4tronix bit:bot makecode starter guide

This tutorial is the first in a multi-part series of makecode tutorials for the 4tronix Bitbot robot for the BBC micro:bit. The tutorial uses the most current editor at the time of writing.

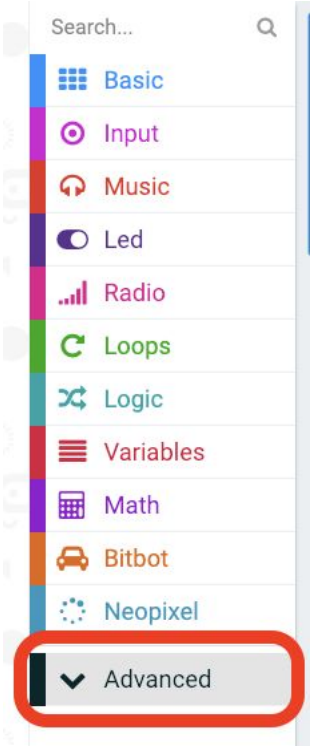
In part 1, you'll learn:

1. How to add the Bitbot extension to the makecode editor
2. Write code to sound the buzzer and turn the Bitbot's LEDs red
3. Load your code onto the micro:bit and run it in your Bitbot

The code for this activity can be found at https://makecode.microbit.org/_XjAUoq04ALRa

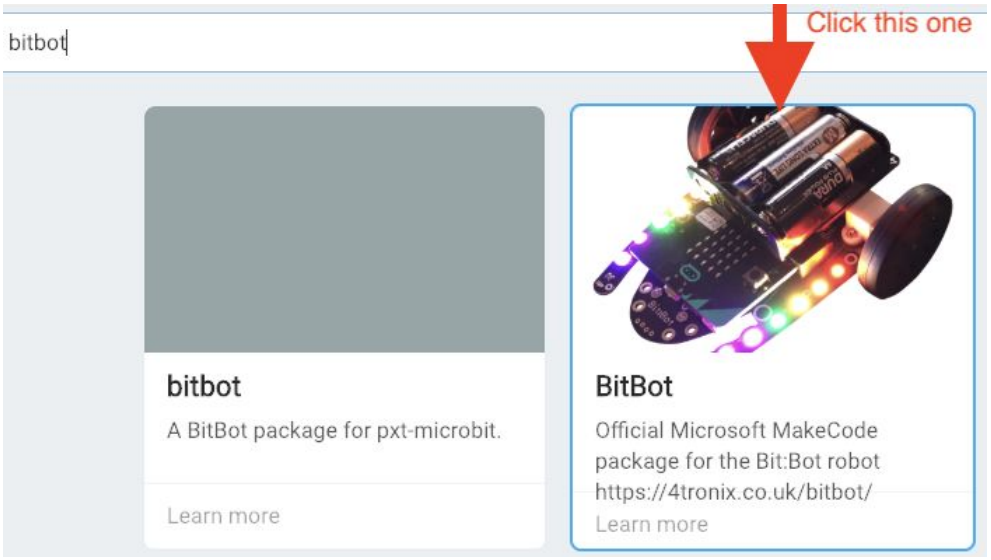
Add the bit:bot extension to the makecode editor

- ❏ In your browser, navigate to https://makecode.microbit.org/#editor
- ❏ Once in the PXT editor, you'll see the command categories. Click on **Advanced** (outlined below)

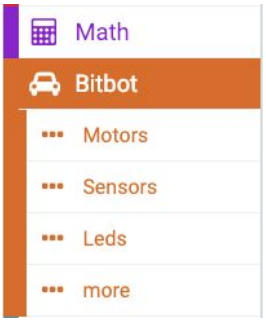


❑ Click on the Extensions category (outlined below)

- ❑ Type 'bitbot' into the search bar, and select the official bit:bot extension (outlined in blue)



