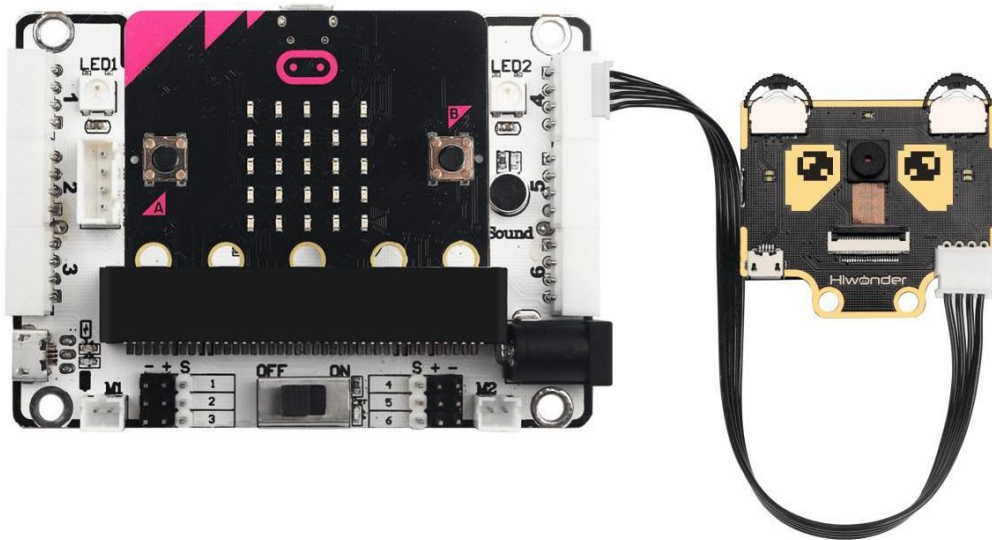


# Lesson 1 Color Recognition Integration with micro:bit

## 1. Preparation

Connect WonderCam to micro:bit Expansion Board Port 4.



## 2. Learning Objective

- ① To know the connectivity of WonderCam on micro:bit Expansion Board.
- ② To understand the program logic.

## 3. Program Logic

In this lesson, we will integrate the Vision module Color Recognition function with the output from micro:bit Expansion Board. The program will initialize the Vision module follow by color recognition with corresponding output.

