Geo-Academy Summer School 2025

Introduction to microbit

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Lund University

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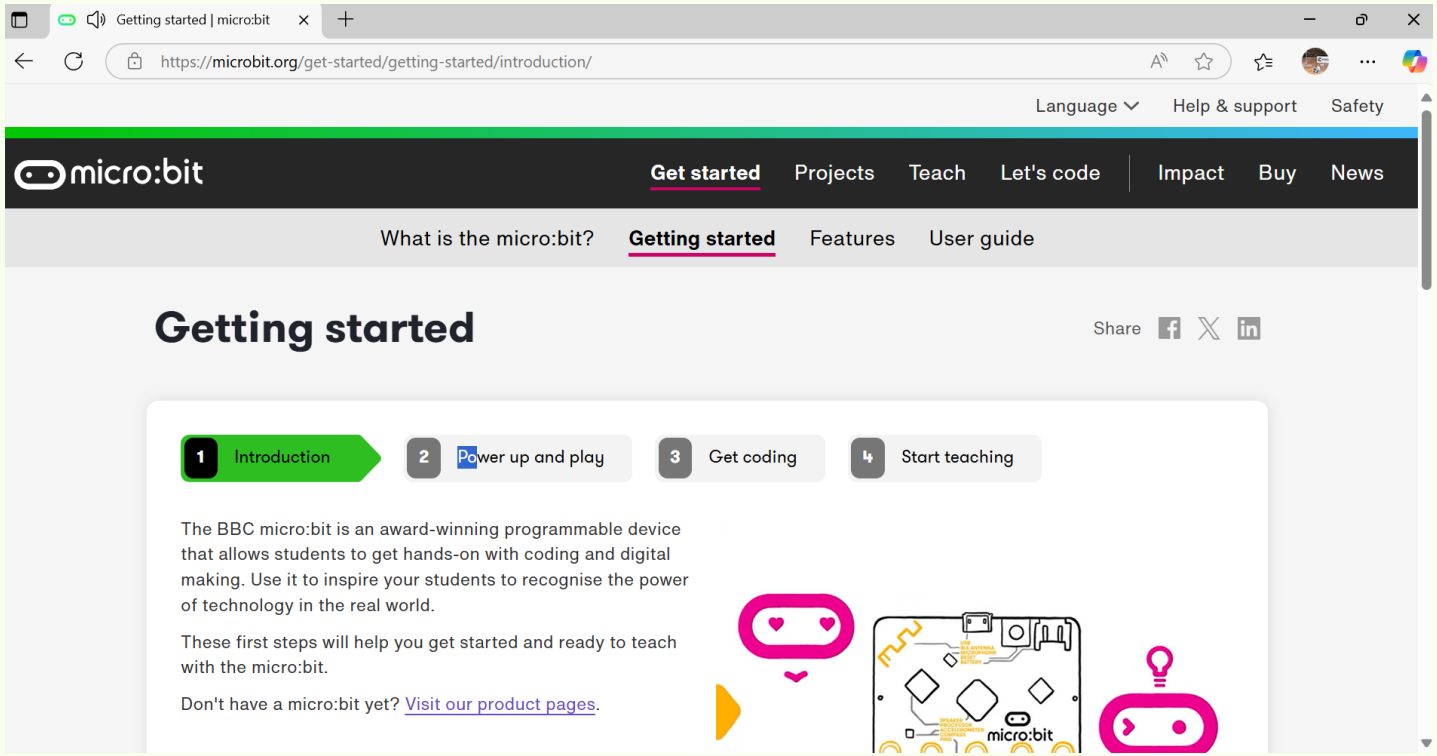
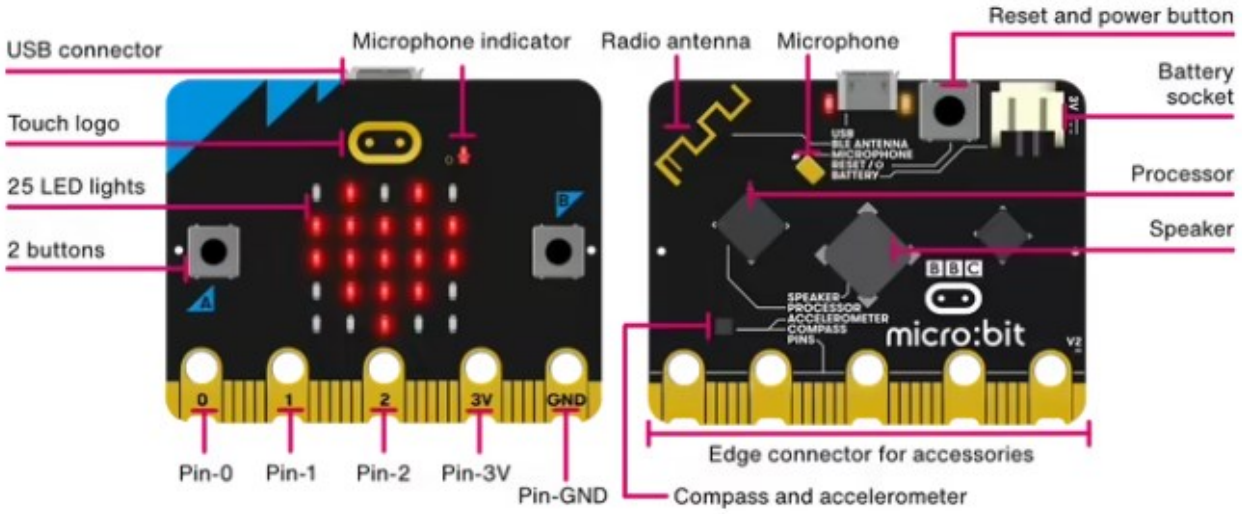
what-is-the-microbit

