

micro:bit Tinker Kit Project 06 - Intruder Detection

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In this project, we are going to create an intruder detection system which will sound when someone opens the door. The status of the house will be displayed on the OLED.

What you will learn

- Get to know the Crash Sensor, OLED and Buzzer
- Make something with a OLED
- Make something with a Crash Sensor

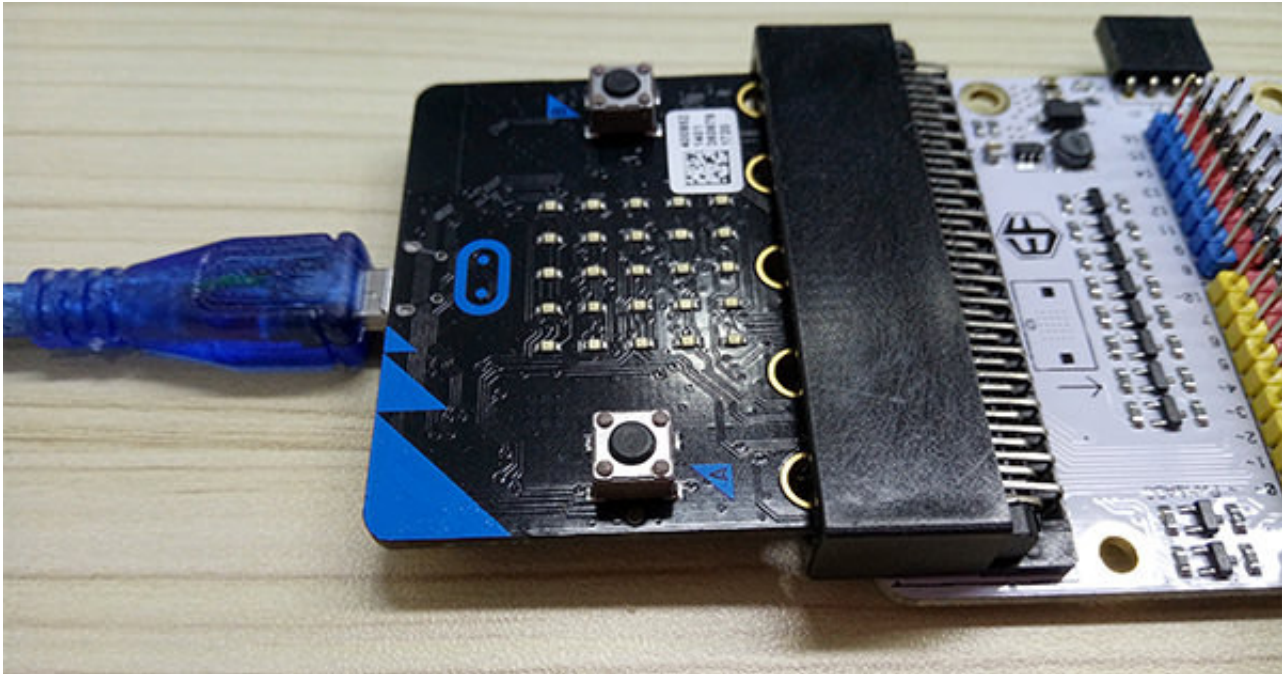
What you need

- 1 x BBC micro:bit
- 1 x Micro USB cable
- 1 x Breakout board
- 1 x Crash Sensor
- 1 x OLED
- 1 x Buzzer
- 2 x Female-Female jumper wires

