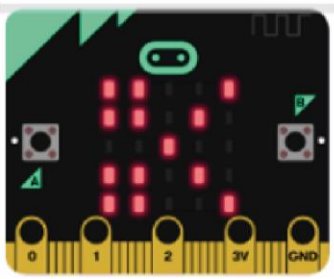
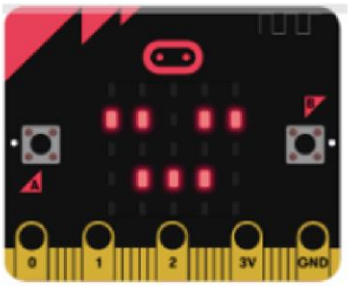
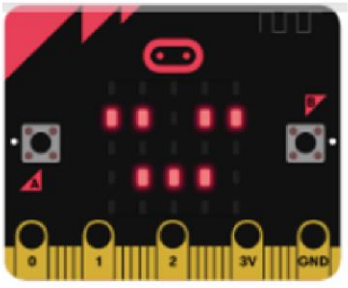

GND
GND
3V
0 1 2 5 8 11 13 14 15 16

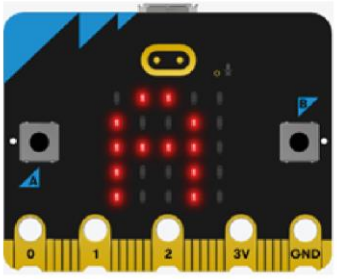
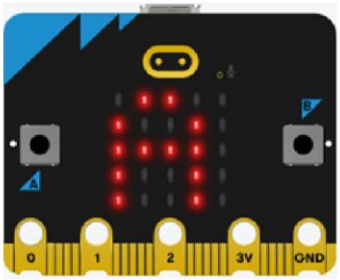
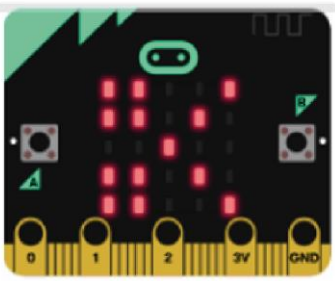
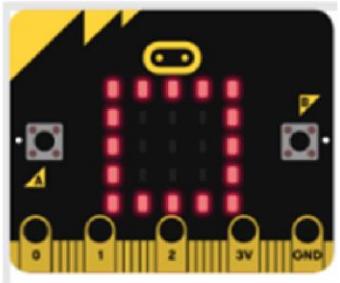
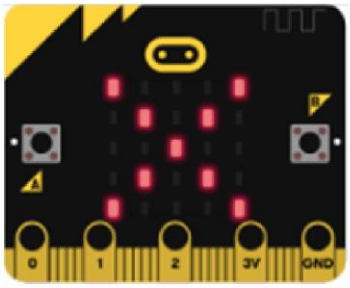
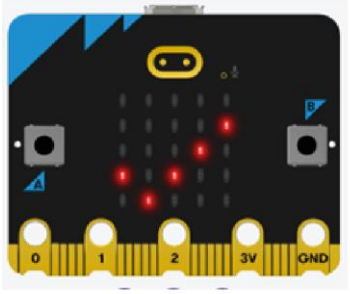