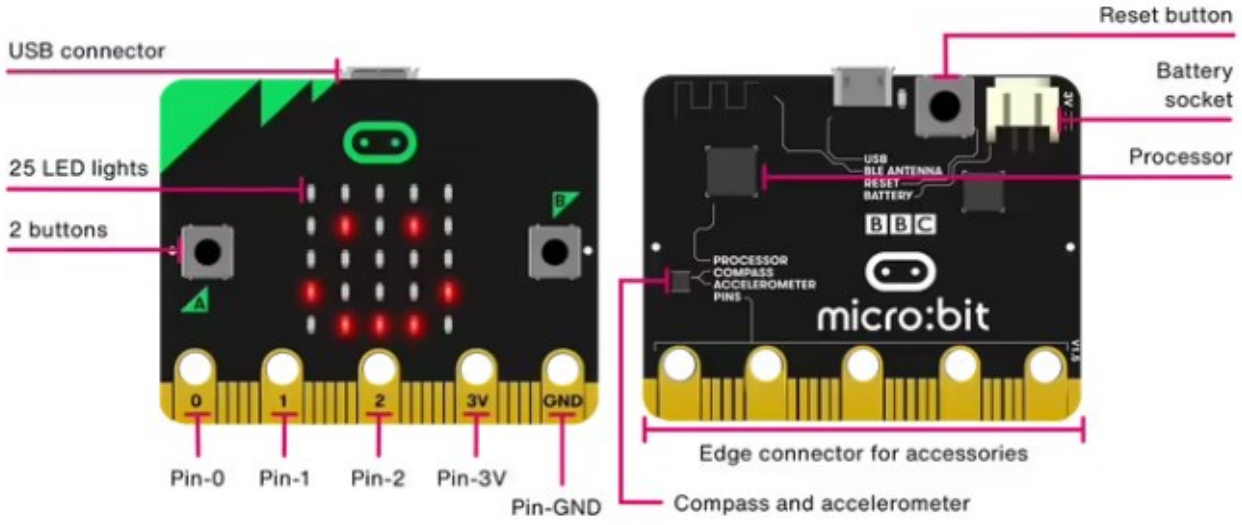
Getting started | micro:bit



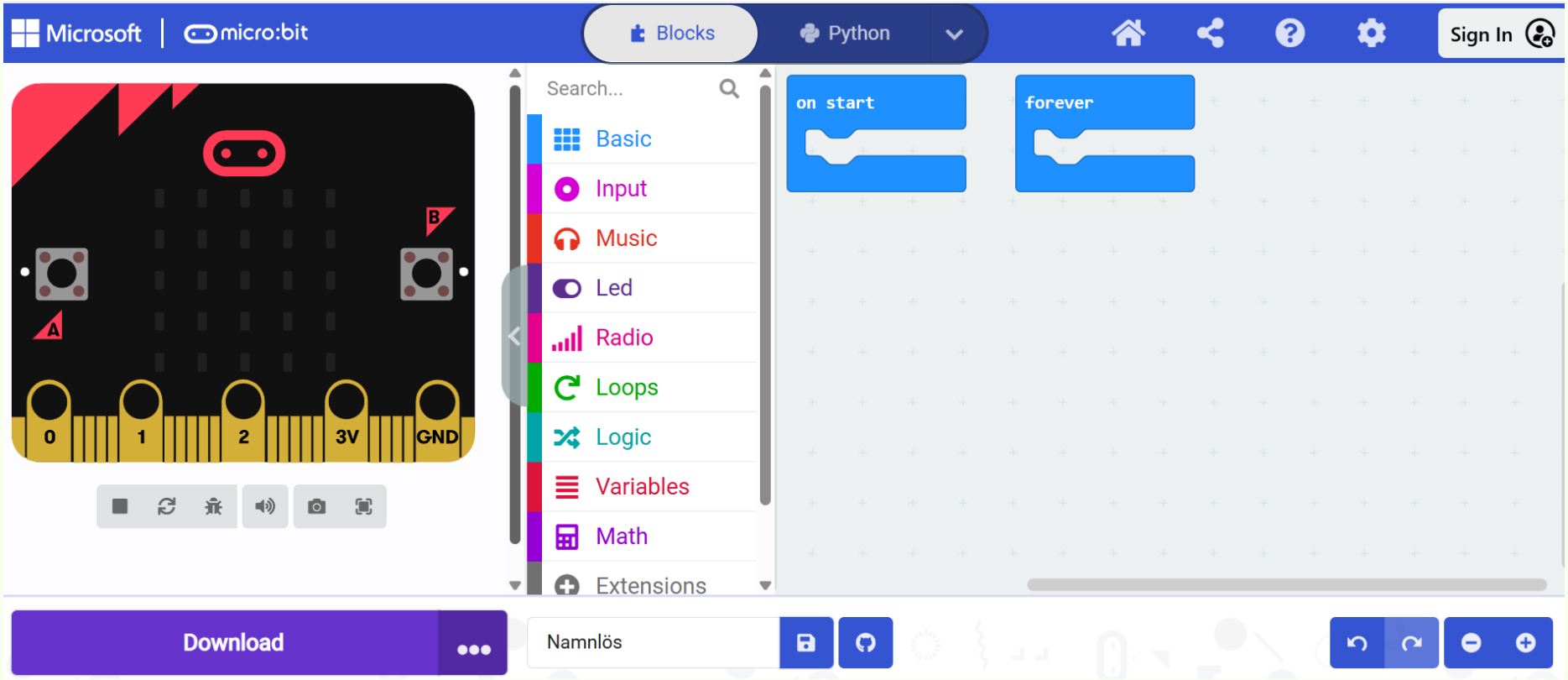
New micro:bit with sound

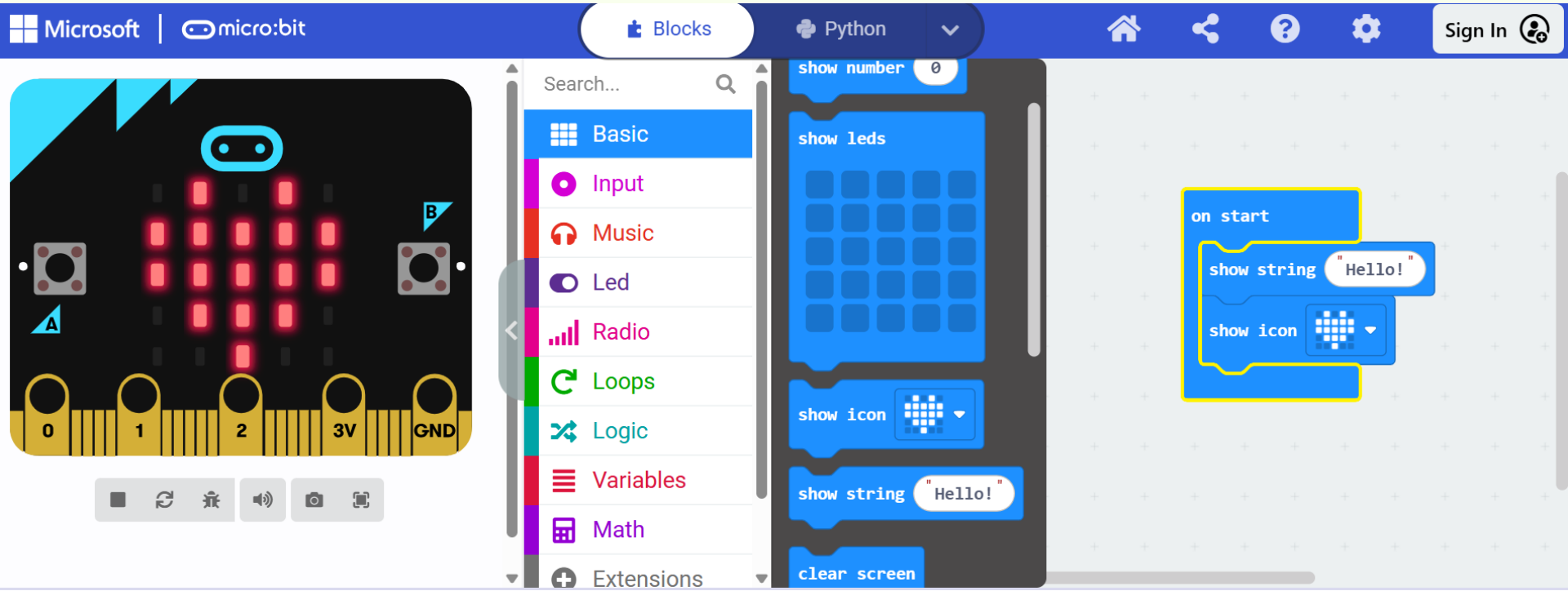


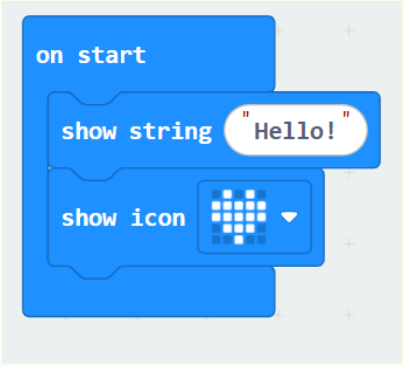
Original micro:bit



