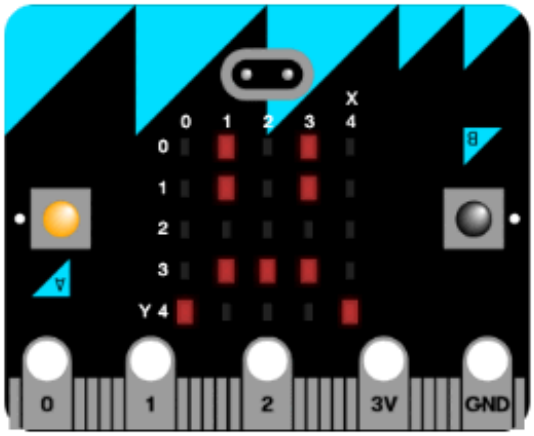
Interactive Badge

Introduction

SAMPLE

You are going to make an interactive badge, that will show your mood to your friends.



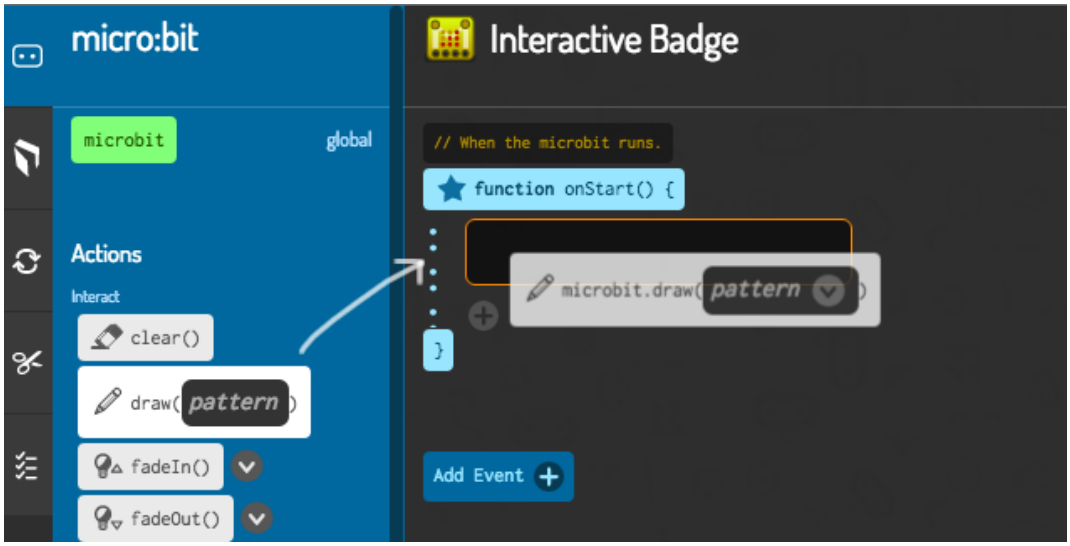
Step 1: Displaying an image

Let's start by showing an image on your micro:bit when it's powered on.