B
A
0
1
2
3V
GND

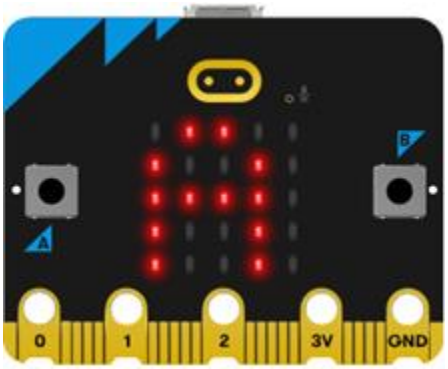
Chapter 13: Networking and Radio

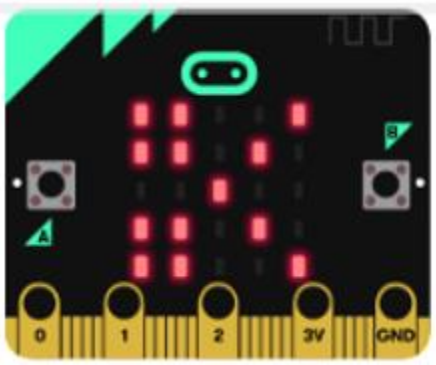


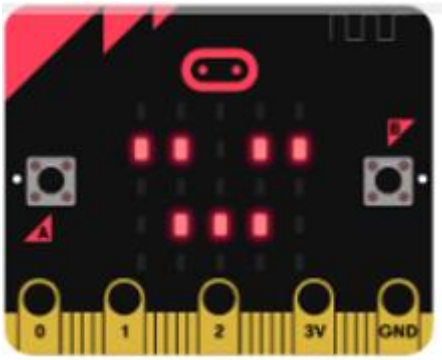


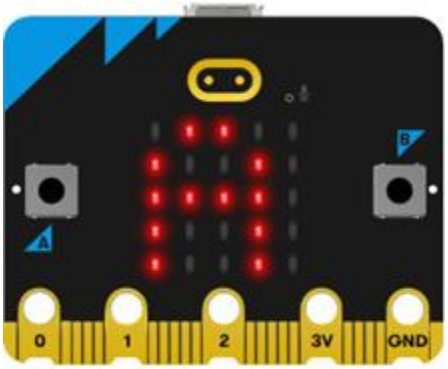
 	 	 
When both Micro:bits are on, A is displayed to both users. It's a much better way of indicating to them that they should press the A button.	User 1 and user 2 press the A button simultaneously and in this case, they both get a scissors.	Simultaneously, the result for each respective user is displayed. In this case, as they both got the same output (scissors), they see an asleep image, indicating a tie.

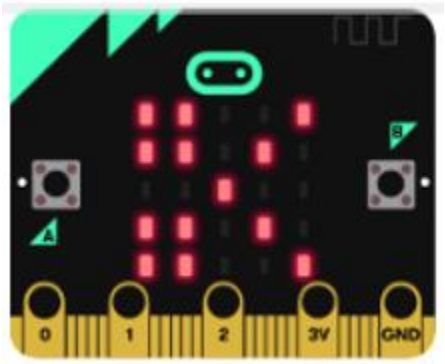
 	 	 
When both Micro:bits are on, **A** is displayed to both users. It's a much better way of indicating to them that they should press the **A** button.	User 1 and user 2 press the **A** button simultaneously and in this case, user 1 gets scissors and user 2 gets a rock.	Simultaneously, the result for each respective user is displayed. In this case, user 2 wins, as rock crushes scissors.