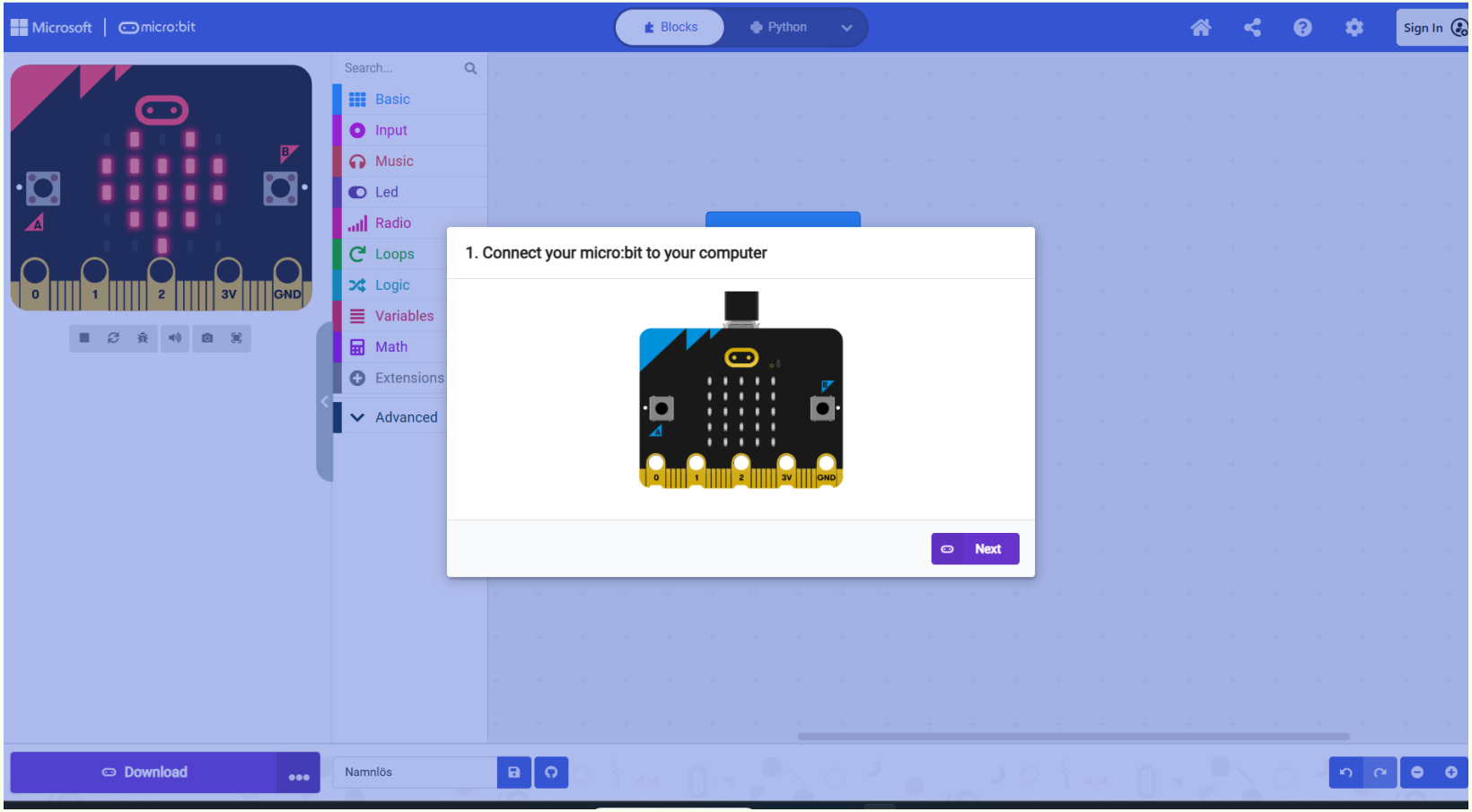
https://microbit.org/get-started/features/overview/


Microsoft
micro:bit
Blocks
Python
Sign In
A
B
0
1
2
3V
GND
Search...
Basic
Input
Music
Led
Radio
Loops
Logic
Variables
Math
Extensions
on start
forever
Download
Namnlös