## 4. Coding

### ◆ Adding Extensions

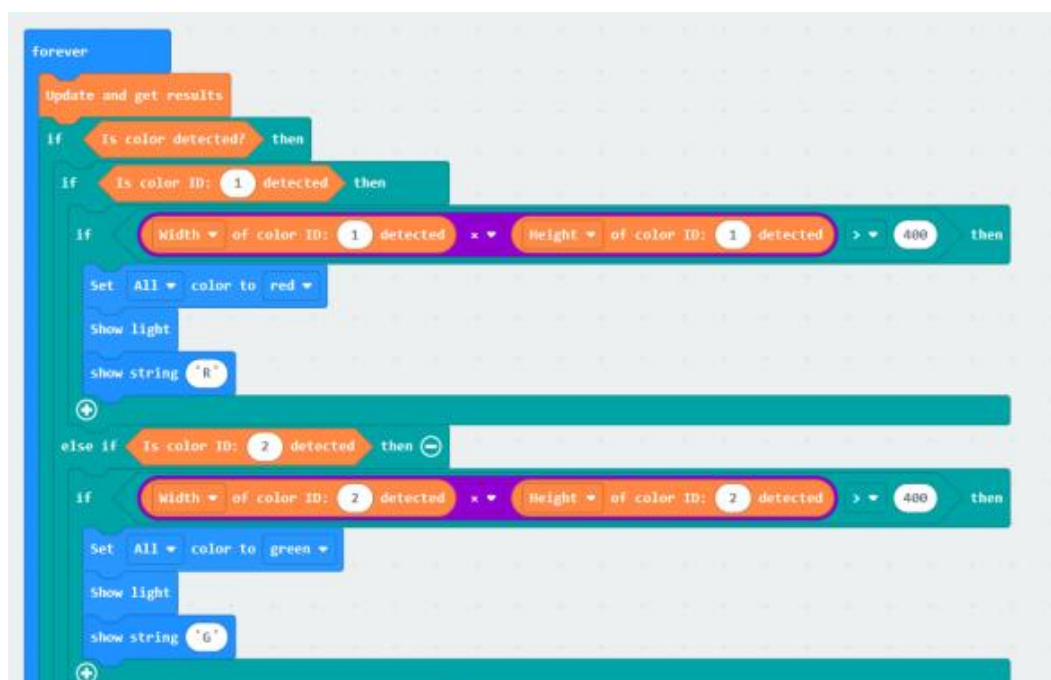
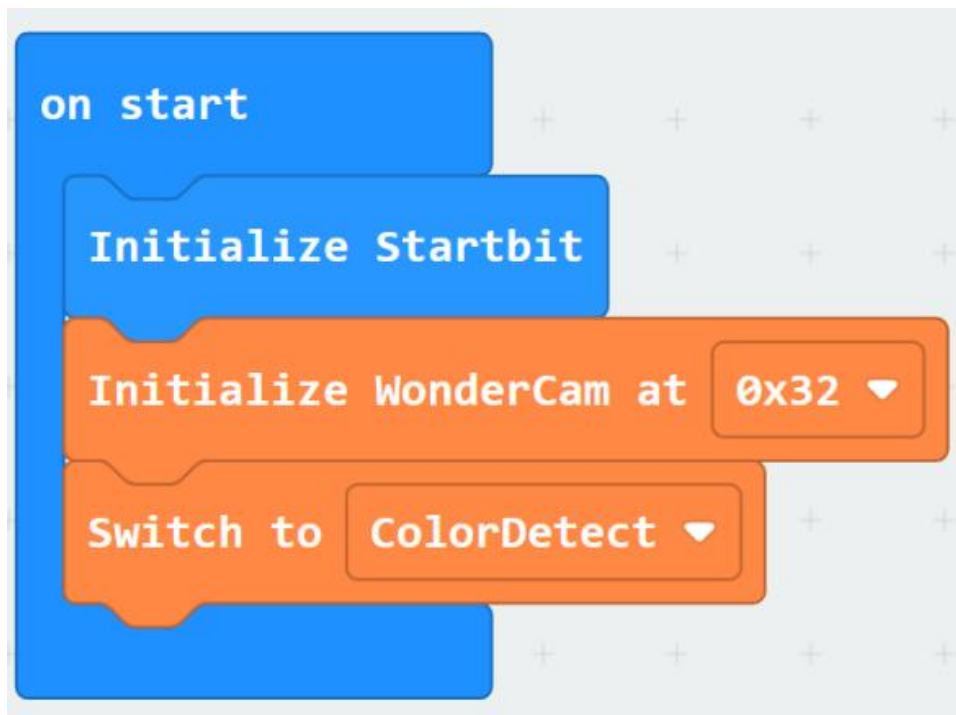
Go to <https://makecode.microbit.org/> and create New Project. In the MakeCode

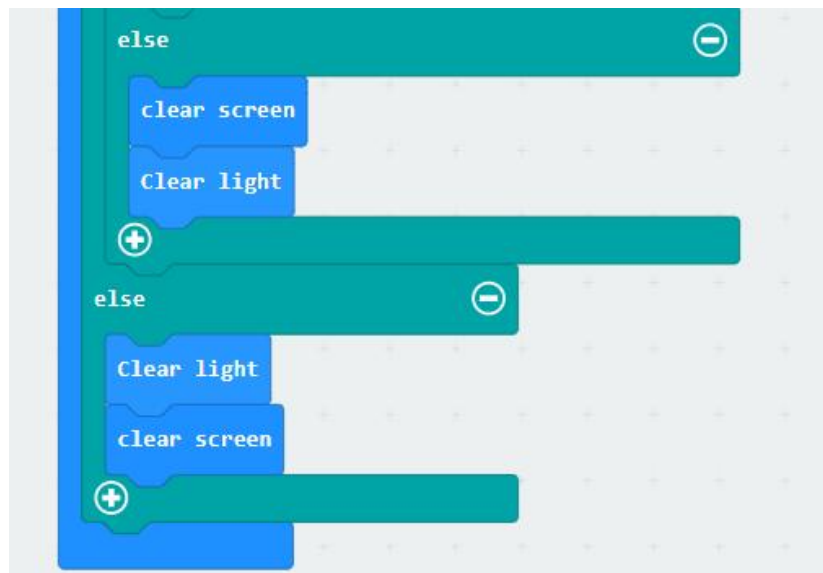
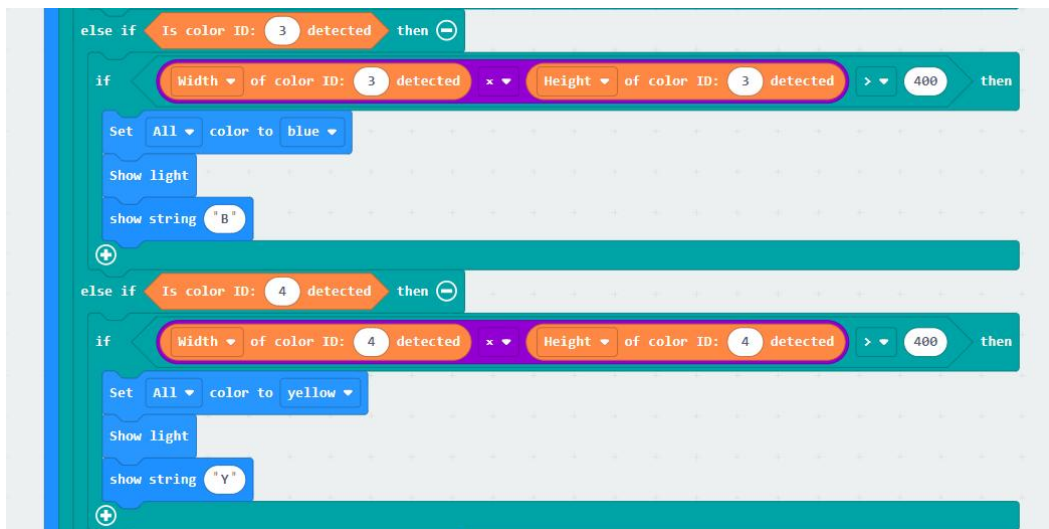
Toolbox, select Advanced, click on Extensions to add the following two extension packs:

<https://github.com/hiwonder/wondercam>

<https://github.com/Hiwonder/Startbit>

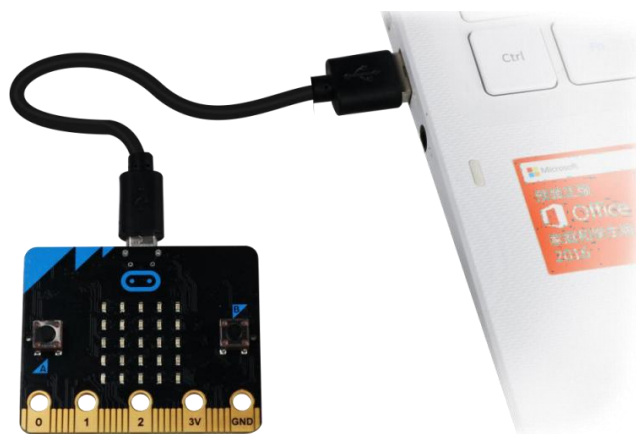
## ◆ Command Blocks



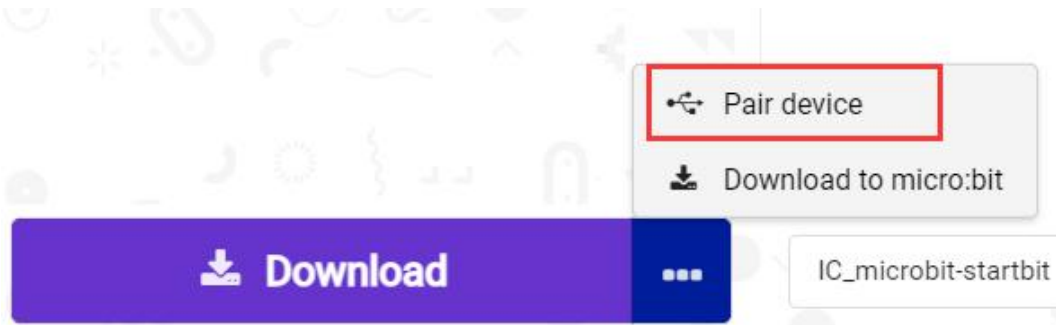


#### 4.1 Pairing devices and program download

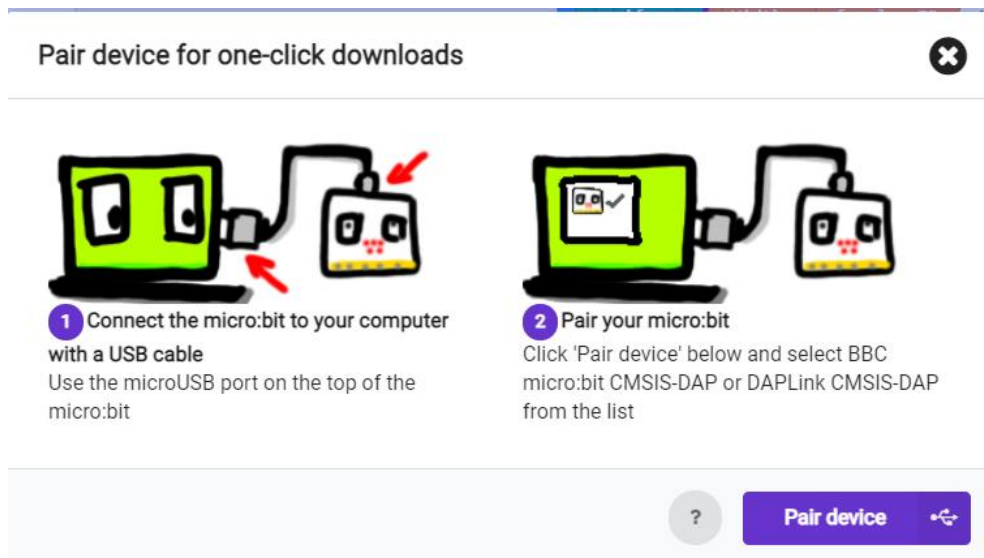
1) Connect micro:bit to computer.