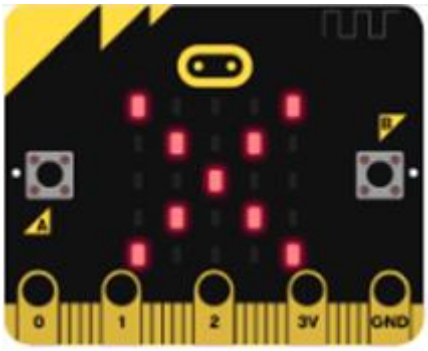

B
A
0
1
2
3V
GND

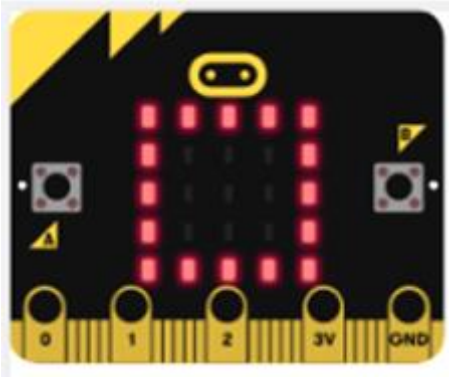

B
A
0
1
2
3V
GND

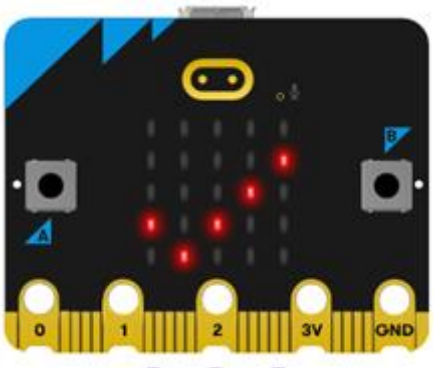

B
A
0
1
2
3V
GND


B
A
0
1
2
3V
GND

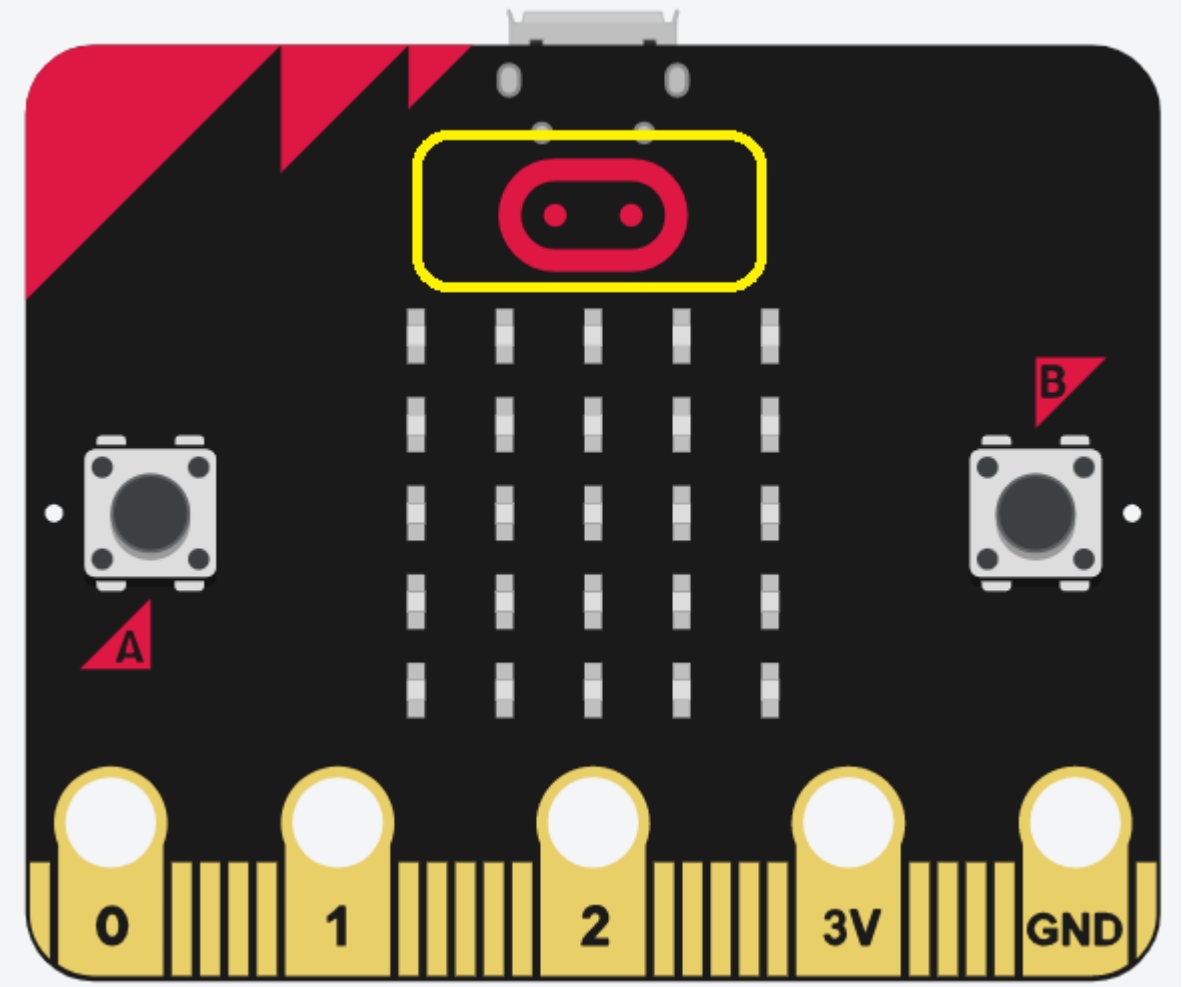