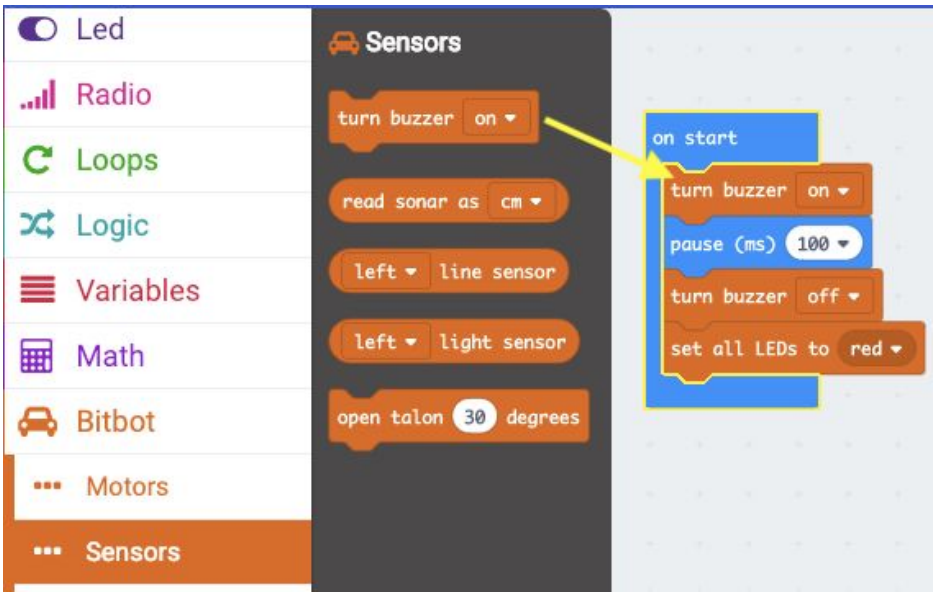
- ❑ When this is loaded, you should see a new red **Bitbot** category below the **Math** one, as shown below.



- ❑ You have now successfully loaded the Bitbot commands that can be dragged across to the programming area on the right of your editor!

Sound the buzzer and turn the LEDs red

- ❑ In your PXT editor, click on **Bitbot > Sensors** and drag the required blocks across as shown by the yellow arrow below.



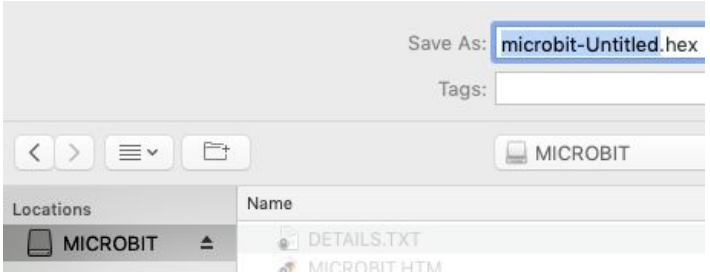
- ❏ Continue to drag the blocks into the **on start** section. Once your code is loaded onto the micro:bit in your Bit:bot robot and the power is switched **ON**, these commands will be run.

Loading your code onto your micro:bit

- ❏ Once you've written your code, you can plug your micro:bit into your computer using a microUSB cable. The examples here show a mac screen, but the process will be similar in Windows. Once the micro:bit is plugged into your computer, you should see it in your file explorer, similar to a USB memory stick. It will be called **MICROBIT**.