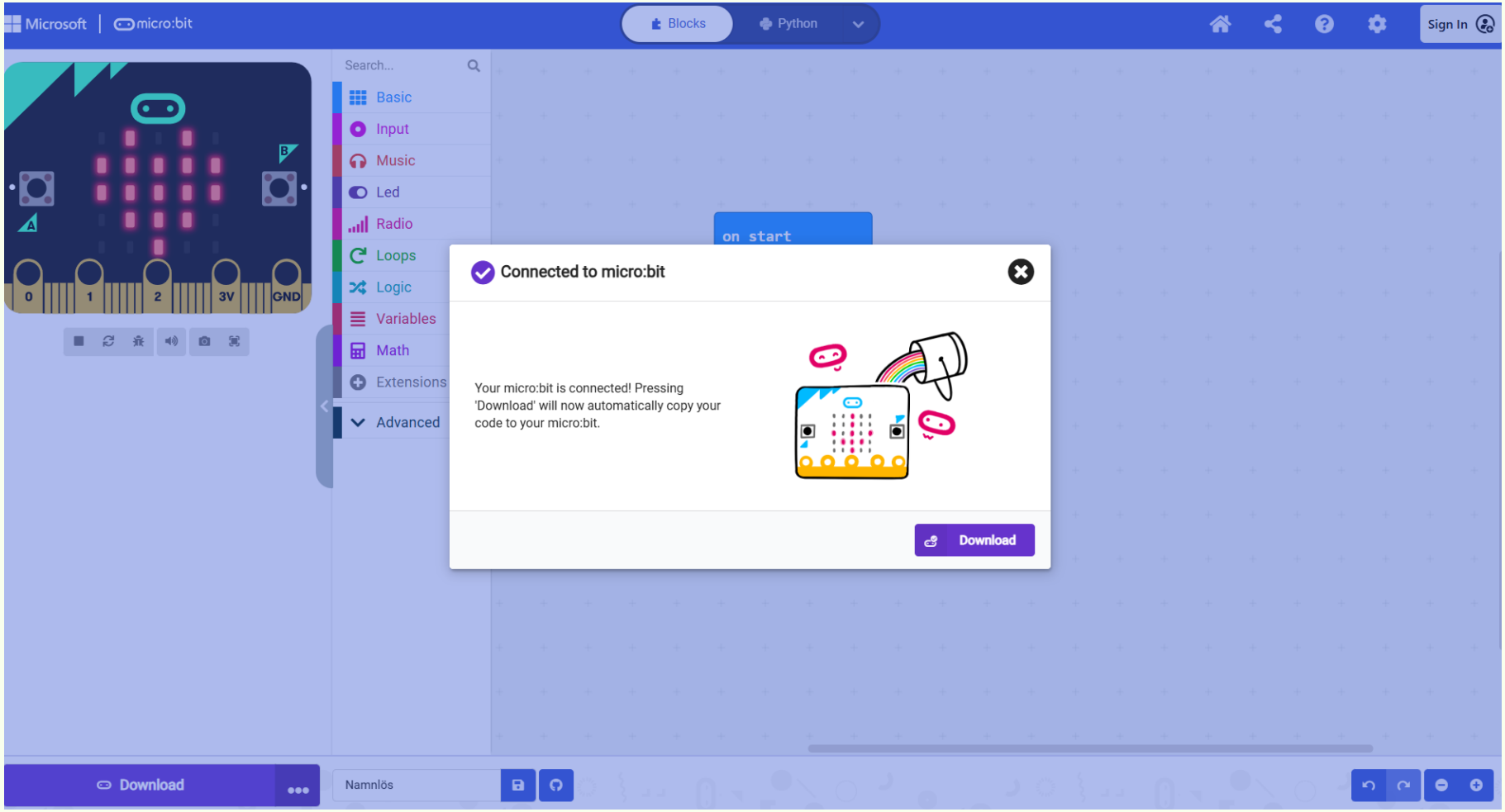

Microsoft
micro:bit
Blocks
Python
Sign In
Search...
Basic
Input
Music
Led
Radio
Loops
Logic
Variables
Math
Extensions
show number 0
show leds
show icon
show string "Hello!"
clear screen
on start
show string "Hello!"
show icon
A
B
0
1
2
3V
GND
Download
Namnlös