0
1
2
3V
GND

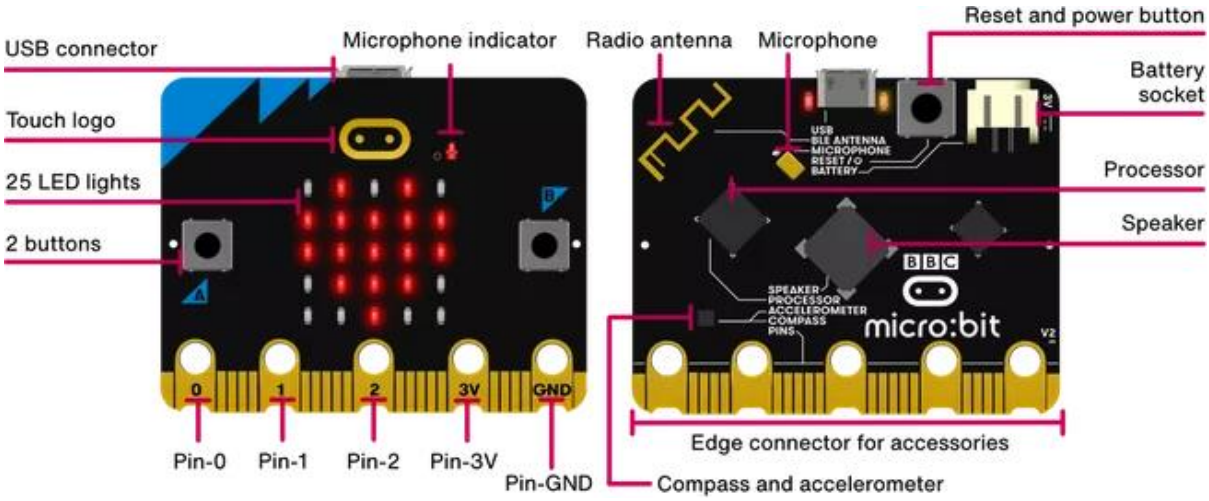

0
1
2
3V
GND

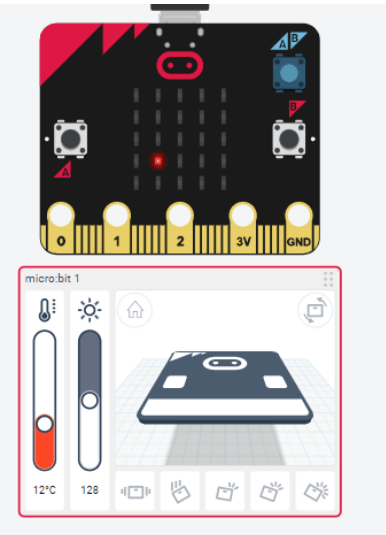

0
1
2
3V
GND


0
1
2
3V
GND

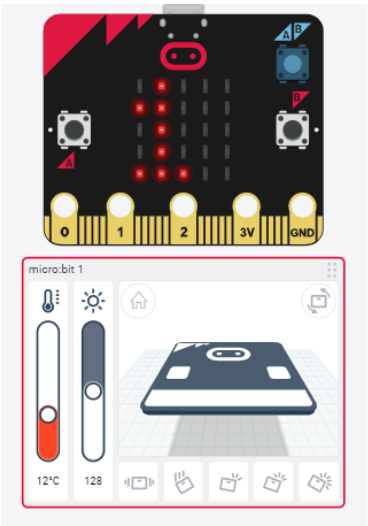
Chapter 14: Advanced Features of the Micro:bit