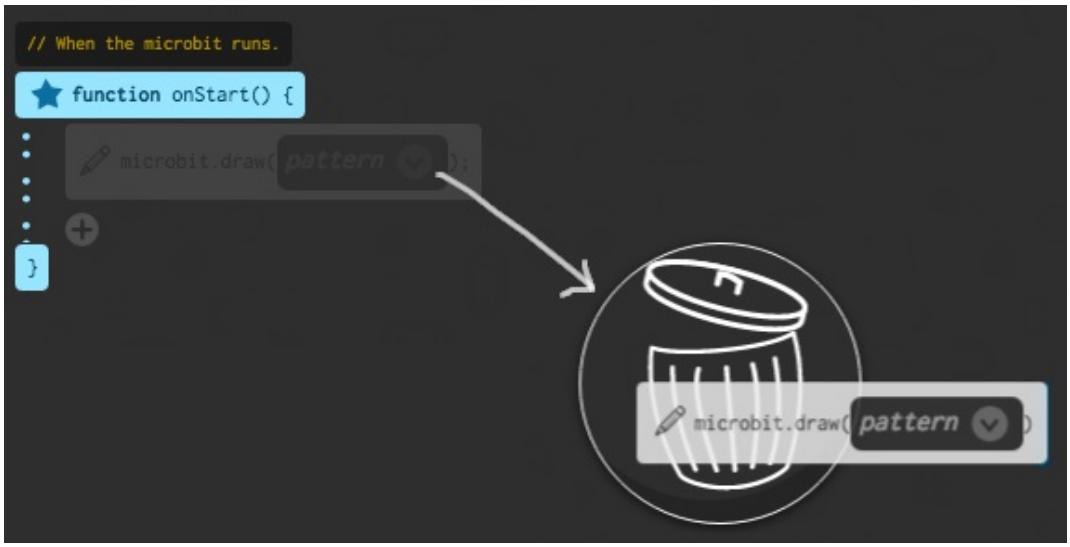
Activity Checklist

- [ ] Go to **jumpto.cc/mb-new** to start a new project in the Code Kingdoms editor. Call your new project 'Interactive badge'.

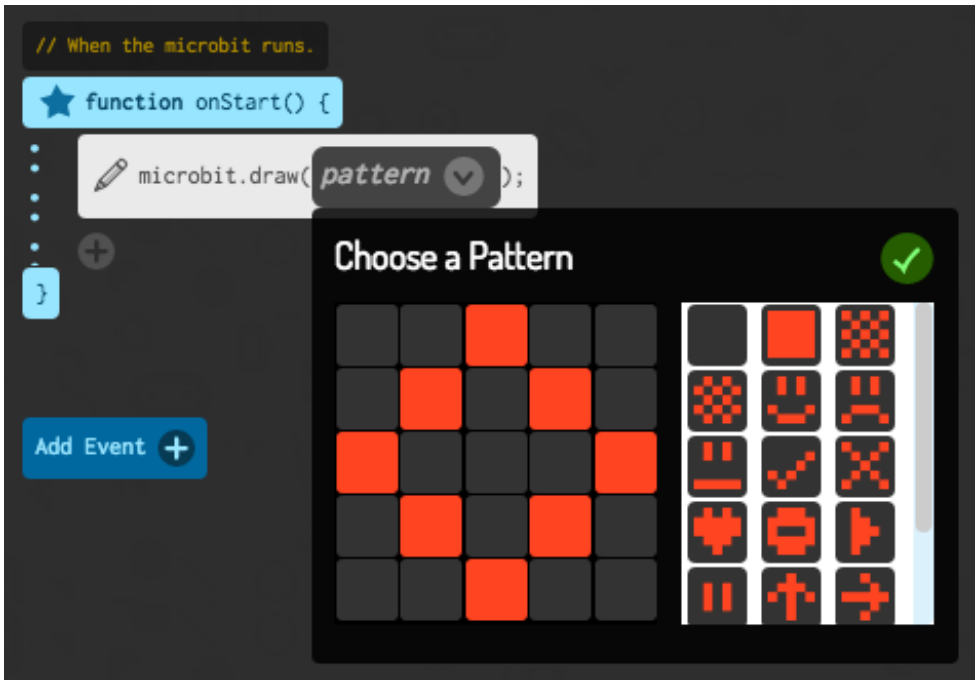
- [ ] You should now see the code editor. To draw an image on your micro:bit when it's powered on, drag a `draw` block from the code area (on the left) inside the `onStart` event.



- [ ] If you make a mistake, you can drag the code block into the bin.

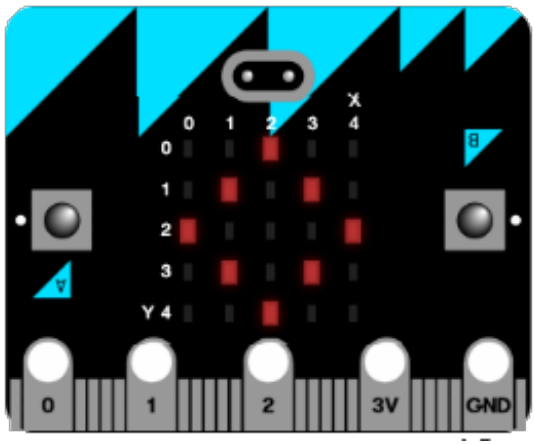


- [ ] To create an image to display, click the down-arrow next to the word `pattern`. You can choose an image to display, or even draw your own.



- [ ] To test your code, click ‘run’ in the menu at the bottom of the screen.