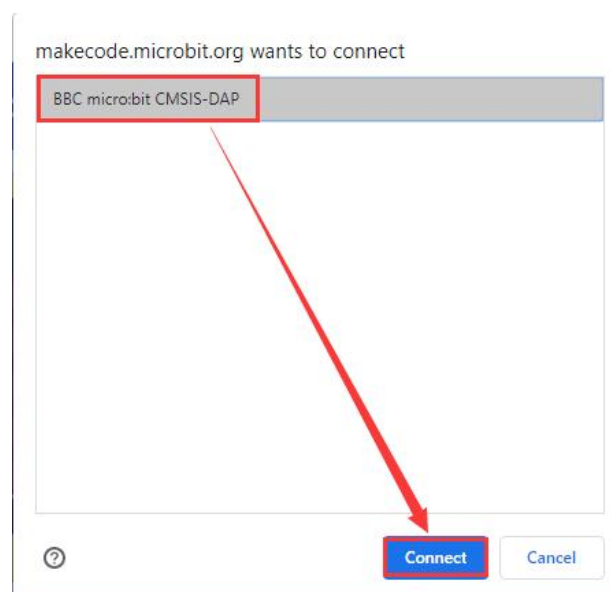
2) Click on “...” located beside “Download” and select “Pair device”.



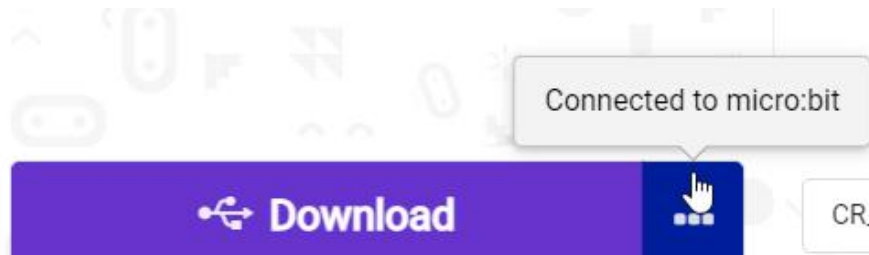
3) Click on on “Pair device” on the Pop-up screen.



4) Click “Connect” as shown in image below.

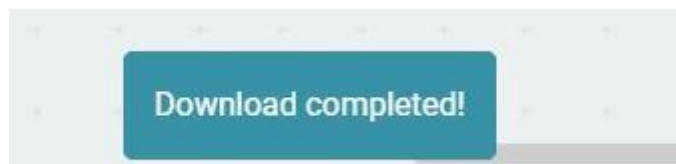


5) Click “Connect” as shown in image below.



6) Once connection is successful, click “Download”. During downloading process, the yellow light on micro:bit will blink consistently, do not disconnect or change USB cable.

7) When download is finished, the light on micro:bit will remain on and screen will appear Download completed message.



This PC > MICROBIT (G:)				
Name	Date modified	Type	Size	
DETAILS.TXT	3/22/2016 4:30 PM	Text Document	1 KB	
MICROBIT.HTM	3/22/2016 4:30 PM	Chrome HTML Do...	1 KB	



Tips: In micro:bit drive there are two files as show in image above. DETAILS.TXT records the data information of the micro:bit board. MICROBIT.HTM links to micro:bit official webpage (computer need to be online when click).

## 5. Results

Please refer to Lesson 1 Color Recognition on how to program color.

After the program is downloading, connect micro:bit to the Expansion Board (see 1. Preparation) and switch power to ON. WonderCam will automatically start on Color Recognition function.

Start by Learning color Red, Green and Blue corresponding to Color ID01, ID02 and ID03. When color is detected and recognized, LED light on the Expansion Board

will lit up with corresponding color recognized and Dot Matrix display on micro:bit  
will display the color name.