

# mShield expansion board for Microbit

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## Getting Started with MakeCode

Microsoft's MakeCode editor is the perfect way to start coding with the BBC micro:bit. MakeCode is free and works across all platforms and browsers.

We recommend using Chrome or Edge browsers. WebUSB is a recent and developing web feature that allows you to access a micro:bit directly from a web page. It also lets you directly receive data into the MakeCode editor from the micro:bit. It works in Google Chrome and Microsoft Edge browsers.

### **WebUSB support for your micro:bit**

If you're not using a current version of the Chrome or Microsoft Edge browsers, make sure they are this version or newer:

Chrome (version 79 and newer) browser for Android, Chrome OS, Linux, macOS and Windows 10.

Microsoft Edge (version 79 and newer) browser for Android, Chrome OS, Linux, macOS and Windows 10.

Link to download the latest Google Chrome:

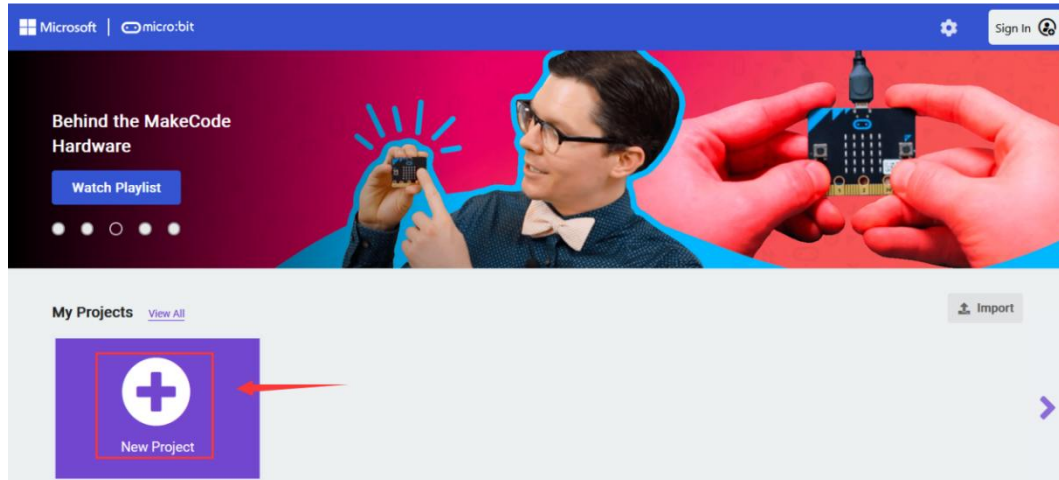
<https://www.google.com/chrome/>

Link to download the latest Microsoft Edge:

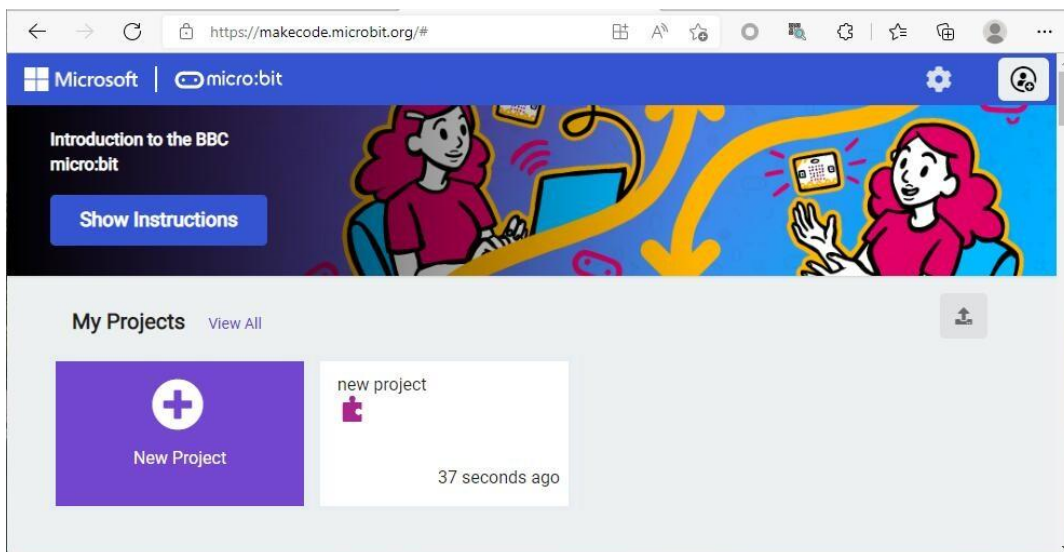
<https://www.microsoft.com/en-us/edge/download>

## 1. Create a new project

Open the Makecode editor on your browser: <https://makecode.microbit.org>, click "New Project", Then you can **give a name** for your project.