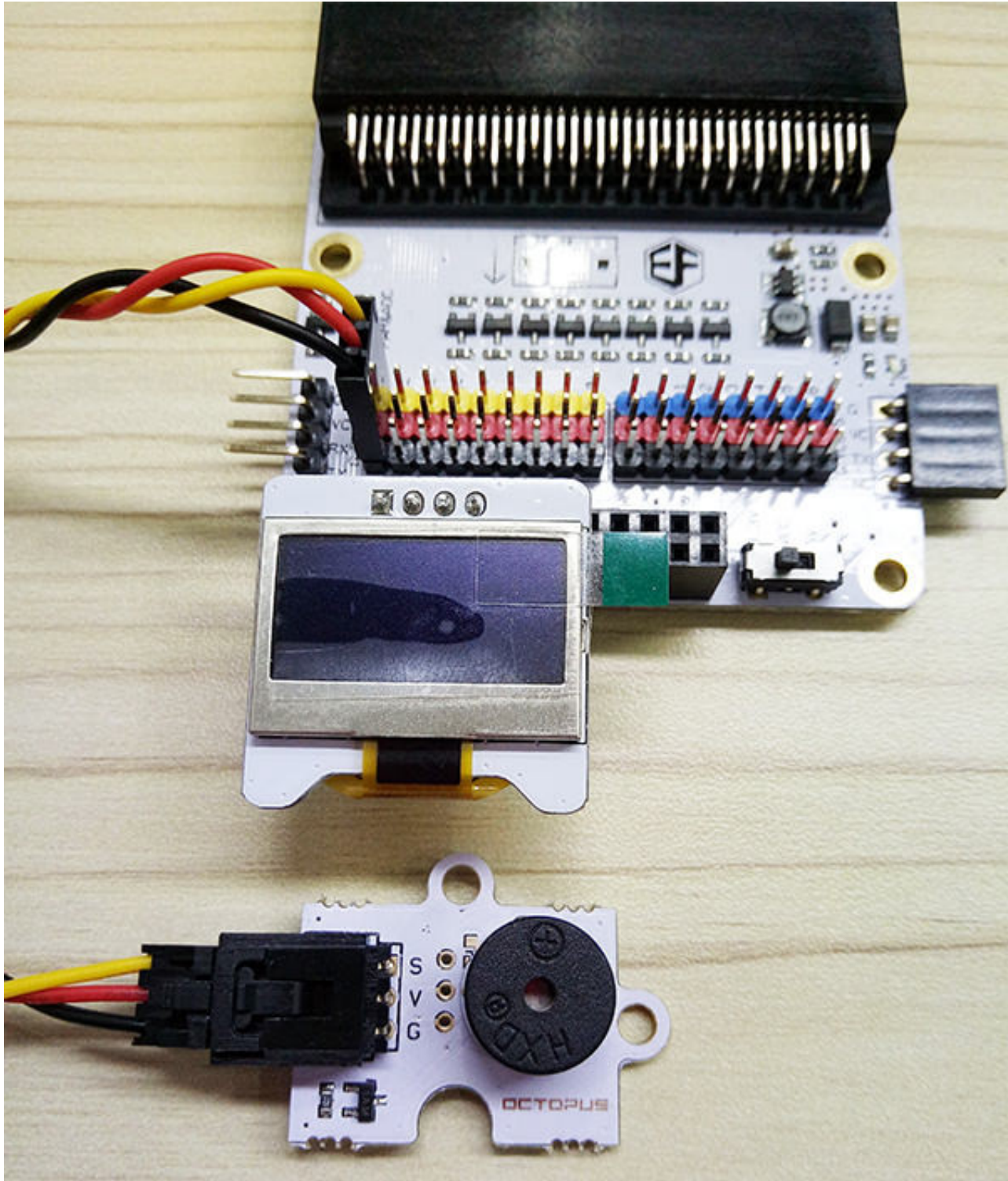
How to assemble

Step 1 – Components

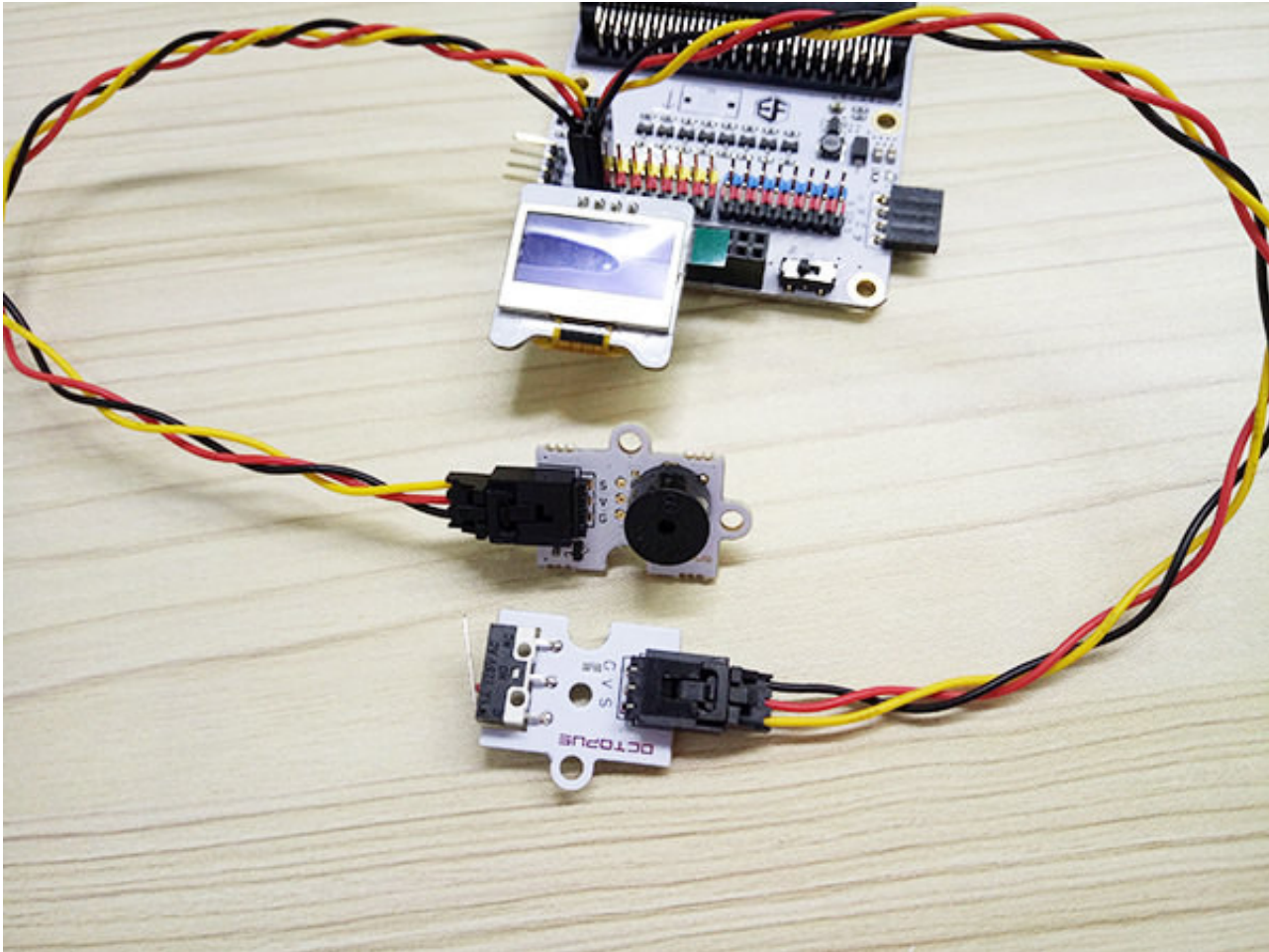
Insert the micro:bit into the Breakout Board and plug in the micro USB cable.



Then connect the buzzer to Pin 0 using the jumper cables. Plug in the OLED as shown in the picture below. You should be able to plug it into any of the three rows.



Plug in the crash sensor to Pin 1. Make sure the colour of the wire follows the coloured pins on the breakout board.