- [ ] You should then see your image on the micro:bit, to the right of the editor.



- [ ] You can also test your code on the micro:bit itself! To do this, click ‘compile’ on the menu at the bottom of the screen

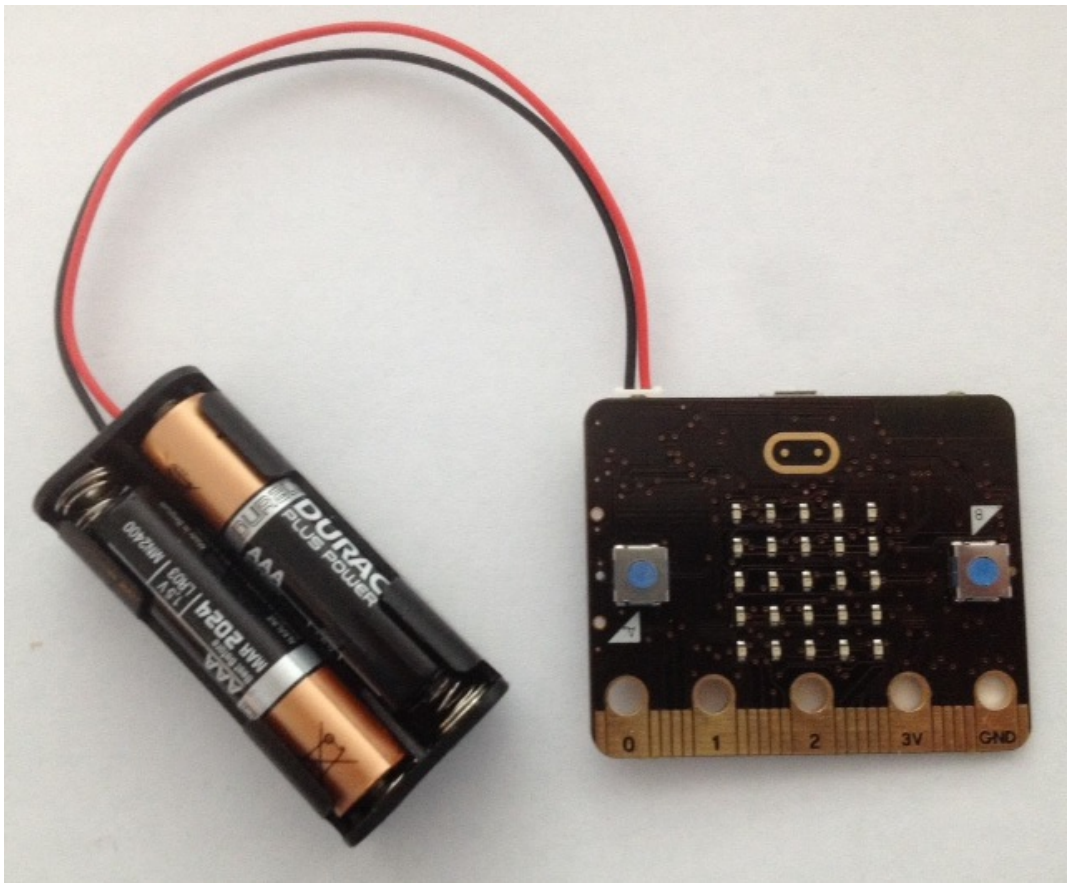
This will create and download a `.hex` file that will run on your micro:bit.

- [ ] Use the USB cable to plug your micro:bit into your computer. You should then see your micro:bit appear in your computer’s file manager as a USB drive.

- [ ] Drag the `.hex` file onto the micro:bit drive that appears.

- [ ] A light on the back of your micro:bit will flash while the file is being copied. Once this has stopped, click the reset button on the back of your micro:bit.