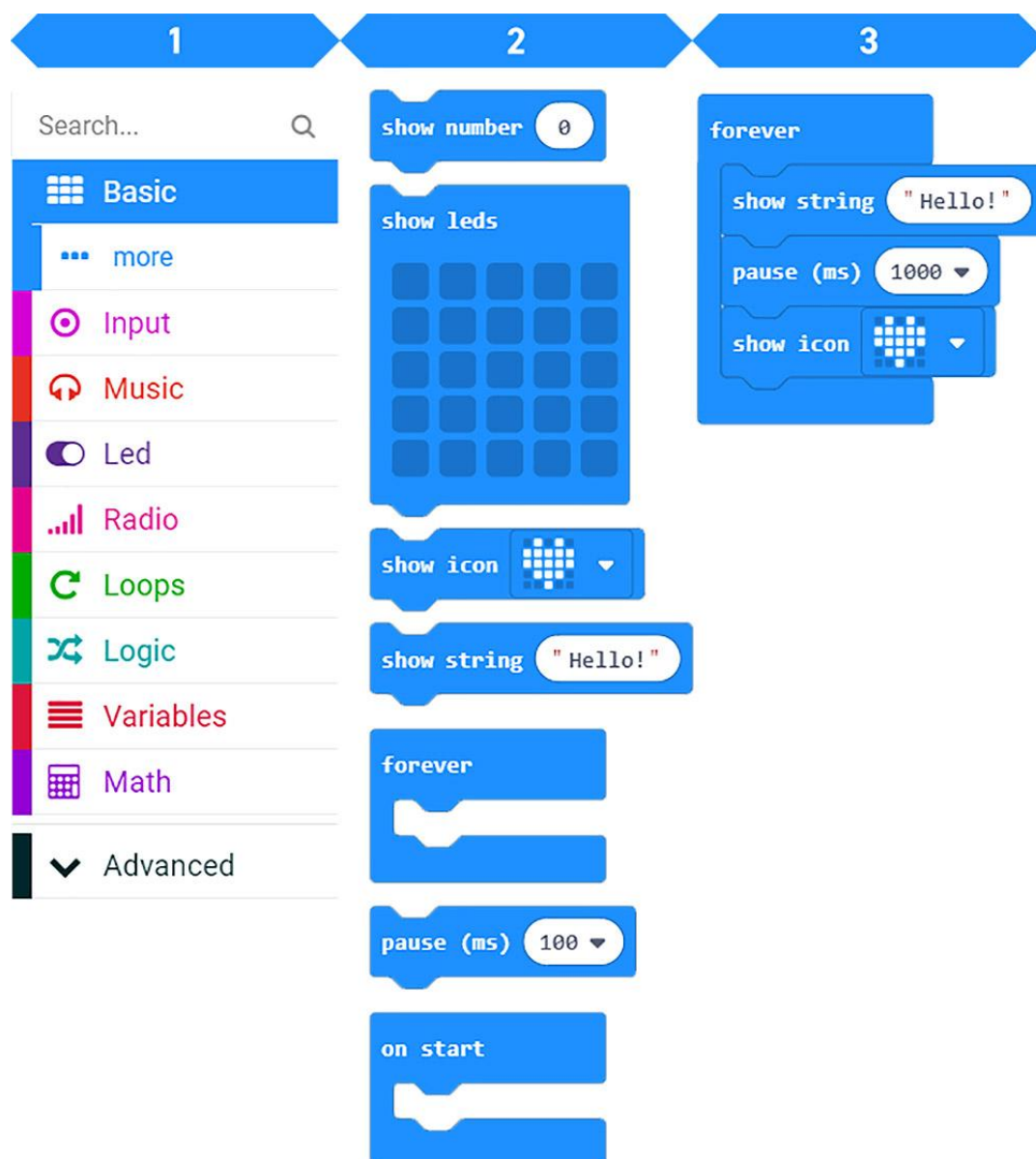


The newly created projects will be saved in the current browser. Just revisit the <https://makecode.microbit.org> website and find them in the project list.



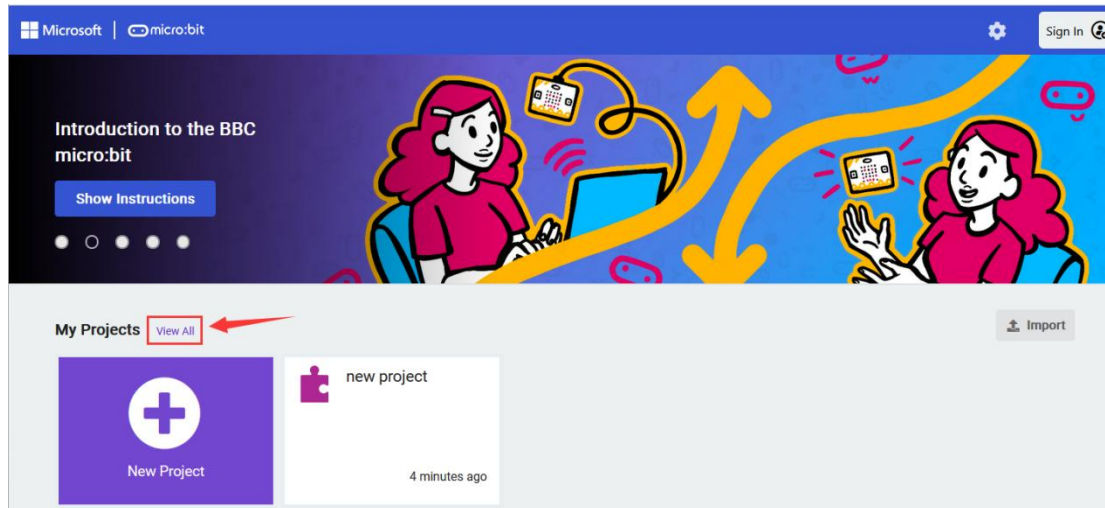
## Selecting Blocks:

1. Select a block category from the list on the left-hand side of the page.
2. Select a block from the selected category, then drag it to the workspace area on the right.
3. Snap new blocks onto existing blocks in the workspace area. As the new blocks are dragged into the workspace, the editor highlights the connecting parts of each block when they are in a valid position to snap to existing blocks. Also, the shape of the blocks gives you an indication of where they might fit into your code blocks.

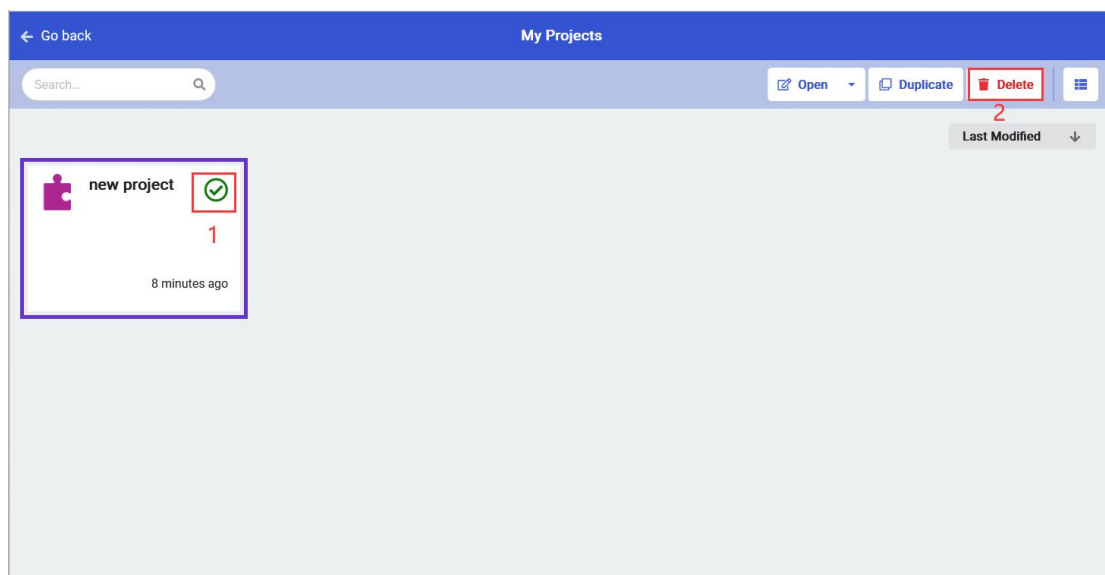


## 2. Delete a Project

Click "**View All**":