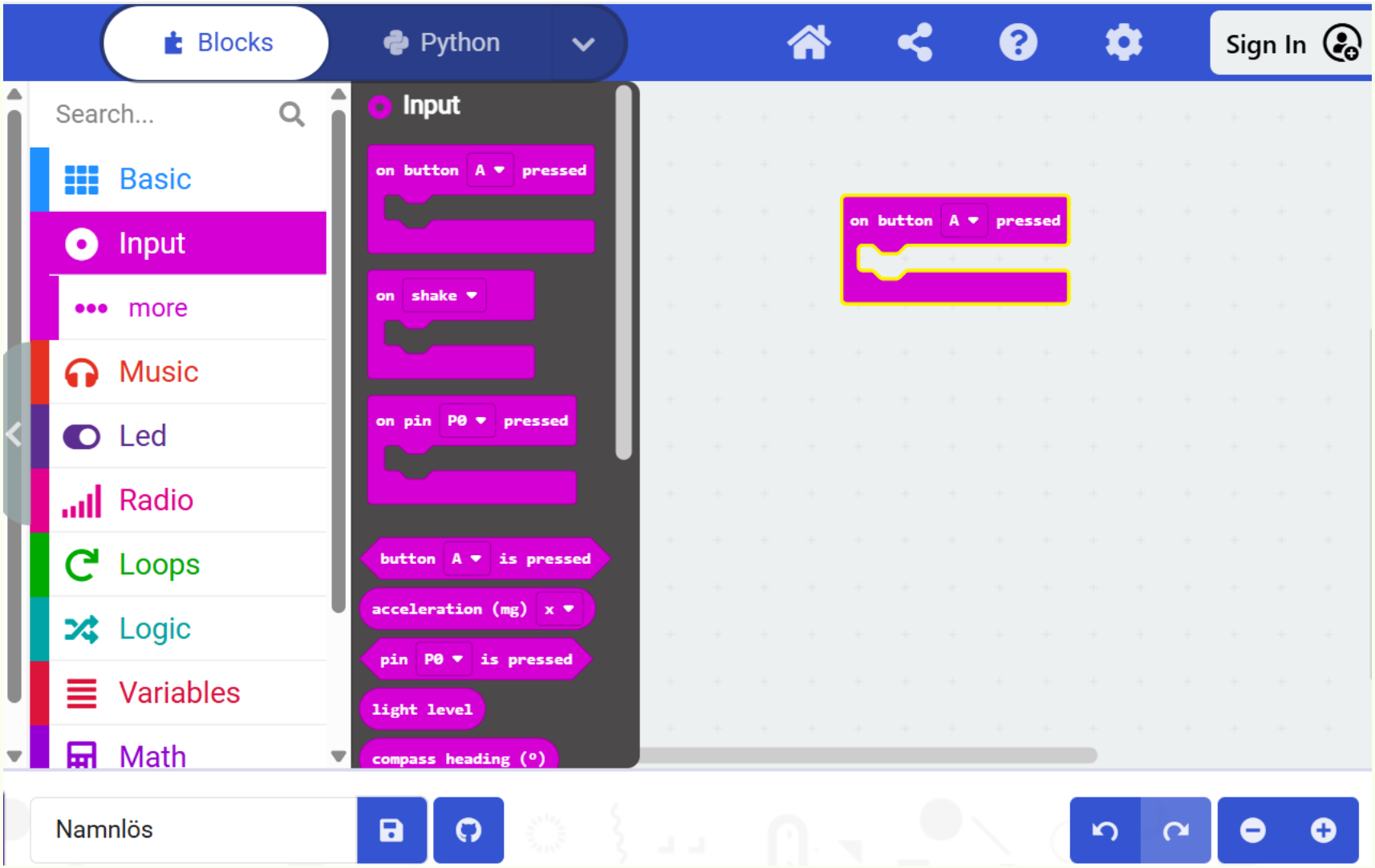

on start
show string "Hello!"
show icon

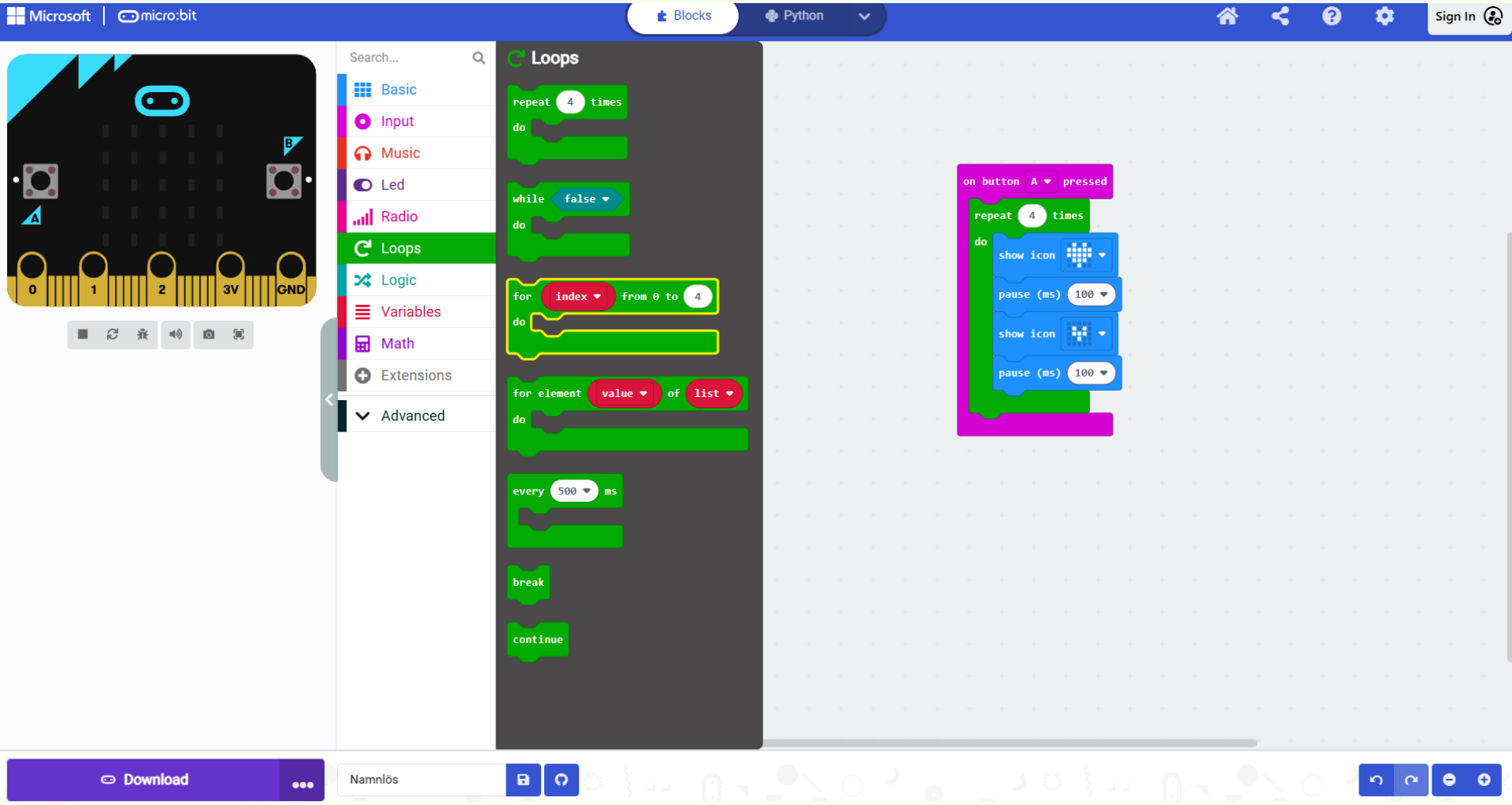
Connect your micro:bit: step 1



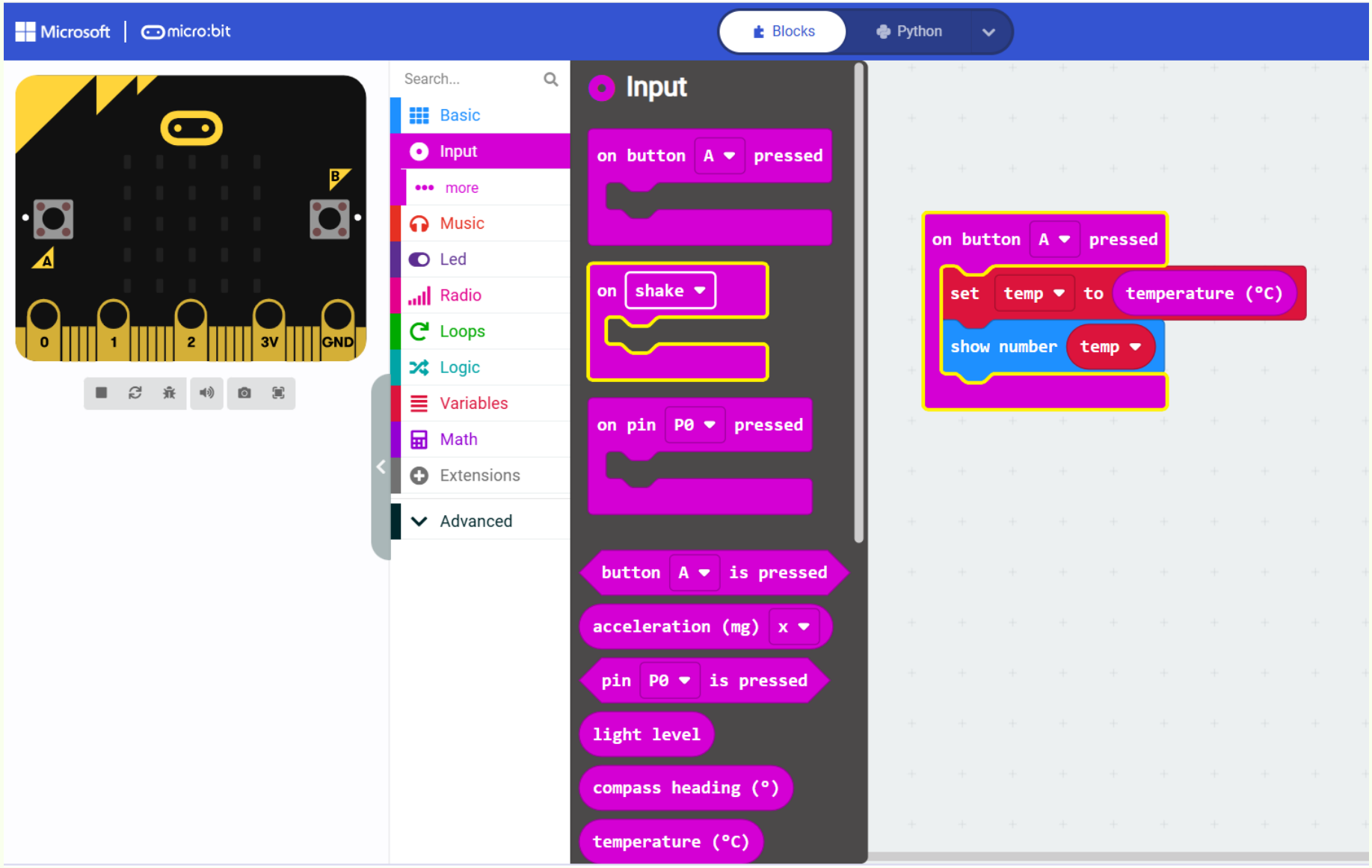
Connect your micro:bit: follow the instructions!