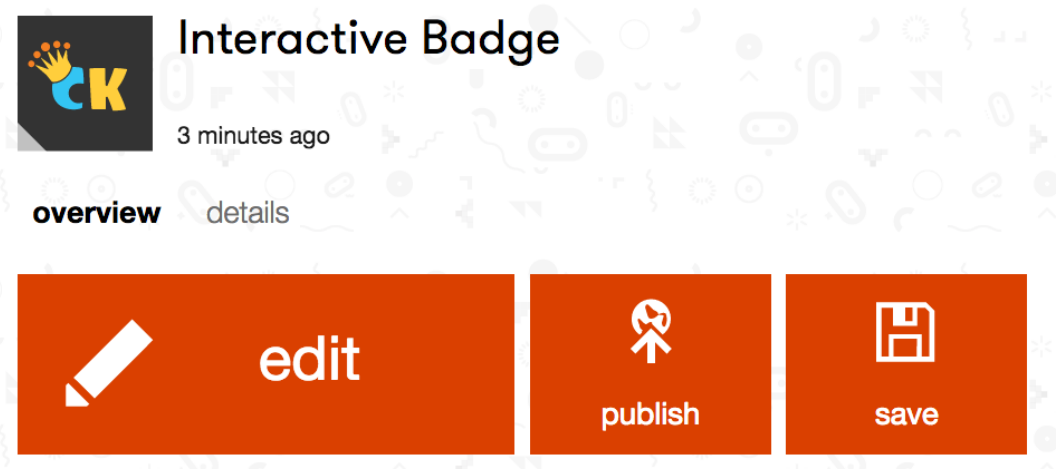
- [ ] You should now see your image on the micro:bit. If you prefer, you can remove the USB cable from your micro:bit, and attach the battery.



Save your project

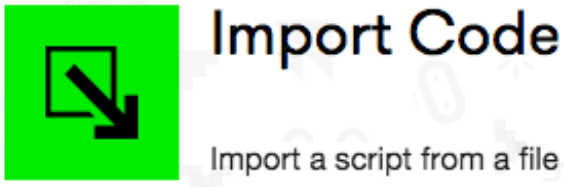
You don’t need an account to save your stuff! To save your project, click ‘my scripts’ at the bottom of the editor.

Select your ‘Interactive Badge’ project and click the ‘save’ button.

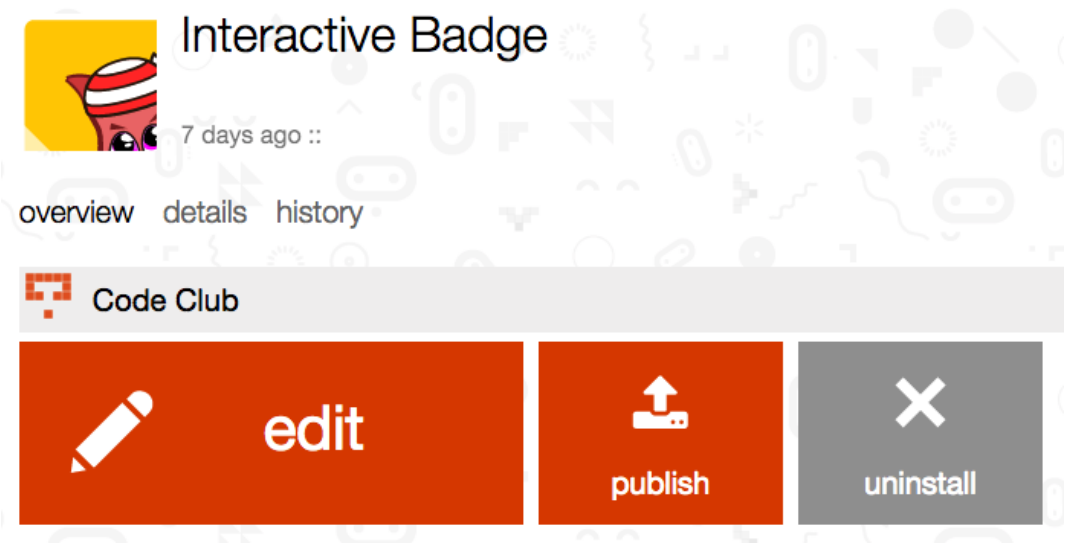


This will a download your script in a .jsz file, which you can save anywhere you like.

To load your project on another computer, click ‘Import Code’ and select your .jsz file.



You can then get back to your code by clicking ‘edit’.