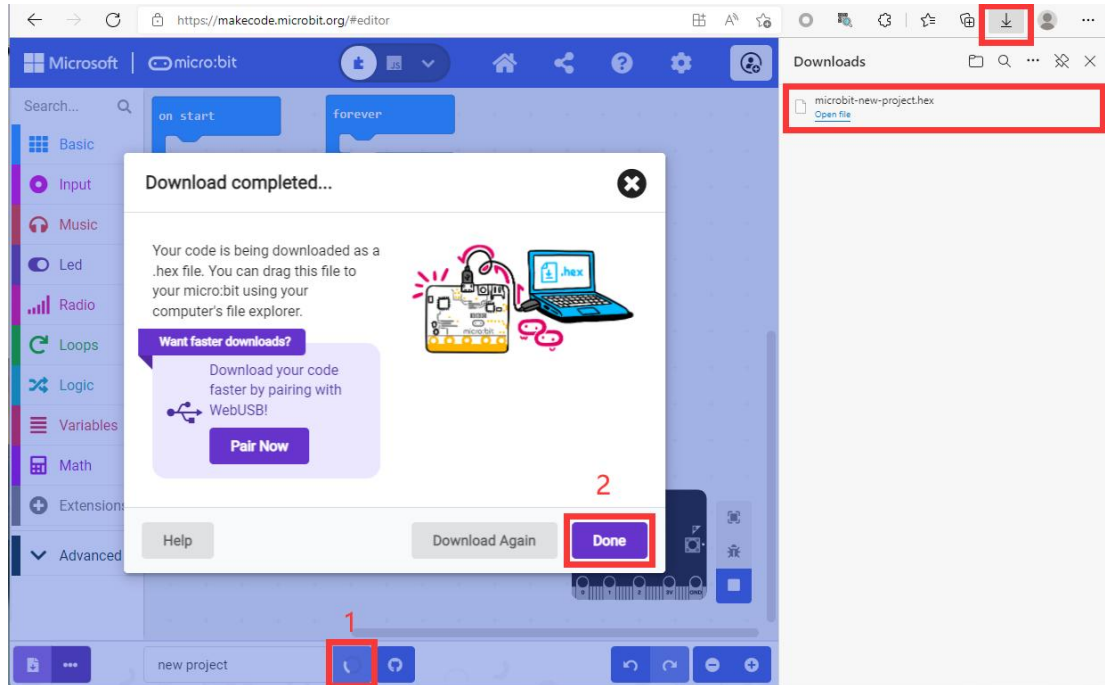


Select the project you want to delete, and click **Delete** button.



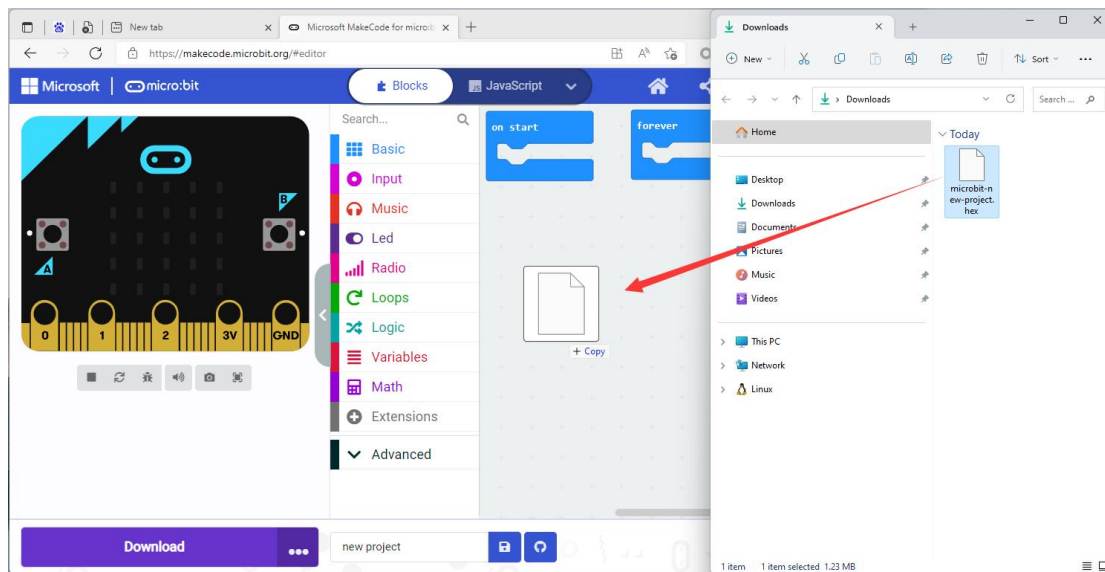
### 3. Save a project

Click the "**Save**" button, and then click the "**Done**" button to save the project to your computer, as shown below:




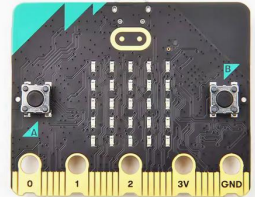

### 4. Import Files

Simply drag the local "HEX" project file to the work area of the MakeCode editor, as shown below:

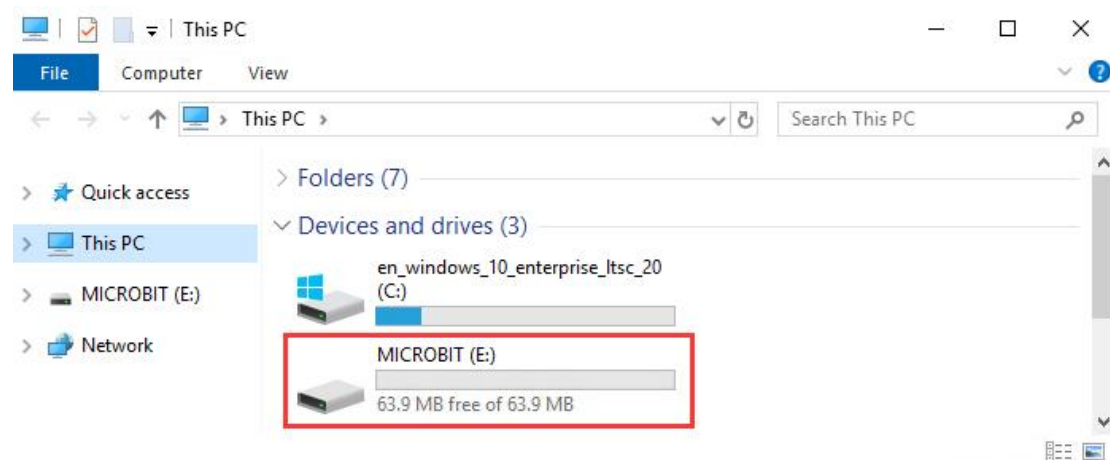
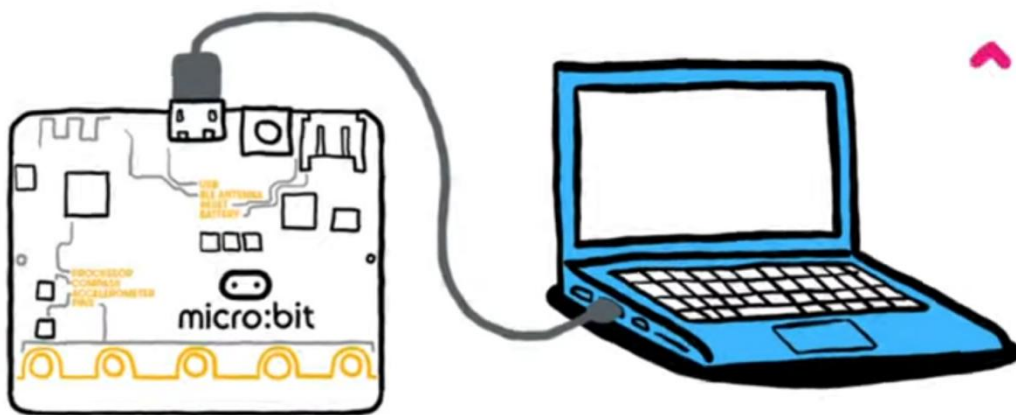


## 5. Upload code

Things you need:

PC	<a href="#">Micro:bit v2.x.x</a>	Micro USB Cable
		

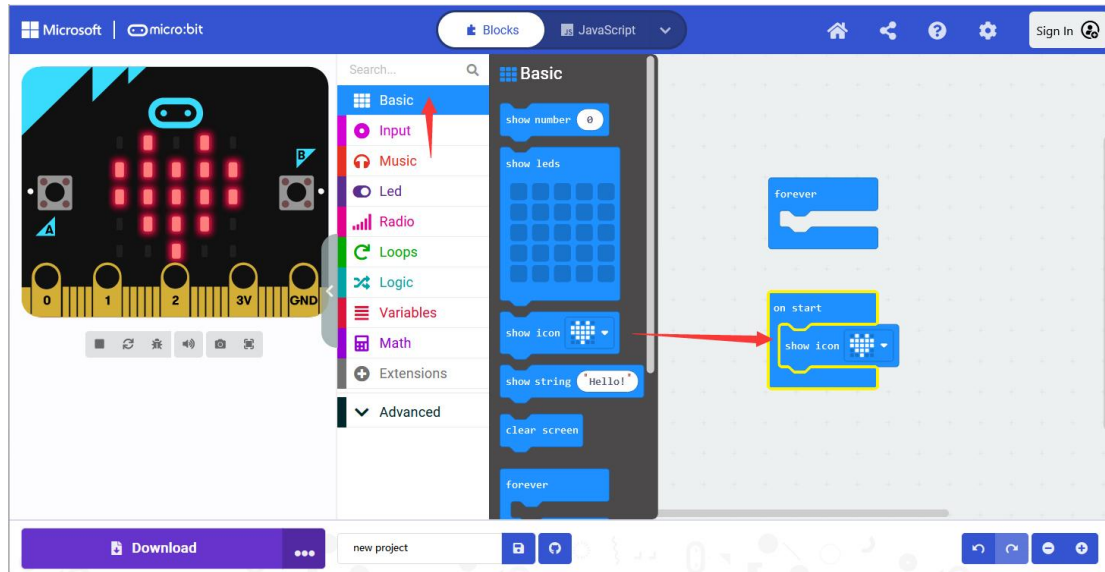
Use a Micro USB cable to connect the micro:bit board to the PC. You will find a new USB disk called MICROBIT on the PC:



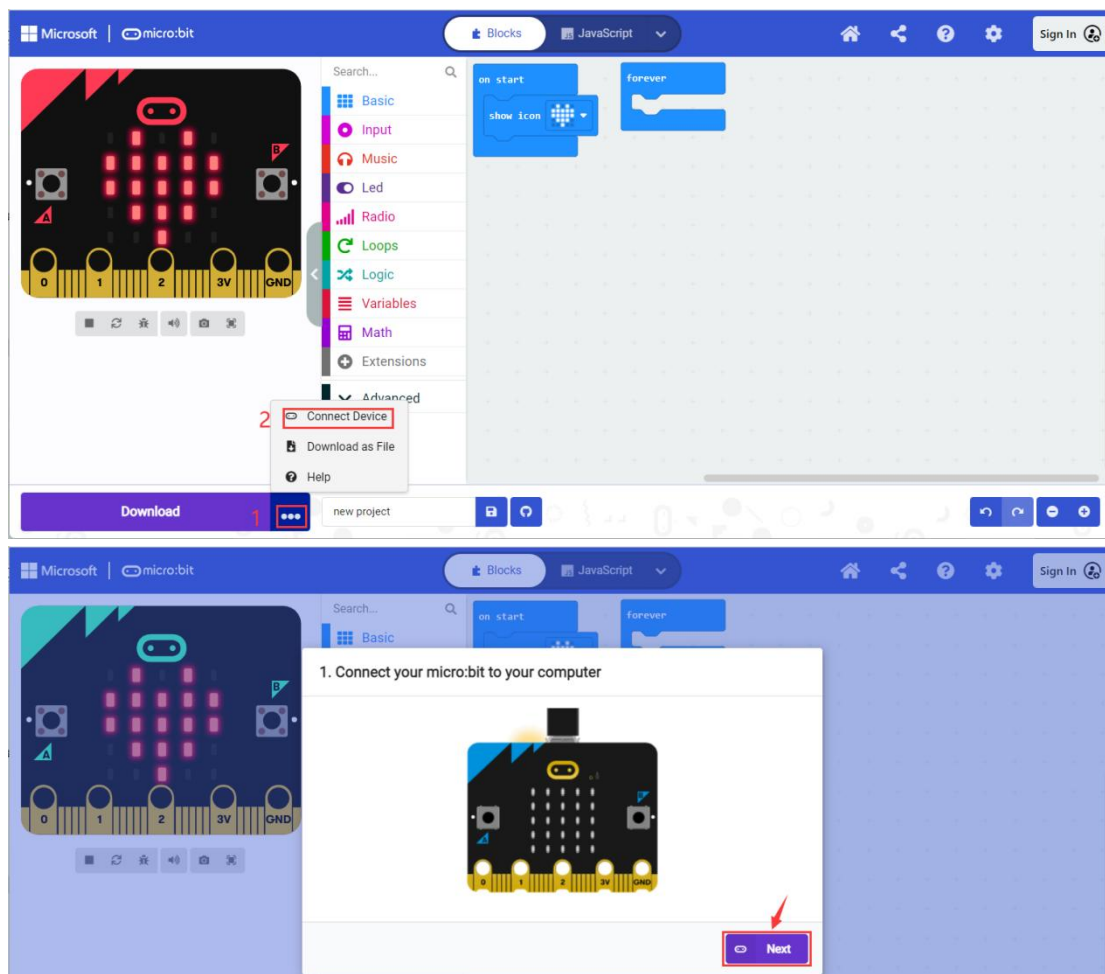


Open the MakeCode editor on your browser, hold down the left mouse button, and drag the **show icon** statement on the left to the working area on the right:

<https://makecode.microbit.org/#editor>

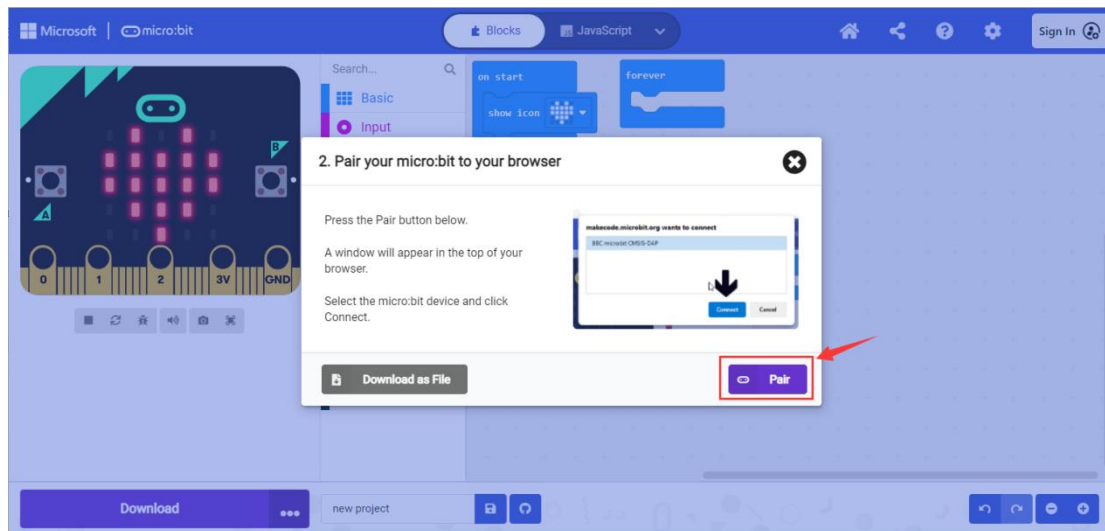


Click on the **three dots** next to the Download button. Then click the "**Connect Device**", and then click the "**Next**", as shown below:

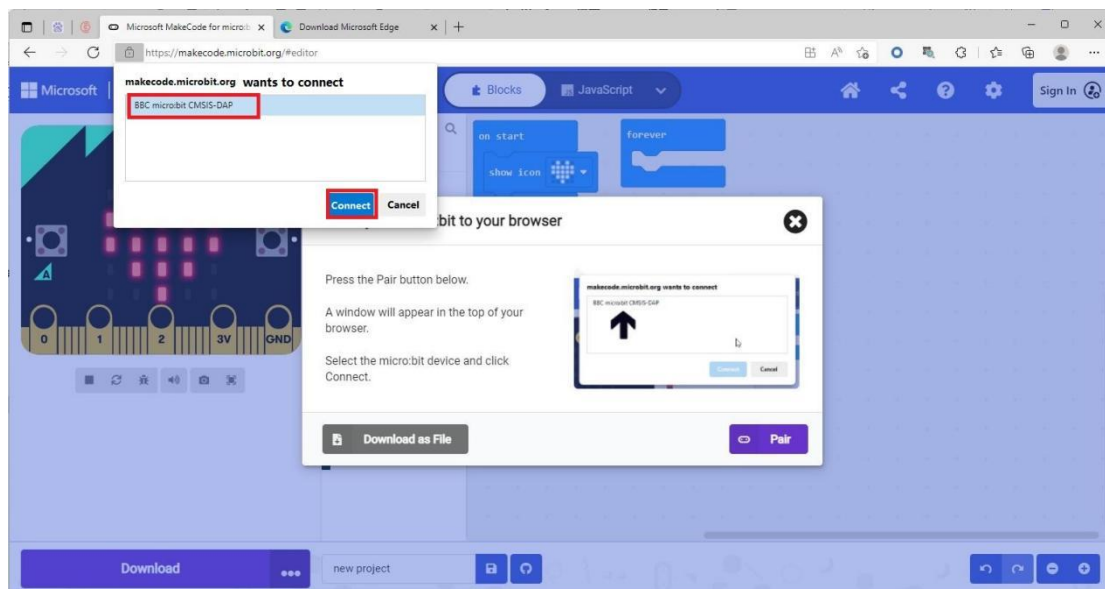




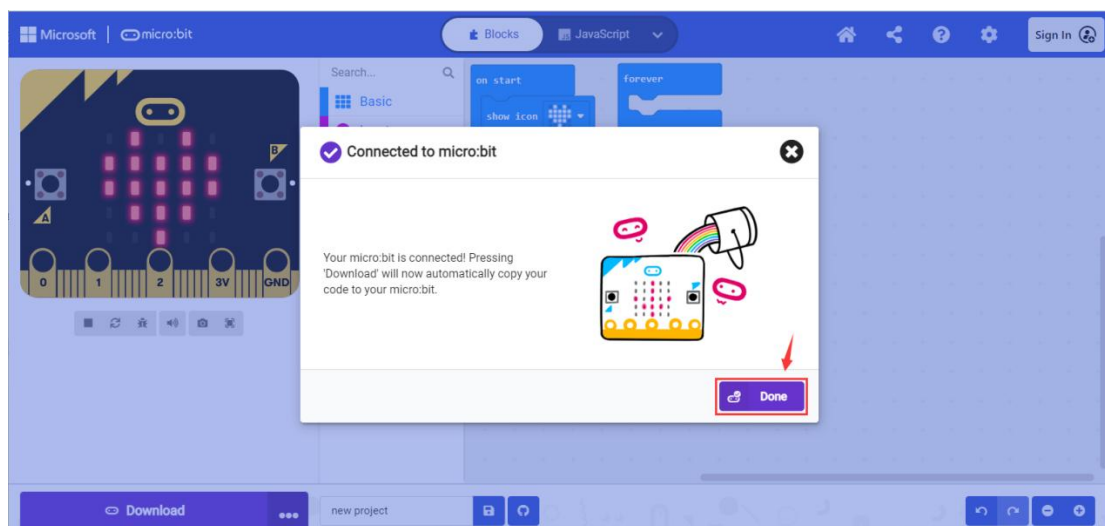
Click the “**Pair**” button:



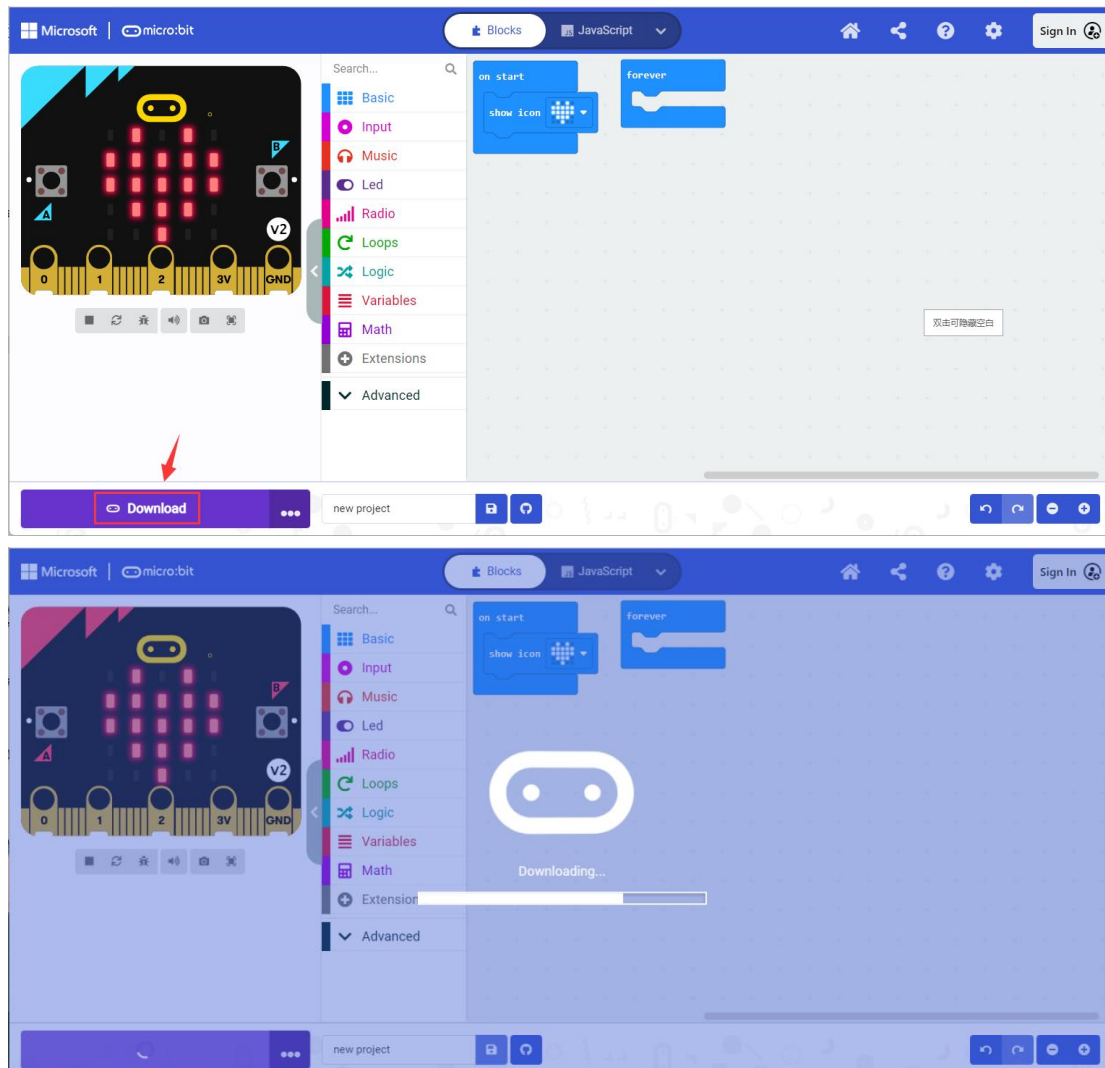
Select the Micro:bit board you want to connect to, and then click “**Connect**”:



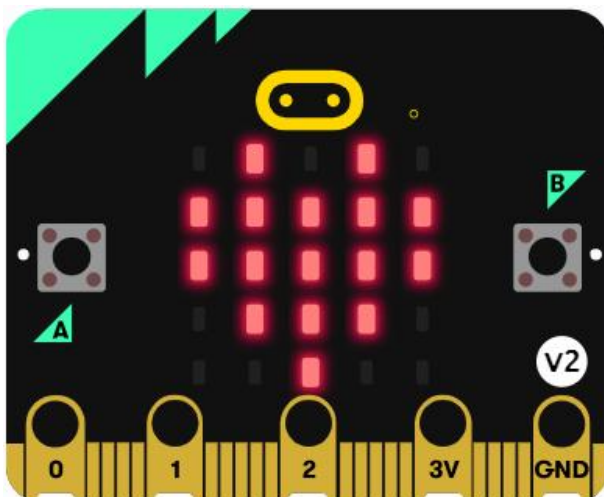
The connection is successful, click “**Done**”:



Click the "**Download**" button, you can flash the code to the Micro:bit with WebUSB.