Blocks
Python
Sign In
Search...
Basic
Input
more
Music
Led
Radio
Loops
Logic
Variables
Math
Input
on button A pressed
on shake
on pin P0 pressed
button A is pressed
acceleration (mg) x
pin P0 is pressed
light level
compass heading (°)
on button A pressed
Namnlös

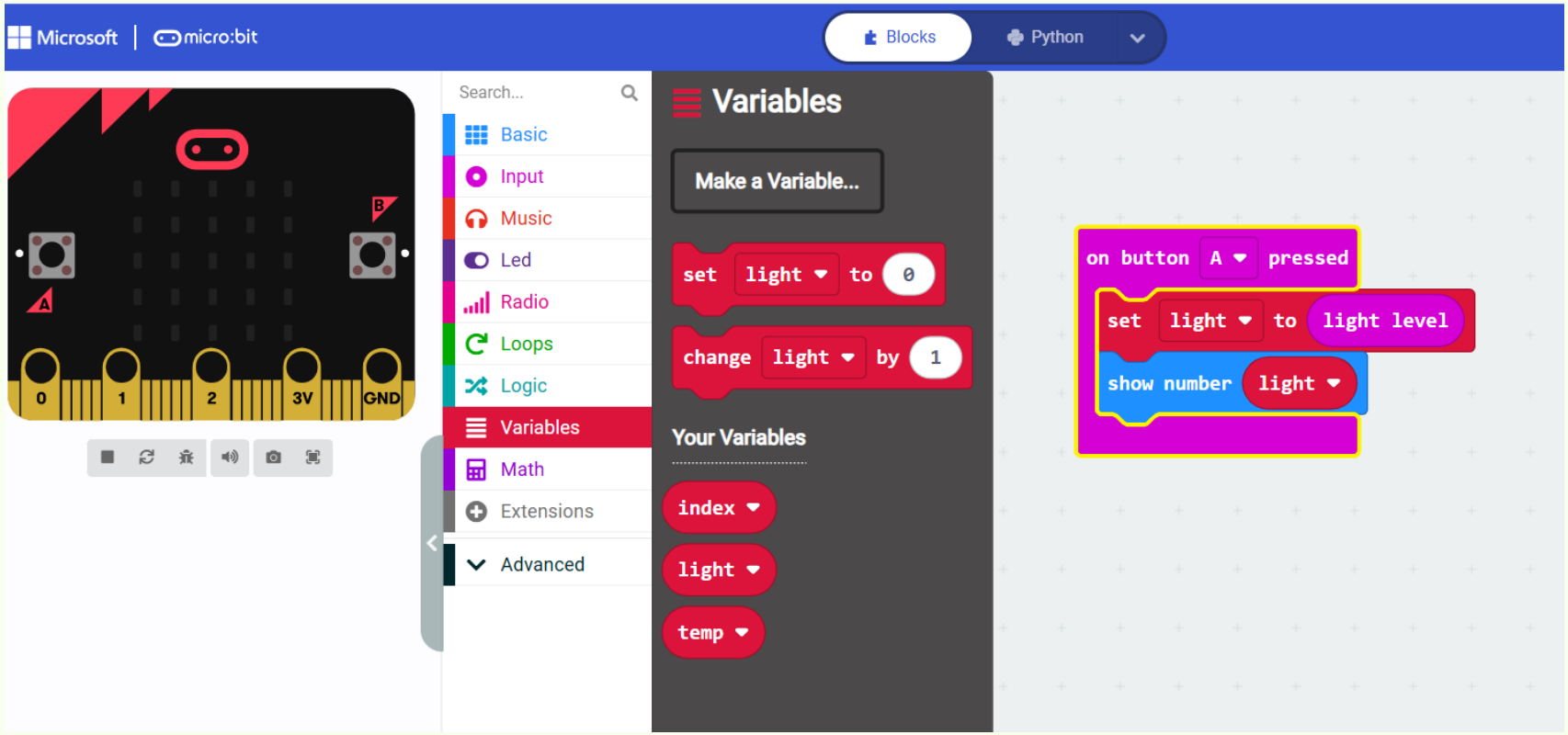


Try out the code above and make some changes. Send a heart to you collegue!