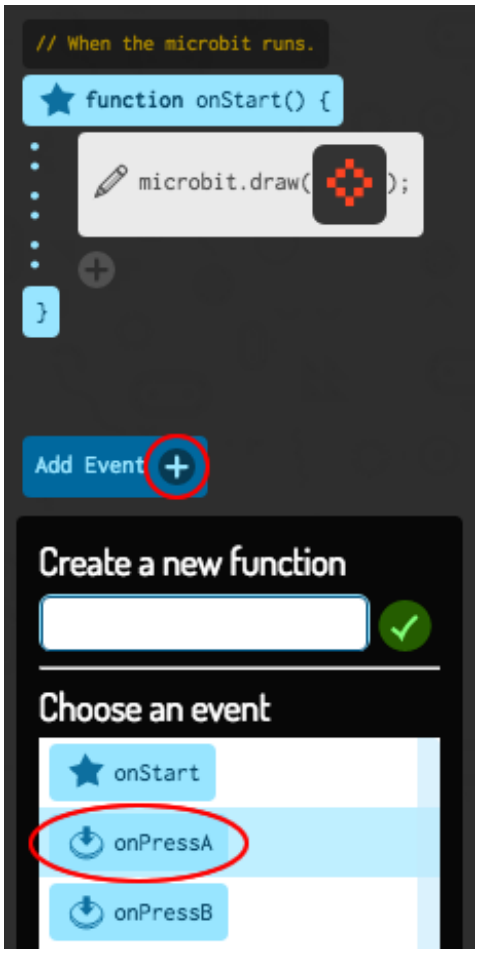
Step 2: Displaying a happy face

Let's show a happy face on your micro:bit when the 'A' button is pressed.

Activity Checklist

- [ ] So far, you've only run code when the micro:bit is powered on. To run code when a button is pressed, you'll need to add a new **event**.

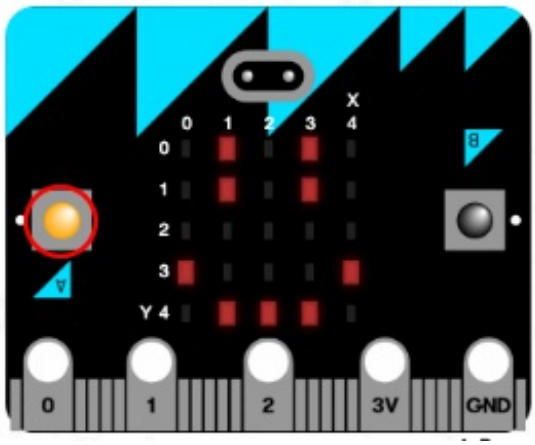
Click 'Add Event' and then choose the `onPressA` event.



Any code added inside this event will run when the ‘A’ button on your micro:bit is pressed.

- [ ] Drag another `draw` block inside your new event, and select the happy face pattern.

- [ ] Test our your new code in the editor, by clicking ‘run’. Press the ‘A’ button and you should see a happy face on your micro:bit.

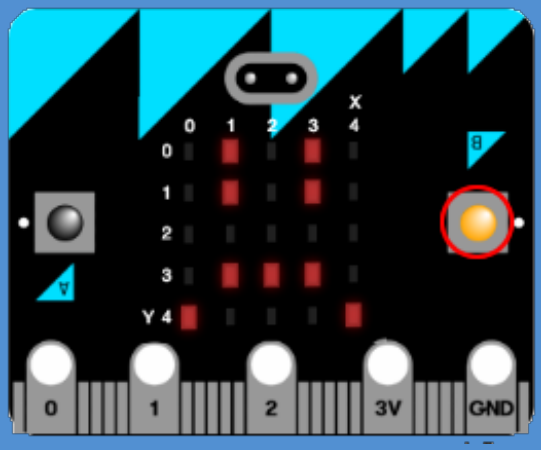


You can also test out your new code on your micro:bit.

Save your project

Challenge: Displaying a sad face

Can you make your micro:bit display a sad face when the ‘B’ button is pressed? You’ll need to create a new event to do this.



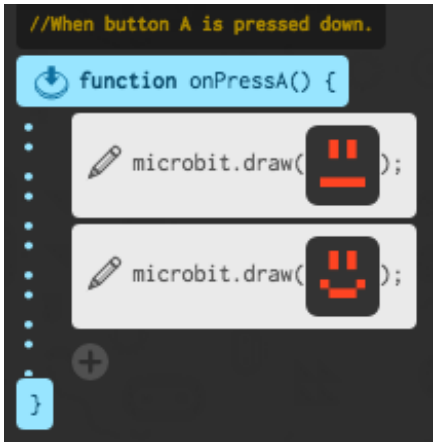
Save your project

Step 3: Creating a simple animation

Let's create a (very) simple animation for your happy and sad faces.