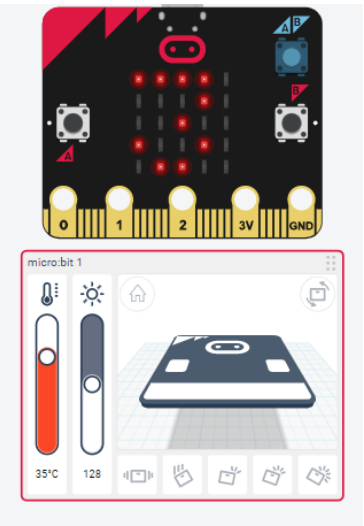




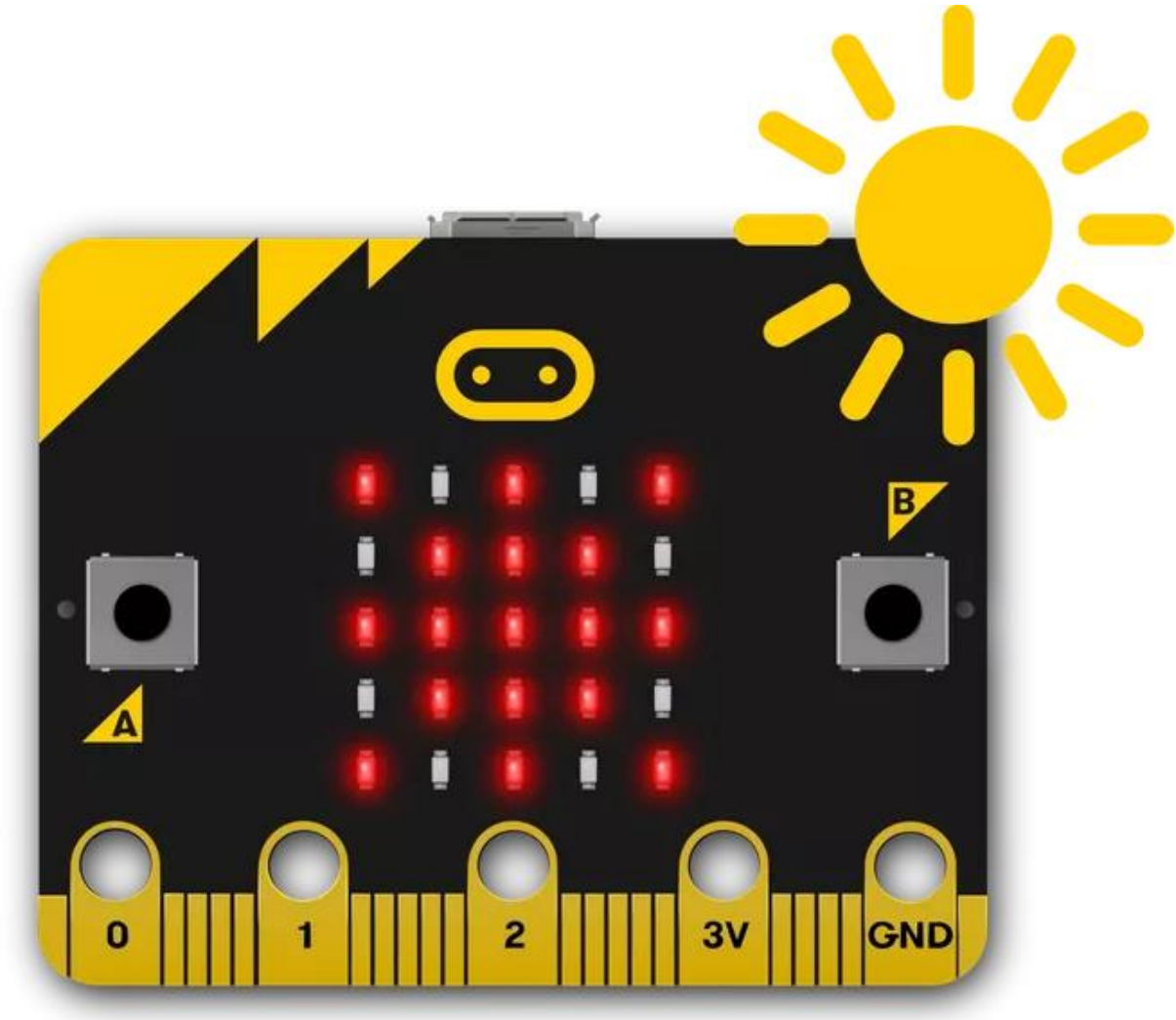
Displaying a (.) on Micro:bit