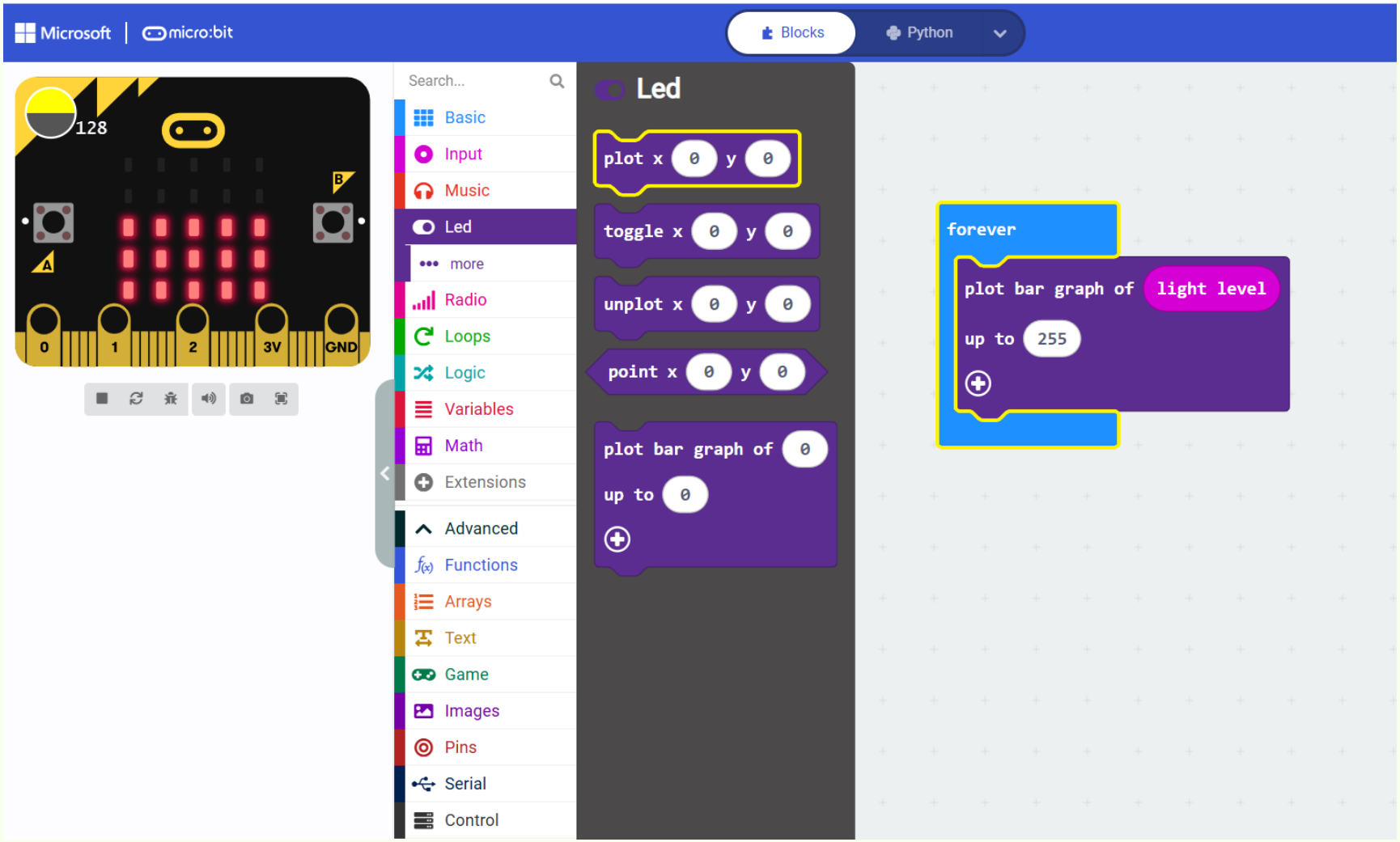


Try out the code above. Check out the temperature in the room!

Let´s measure the light level!

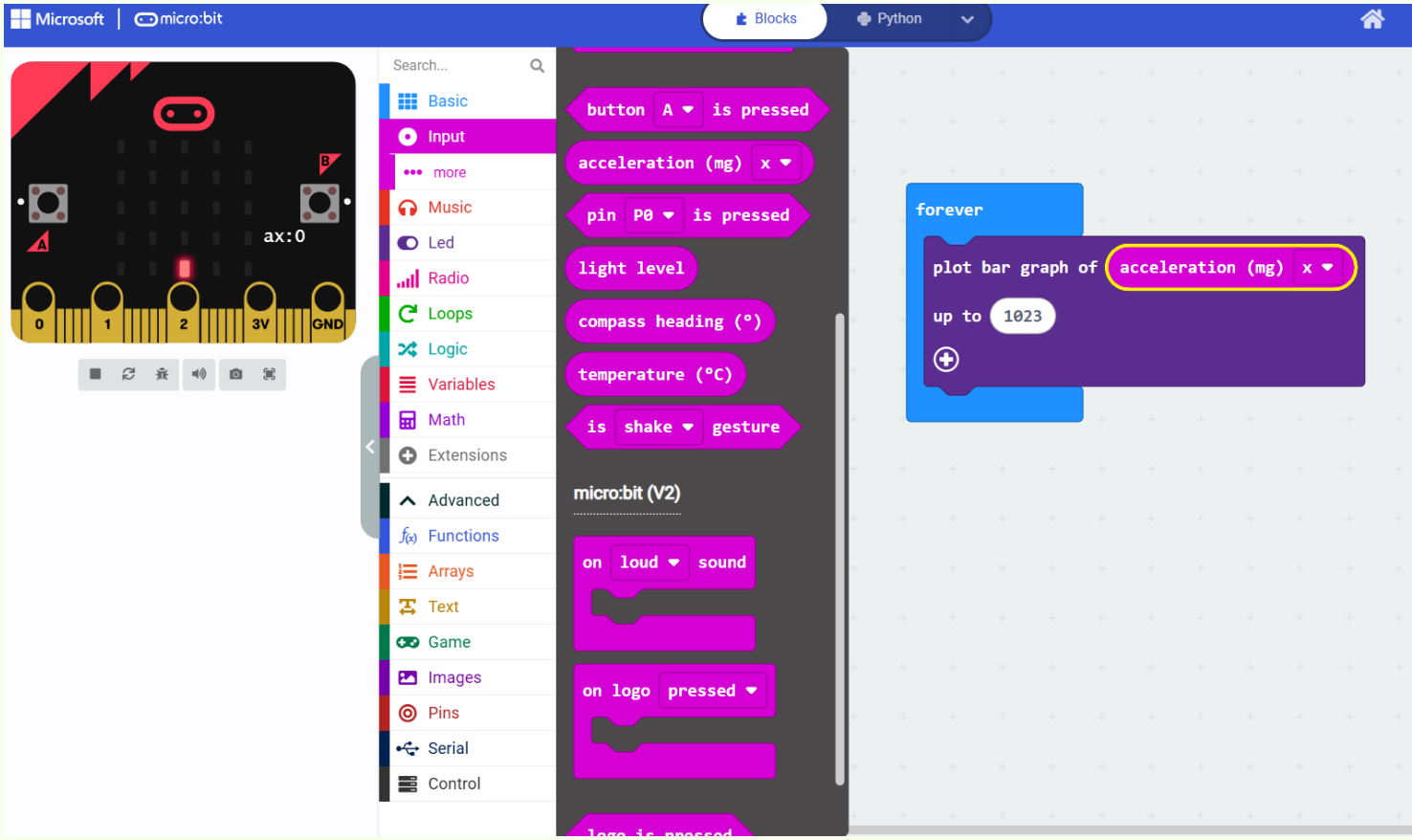


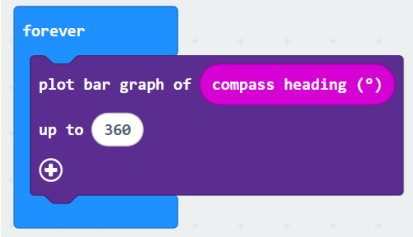
Let´s plot the light level!



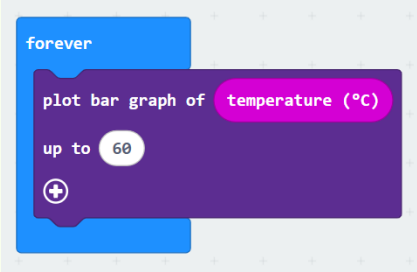
Let´s check out :

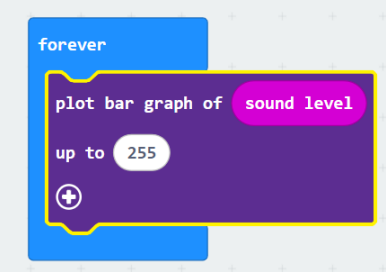
Temperature
Light level
Acceleration
compass
Noise (V:2)