Activity Checklist

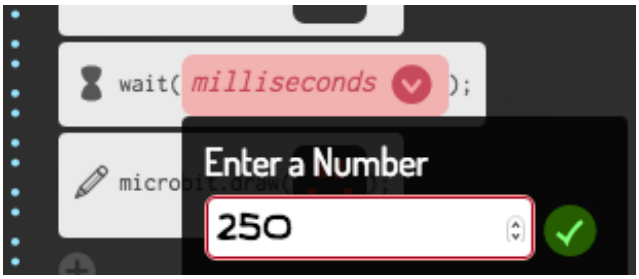
- [ ] Add a second `draw` block to your `onPressA` event, with a neutral face.



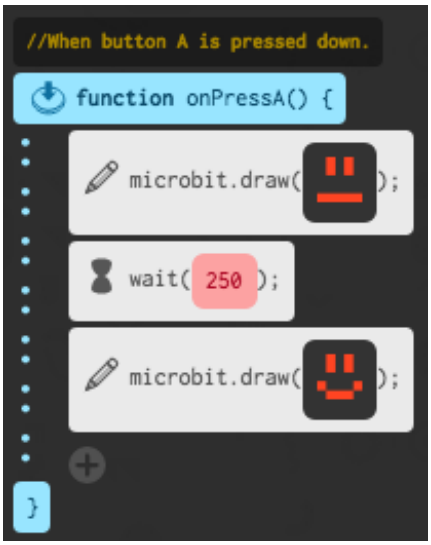
- [ ] If you run this code to test it, you'll notice that you don't see the first pattern. To fix this, you'll need to add a `wait` block between the two images being displayed.

To find the `wait` block, click the 'Language' icon on the left of the editor.

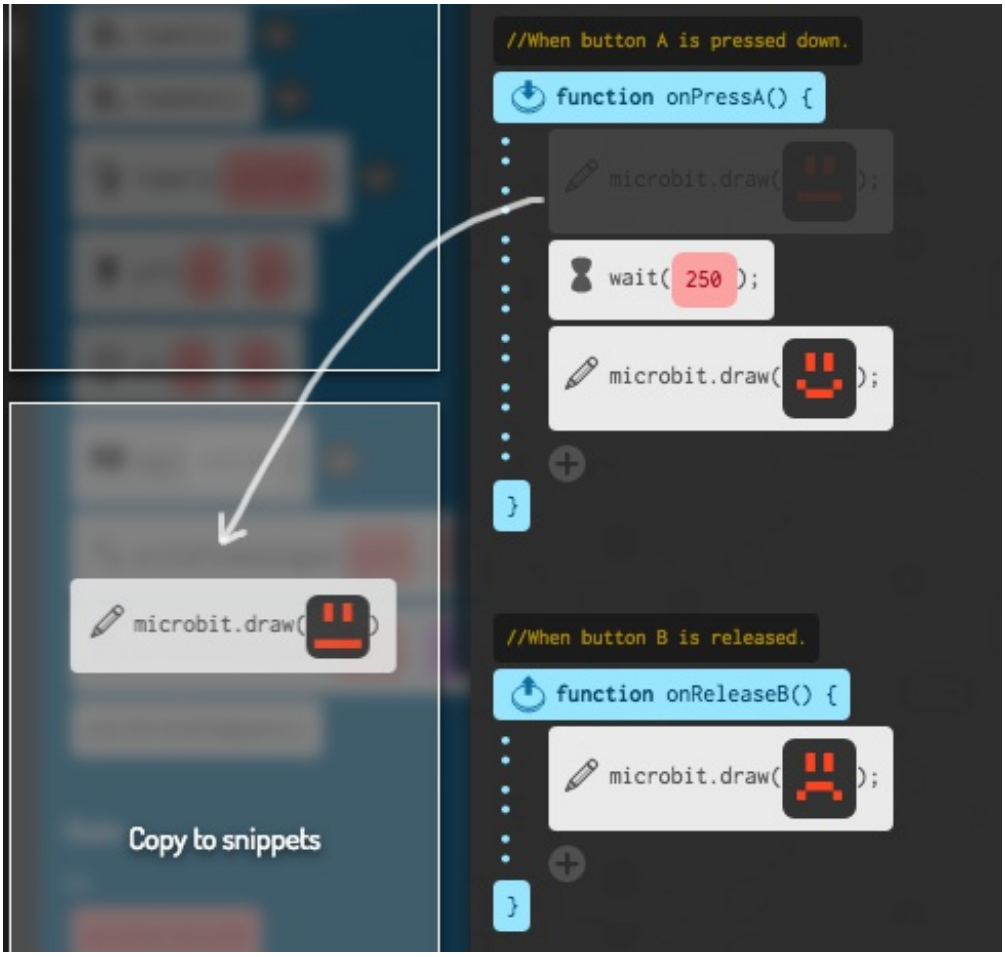
To choose how many milliseconds to wait, click the down-arrow and enter a number. 1000 milliseconds is 1 second, so 250 milliseconds is a quarter of a second.