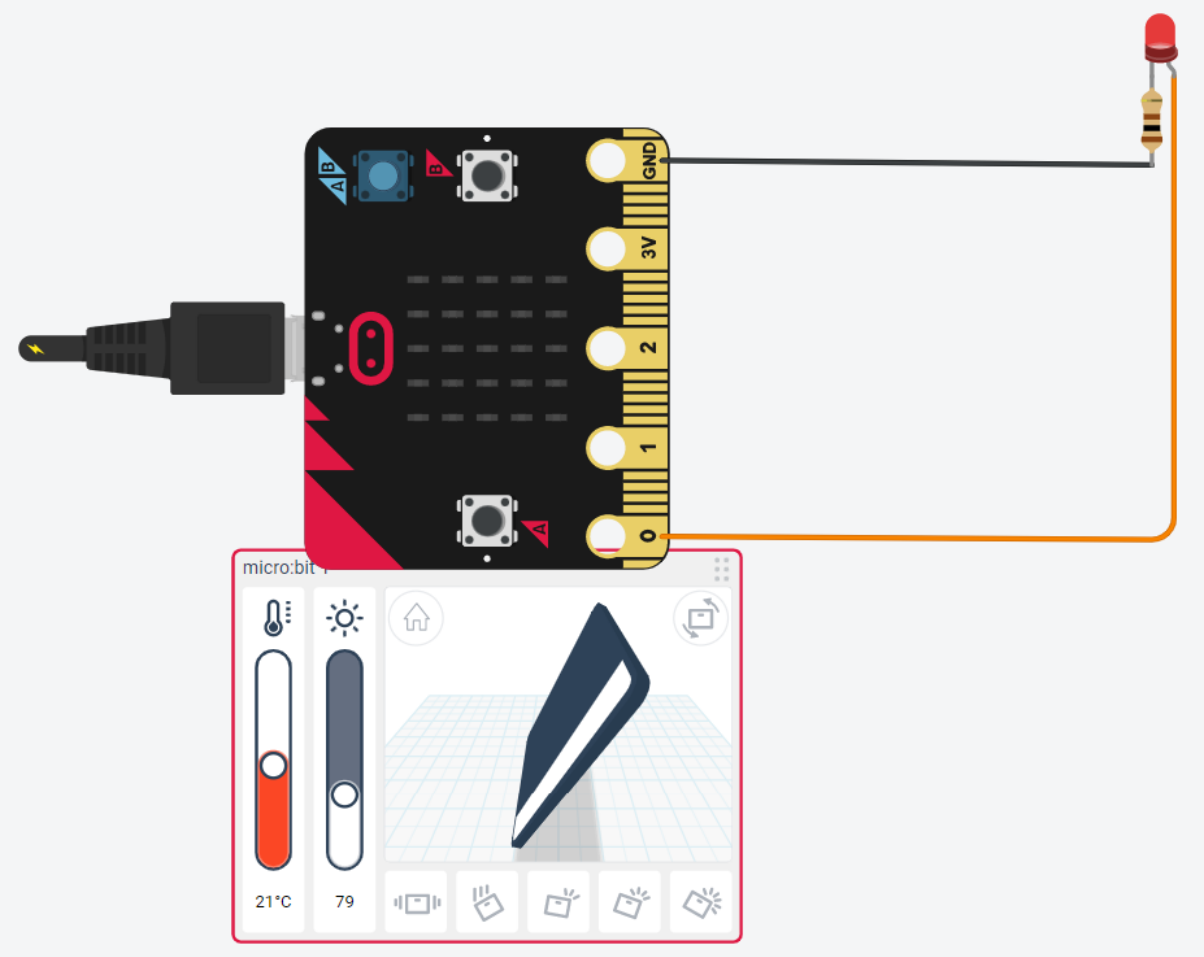


Displaying min temp as 12 in scrolling mode