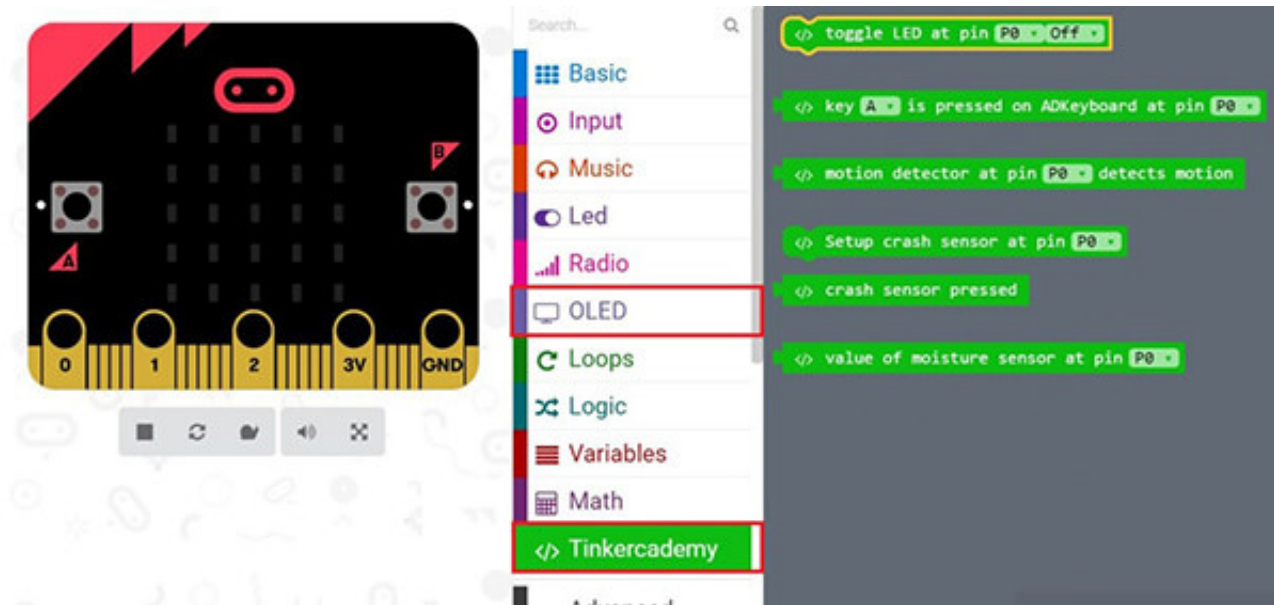
Step 2 – Pre-coding

We will add a package of code to enable us to use our kit components. Click on **Extensions** in the Code Drawer to see more code section and look at the bottom of the Code Drawer for Add Package.

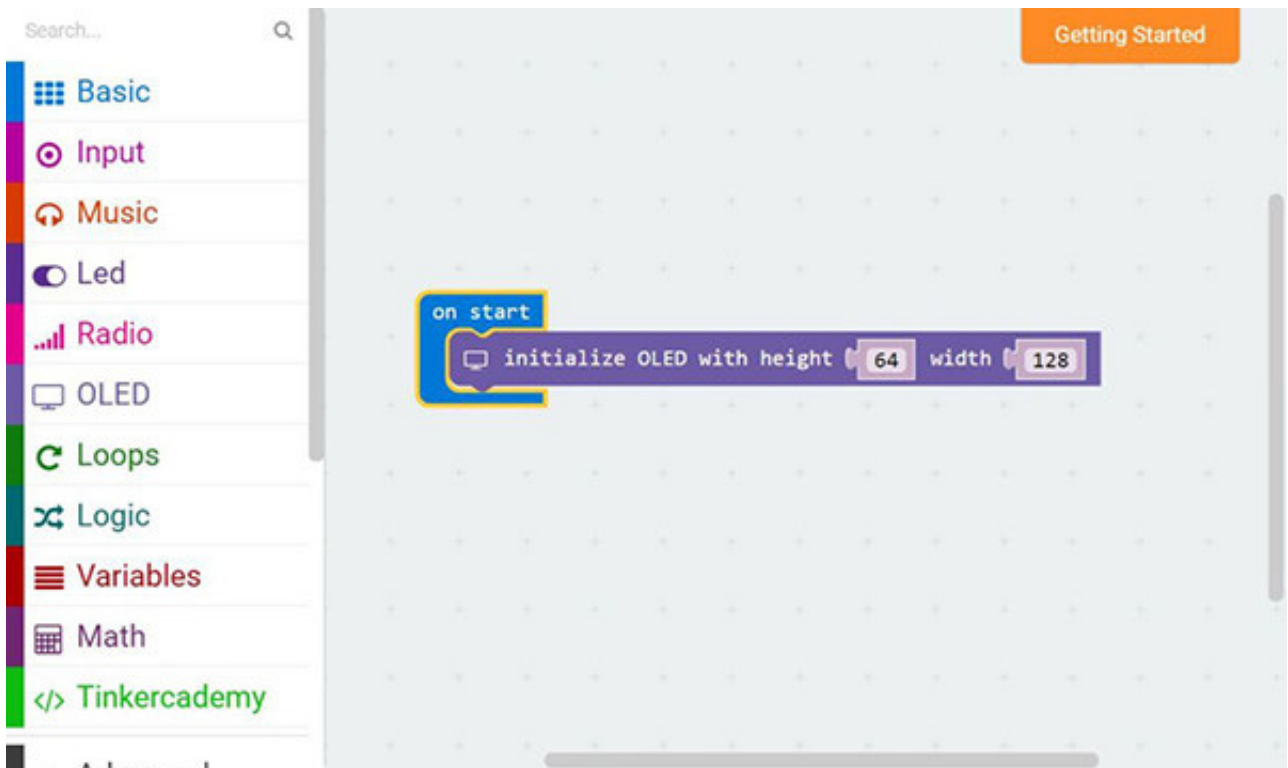
This will open up a dialog box. Search for **“tinker kit”** and then click it for downloading this package.