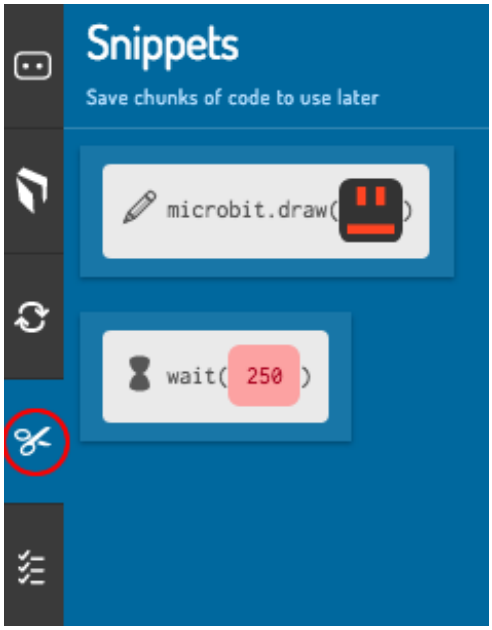
This is how your code should look:



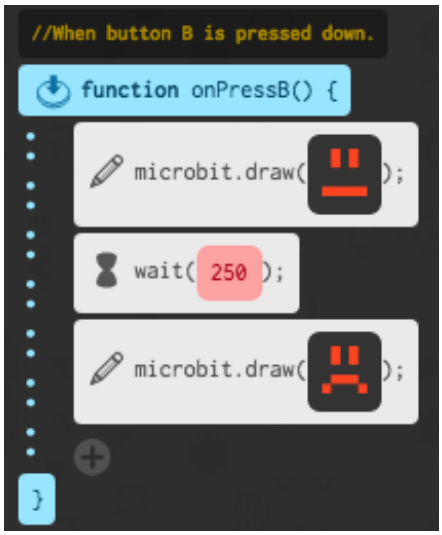
- [ ] You'll also need to animate your sad face. The easiest way to do this is to copy the blocks you've just created. Drag the neutral face `draw` block **and** the `wait` block to the left of the editor, into the 'Copy to snippets' area.



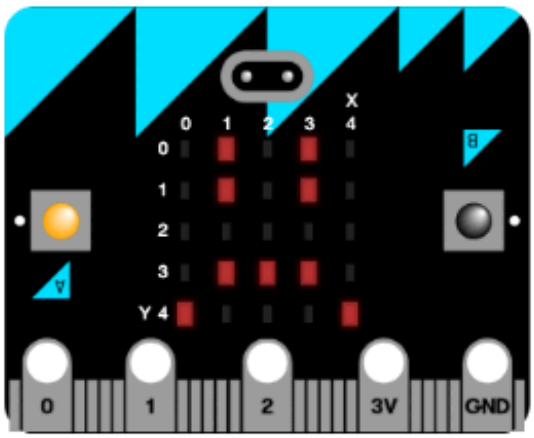
- [ ] If you click the ‘Snippets’ icon, you should see your 2 blocks.



- [ ] You can then drag these blocks into your `onPressB` event. This is how your code should look:



- [ ] Test your code, and you should see your animated happy and sad faces!



Save your project

Challenge: Create your own interactive badge!

Create your own badge - you can use any images or animations you like!

Save your project