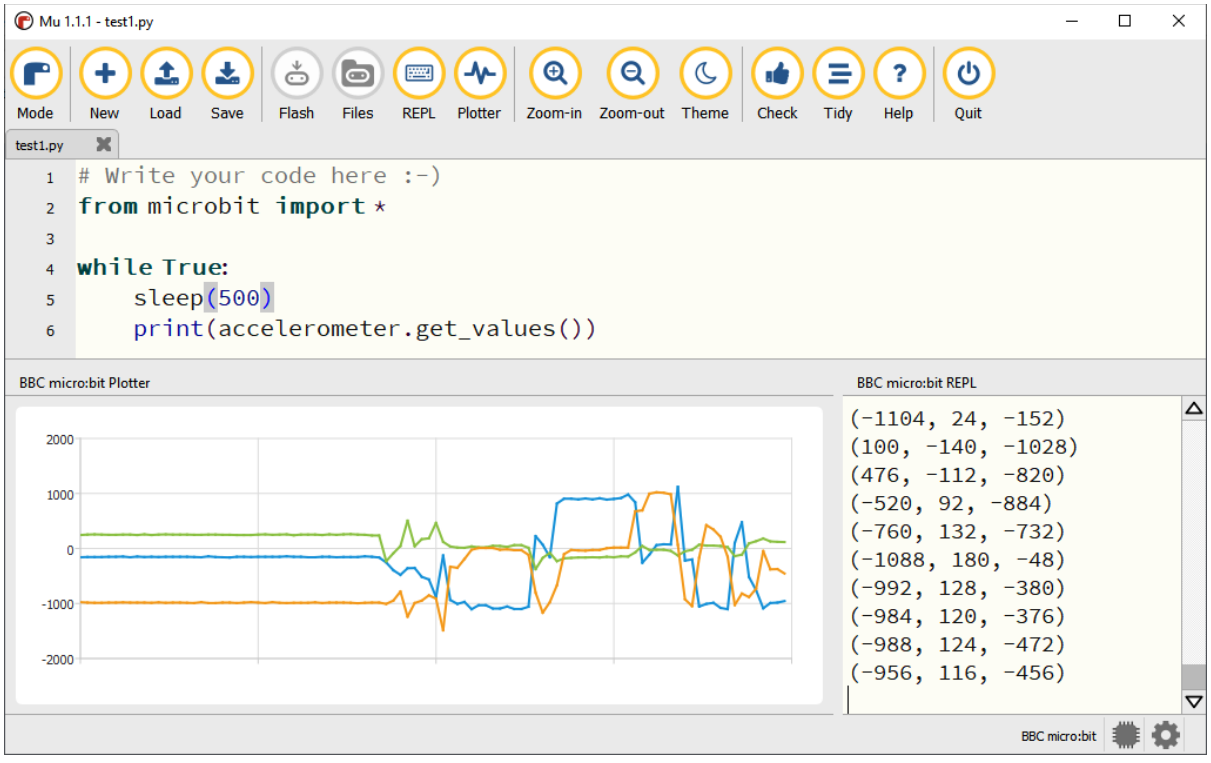


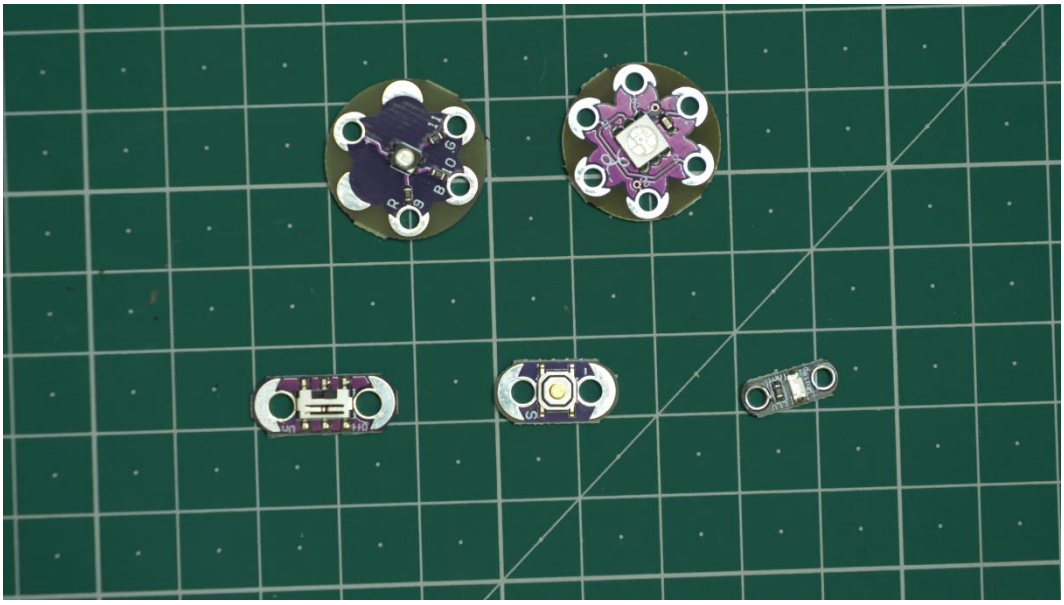
Displaying max temp as 35 in scrolling mode