Note: If you get a warning telling you some packages will be removed because of incompatibility issues, either follow the prompts or create a new project in the Projects file menu.

Step 3 – Coding

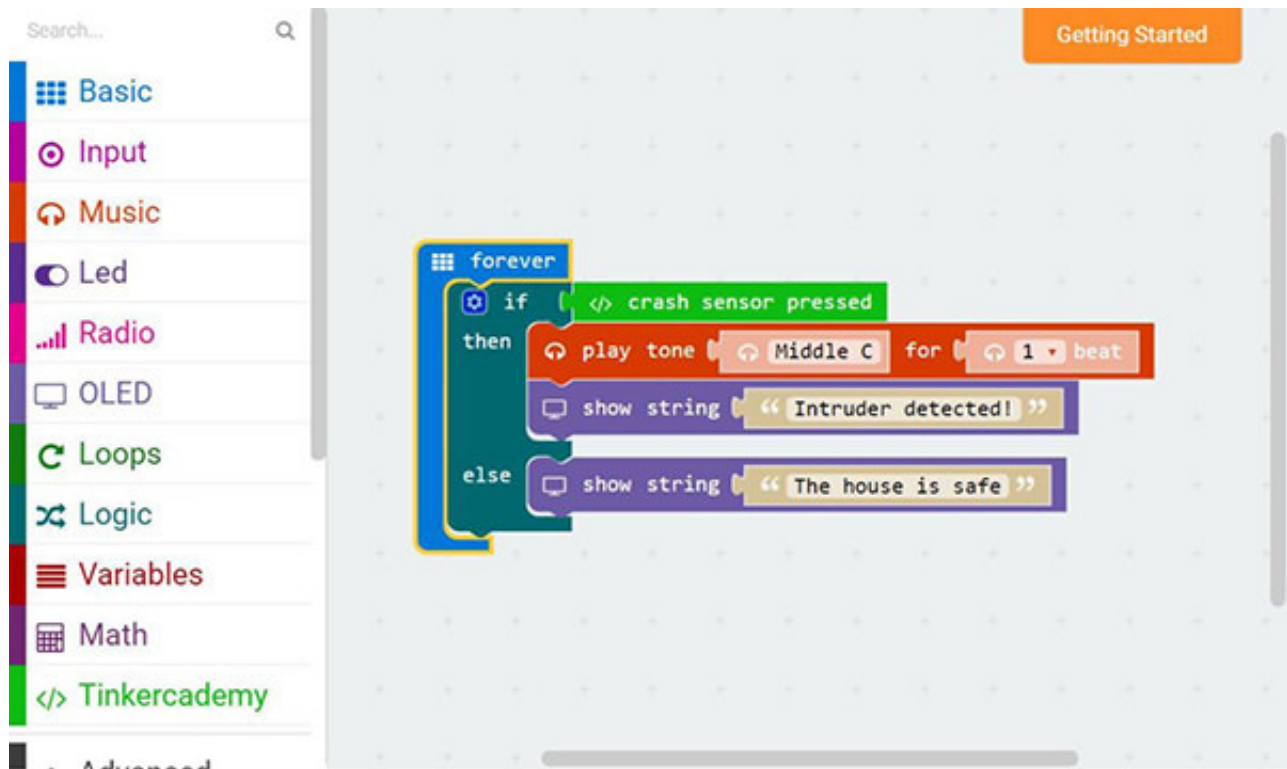


Click on Tinkercademy inside the Code Drawer to find our custom blocks for the various components in your kit.



You should always initialize the OLED at the beginning. 64 and 128 represent the height and width

of the OLED respectively.



Since there are only two conditions, we need only one “else-if” statement. When crash sensor is triggered, the buzzer will sound and the OLED will display the message “Intruder Detected”. Or else, if there is no force is applied to the crash sensor, the buzzer will not sound and the OLED will display the message “The house is safe”.

If you don't want to type these code by yourself, you can download the whole program directly from the link below. https://makecode.microbit.org/_A0zFxqMPMXbo

Or you can download from the page below.

Step 4 – Success!

Voilà! You have created a intruder detector!