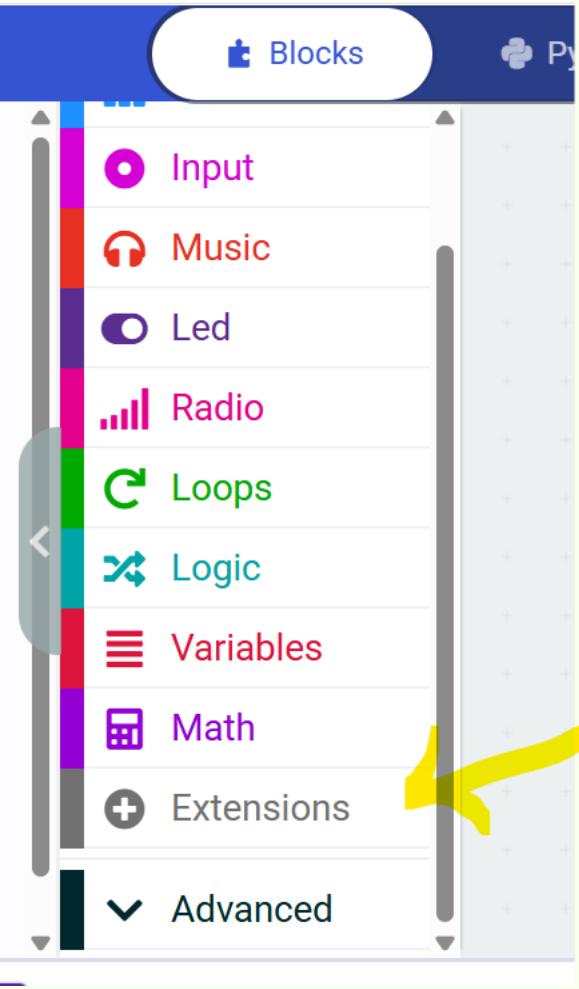


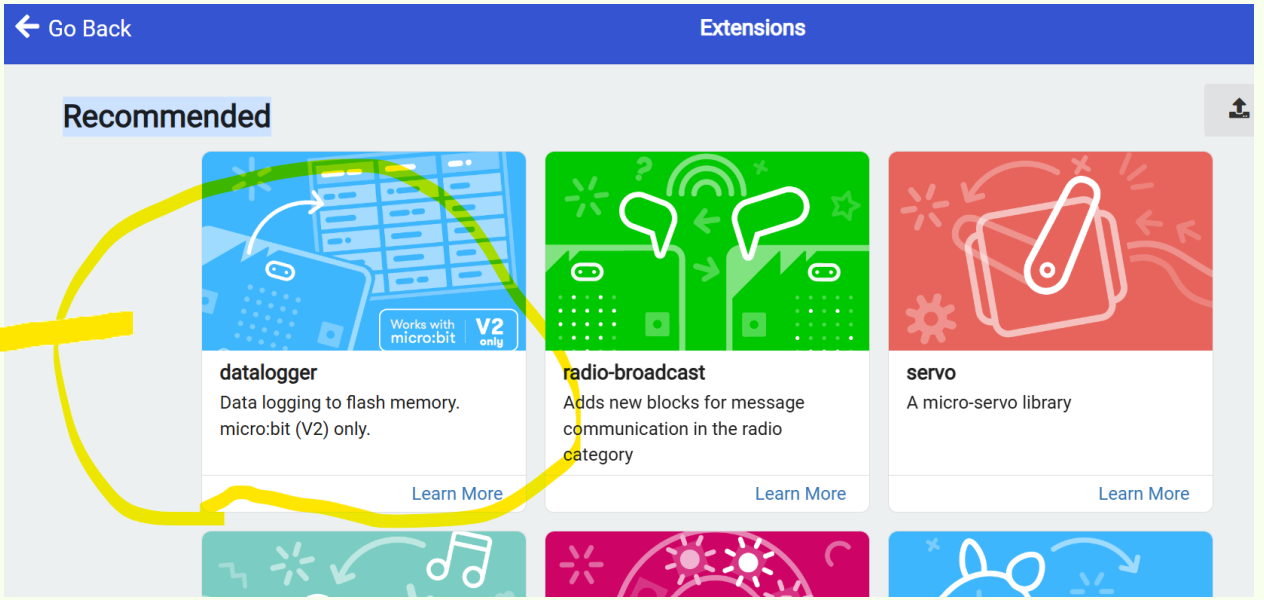

forever
plot bar graph of
compass heading (°)
up to
360


forever
plot bar graph of
light level
up to
255


forever
plot bar graph of
temperature (°C)
up to
60


forever
plot bar graph of
sound level
up to
255


Blocks
Input
Music
Led
Radio
Loops
Logic
Variables
Math
Extensions
Advanced

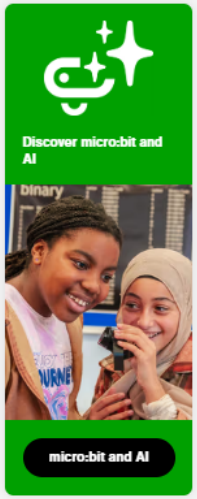

Go Back
Extensions
Recommended
Works with micro:bit V2 only
datalogger
Data logging to flash memory. micro:bit (V2) only.
Learn More
radio-broadcast
Adds new blocks for message communication in the radio category
Learn More
servo
A micro-servo library
Learn More

Go to the micro:bit project side and follow the instructions!

Activity

Environment data logger

Intermediate | MakeCode | Buttons, Data logging, LED display, Light sensor, Microphone, Temperature sensor | Boolean logic, Data collection, Data handling, Information handling, Sensors, Statistics & graphs, Working scientifically

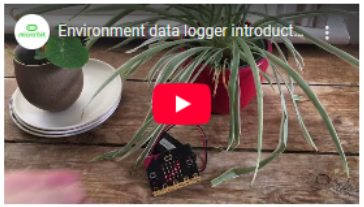


Step 1: Make it

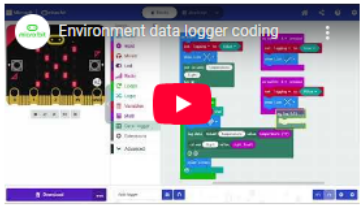
What is it?

Discover the best places to grow plants by using your BBC micro:bit to study light levels and temperatures over several hours or days.

Introduction



Coding guide



What you need

- a micro:bit V2
- a computer and micro USB cable for coding the micro:bit and viewing your data
- micro:bit battery pack (optional but recommended)
- our data logging guide may be useful

Gather data

- Flash the program below onto your micro:bit.
- Disconnect it from your computer, attach a battery pack and put the micro:bit where you'd like to study temperature and light levels.
- Transferring a new program to your micro:bit will erase any previous data logs, but you can also delete old data by pressing buttons A and B together. Having one set of data with continuous timestamps makes it easier to view later.
- Press button A to start logging. A tick (or check mark) will appear on the LED display. It will now record data every 1 minute (60,000 milliseconds). You can change this interval by modifying the 'every' block in the code. A heart flashes on the LED display to show when data is being recorded.
- In the unlikely event the log becomes full, the code lets you know by lighting all the LEDs on the display.
- Press button B to stop logging. You'll see an 'X' appear to show it has stopped.