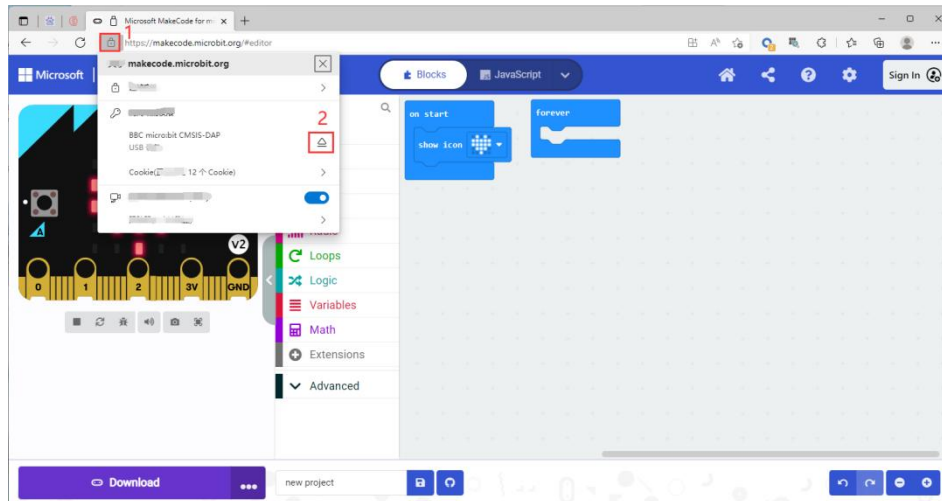


After uploading the code, the dot matrix of the Micro:bit board displays a heart shape:



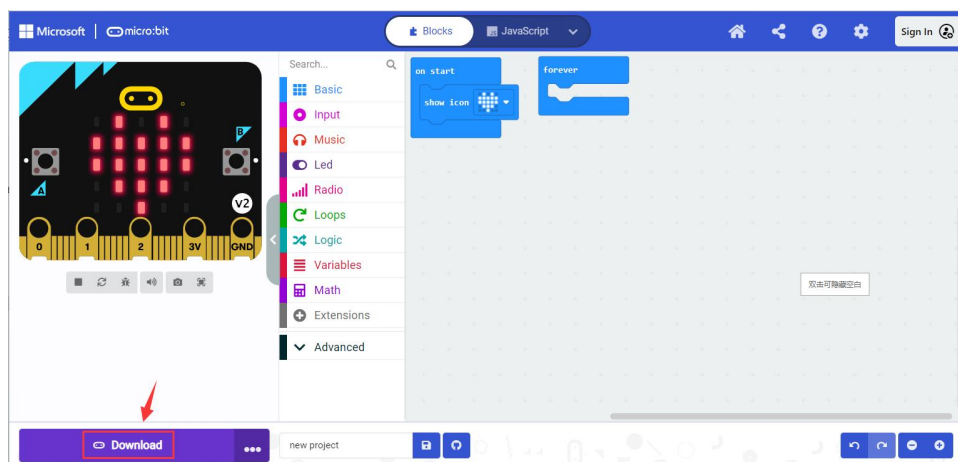
## 6. Unpairing Microbit

- Click the button to the left of your browser's search box.
- Select the Microbit device you want to disconnect and click the button to the right of it.

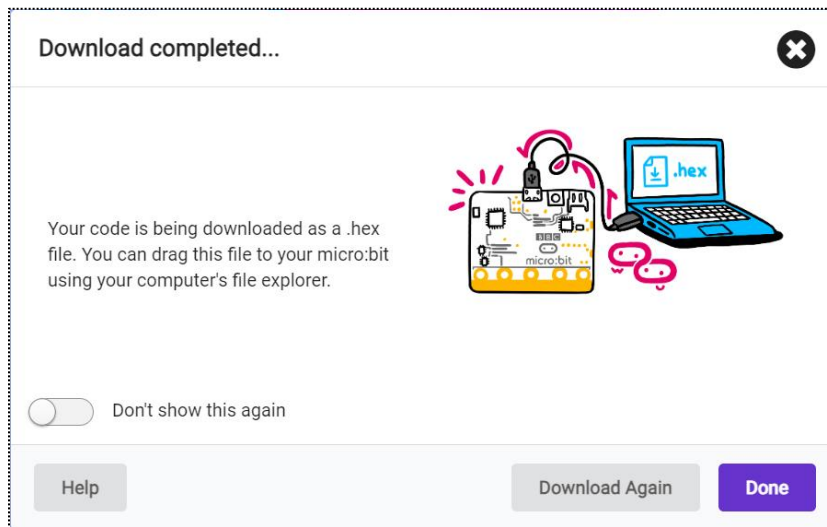


## 7. Upload the HEX file to the Micro:bit

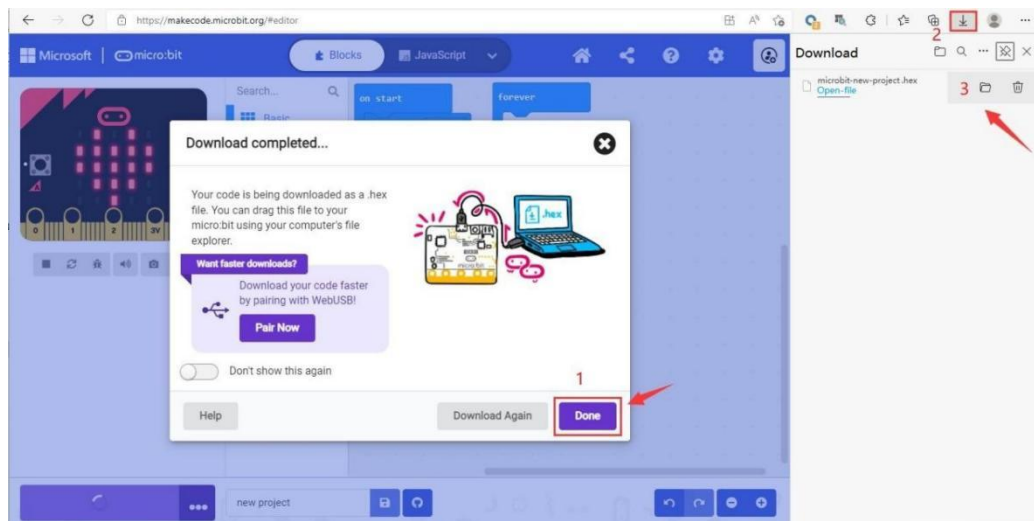
If the Micro:bit is not paired with Microsoft Edge or Google Chrome browser, or if you are using Safari/Firefox/Other browser that may not support WebUSB, directly click the "**Download**" button, the code won't transfer directly to your microbit, it will be downloaded as a .hexfile. Just like click the save icon to save a copy of the hex file to your computer.