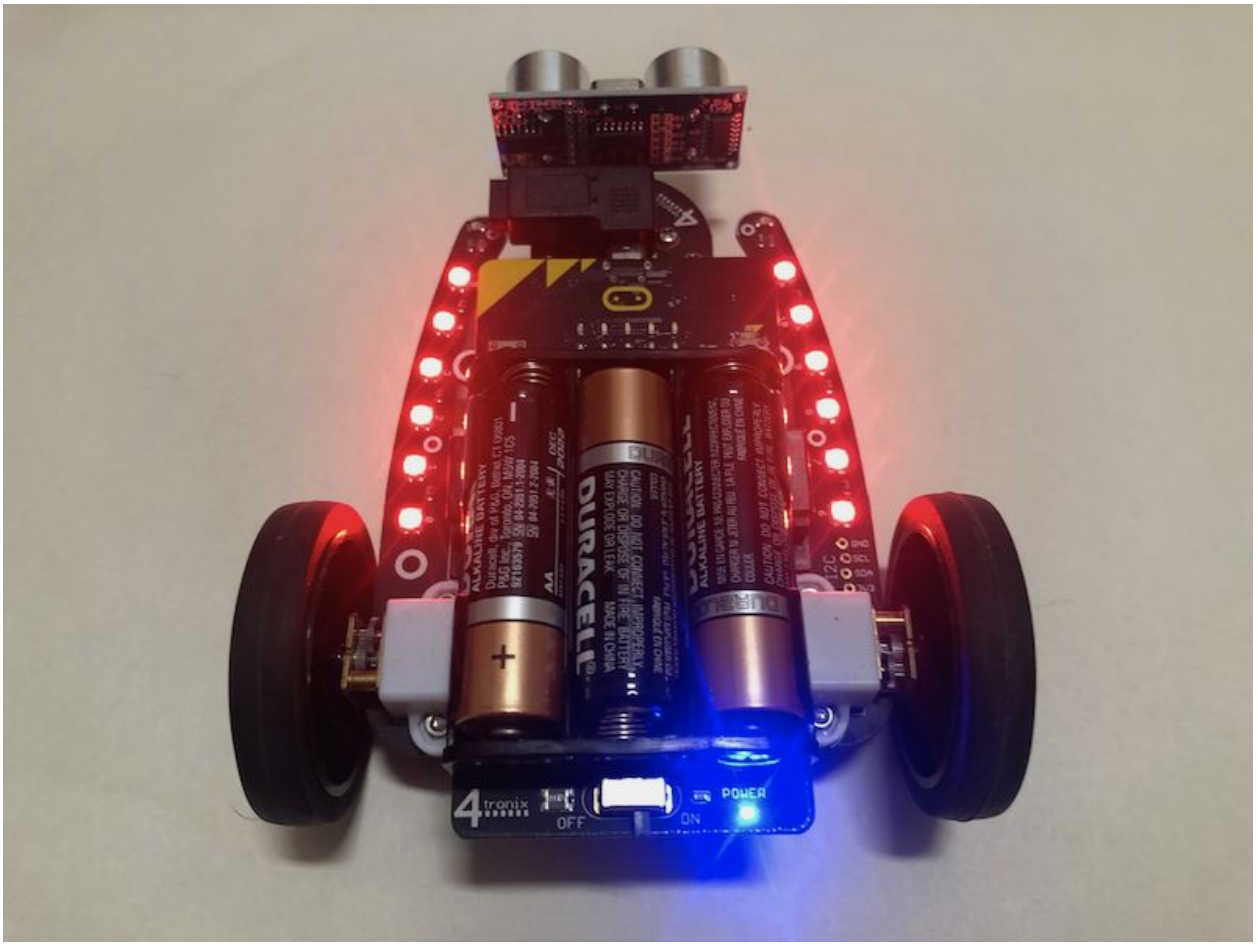
- ❏ In the bottom left of your PXT editor, click on the Download button shown below.

- ❏ You'll then be prompted to save a .hex file. Click save to send your code to the micro:bit. The light on the back of the micro:bit will flash as the code is being written - once it stops, remove the microUSB cable from the micro:bit and insert the micro:bit into the Bit:bot.



Run your code on the Bit:bot robot

- ❑ Make sure you have 3 fresh alkaline batteries (don't use rechargeables as they don't have enough voltage), in the Bit:bot, and turn the power switch at the rear of the robot, to **ON.**
  If all goes well, you should hear the buzzer and see the LEDs on both sides of the Bit:bot light up red.



- ❑ Congratulations! Your code is now running on your Bit:bot!