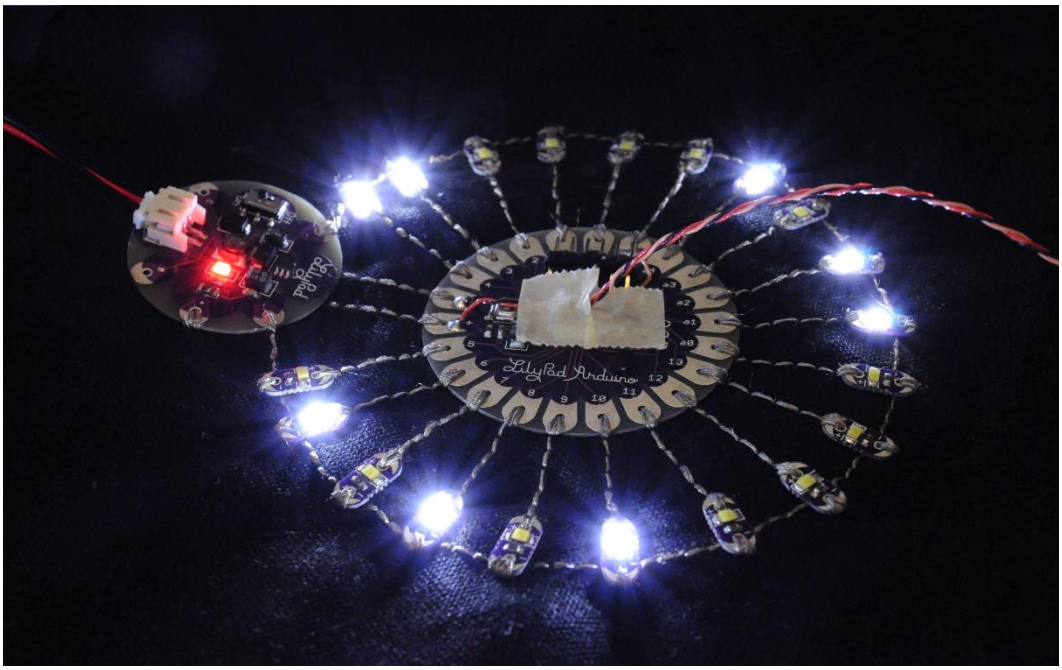
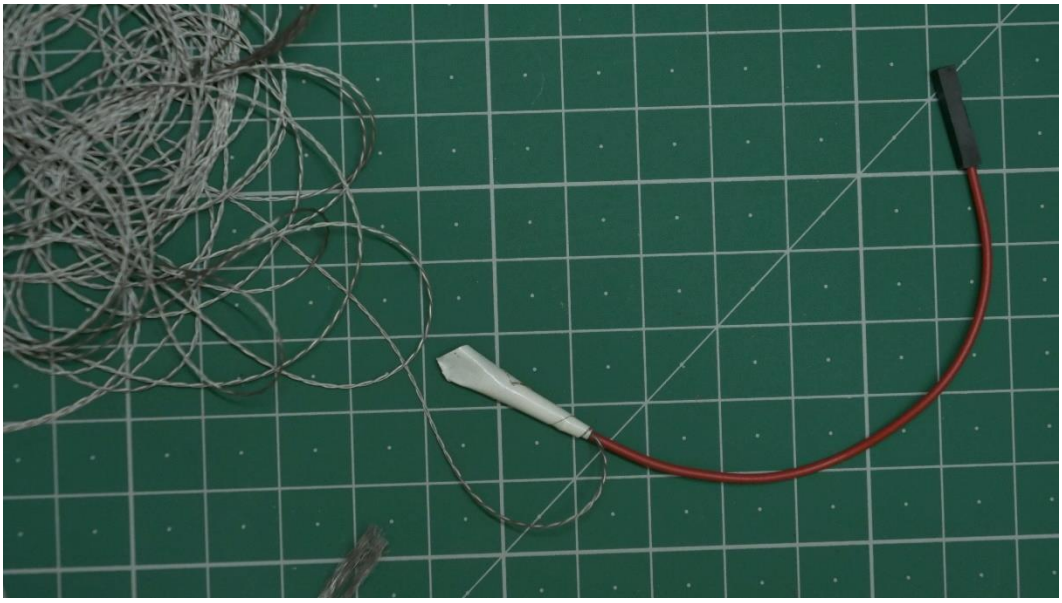
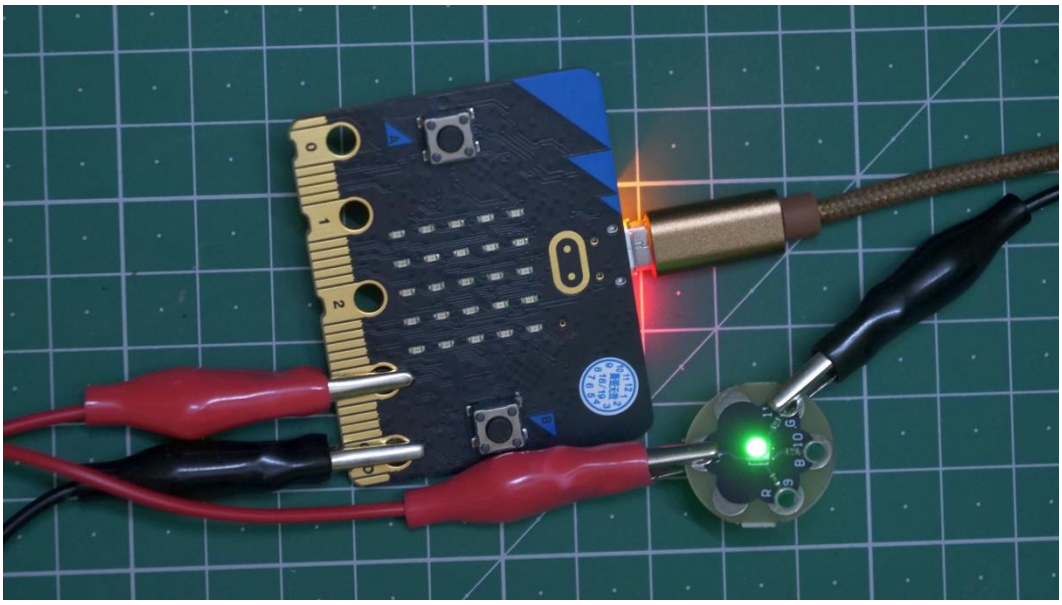



GND
3V
2
1
0
A
B
micro:bit
21°C
79

Chapter 15: Wearable Computing and More Programming Environments






LilyPad Arduino