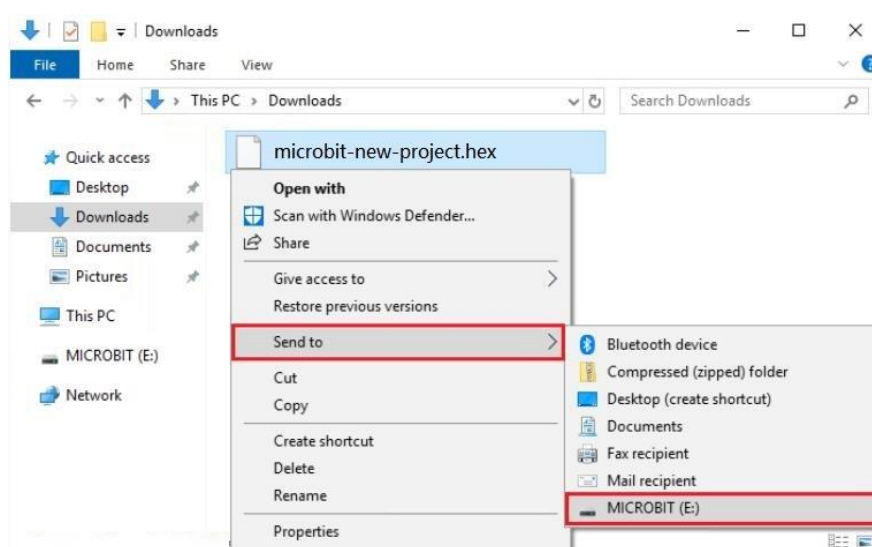
When the following interface appears, click the "X" button and click "Done":



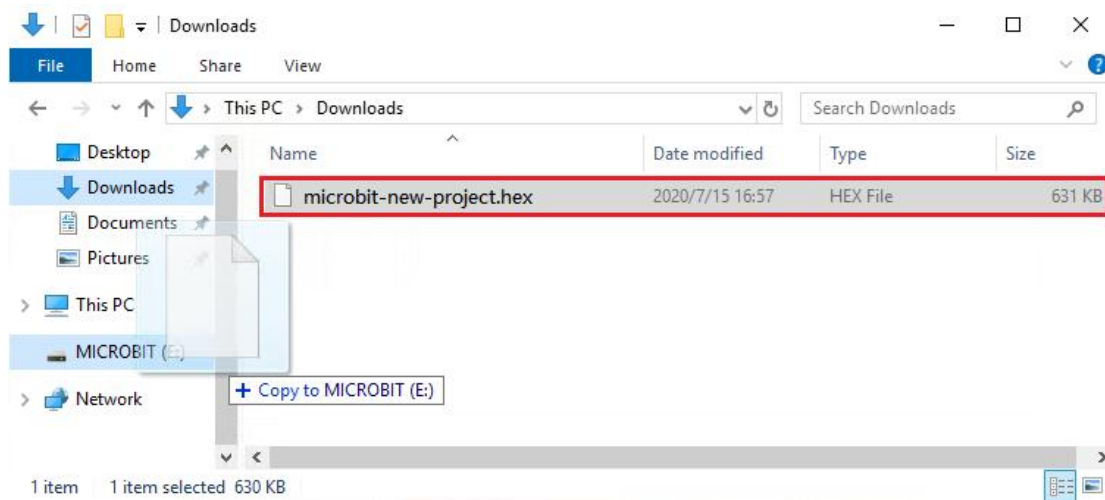
Find the downloaded hex file in the default save path of browser.



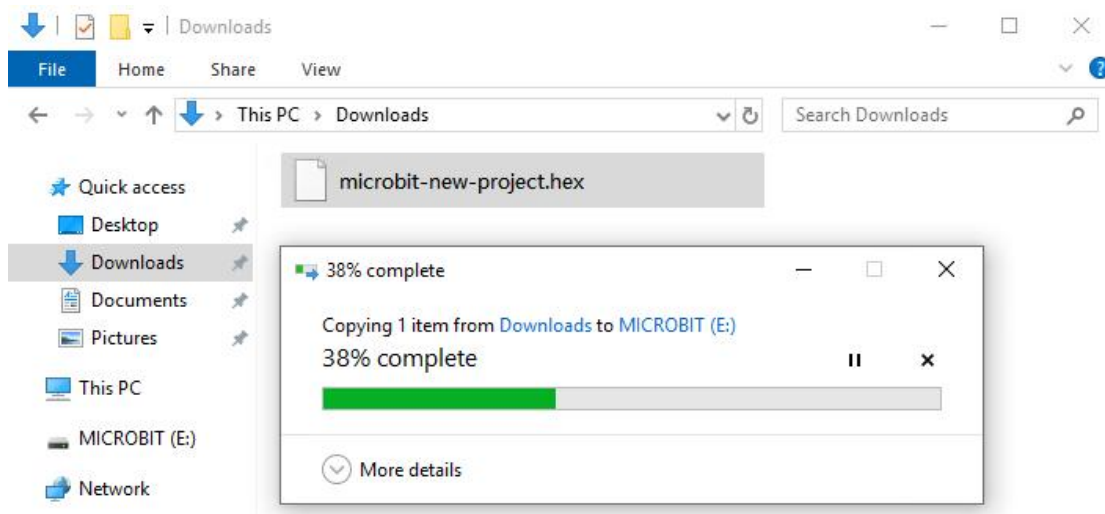
Then select the downloaded hex file, right click the mouse and click "Send to", then you can send the hex file to your Microbit:



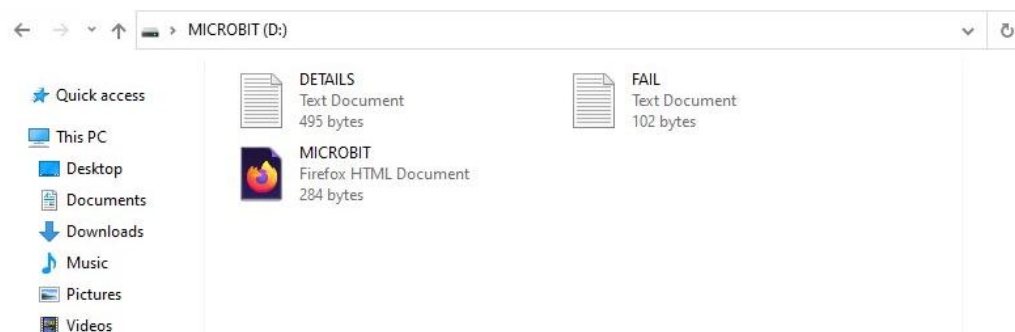
If you do not use the "Send to" button, you can directly drag the hex file to the Micro:bit:



The following interface indicates that the code is being uploaded, at the same time, the yellow LED on the back of the Microbit will also flash rapidly until the code upload is complete.



After the code upload is complete, the Micro Bit will disconnect and reconnect. If you look at the contents of the MICROBIT drive, you will not see the .hex file listed, this is normal, but your hex file will start automatically.



### 8. Learn the basic syntax of Makecode

The Micro:bit platform provides official MakeCode API and device usage documents for your reference.

To use APIs: <https://makecode.microbit.org/reference>

To use device: <https://makecode.microbit.org/device>

Logic and data types: <https://makecode.microbit.org/blocks>