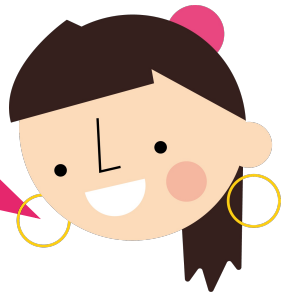
MICROBITS AND MU - TEXT AND IMAGES



Connect MicroBit and Mu

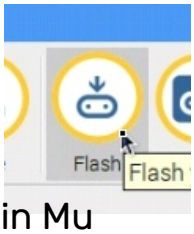
1. Open the Mu MicroPython editor from the main menu, in the Programming sub-menu
2. Connect your MicroBit to your computer with the micro USB cable

Displaying Text

3. Type the following program into your Mu editor, save it as hello.py and the press the "Flash" button to send it to your Micro:Bit

```
from microbit import *

display.scroll("Hello World!")
```



4. We can also display individual letters. Create a new file in Mu and type in the following program. This time save it as awesome.py and again press the "Flash" button to see it run on your Micro:Bit

```
from microbit import *

message = "HullRaspJam is awesome!"

while True:
    display.show(message, 1500)
```

We have added a "while True:" loop here. This loop will keep running forever, meaning our message will keep on being displayed as long as our Micro:Bit is powered up.

The second argument we have given to the display.show function is the delay between the next character being shown. This is measured in milliseconds.

Have a play around and make your own messages.

Displaying Images

5 We can also display images on our Micro:Bit. We can either use pre-programmed images or design our own.

To display one of the built-in images, create a new file in Mu and write this program into it. When you have finished it save it as skull.py and press the "Flash" button to see it run on your Micro:Bit.

```
from microbit import *

display.show(Image.SKULL)
```

You can find a complete list of the built-in images here: **http://bit.ly/Micro-Images** Try some different ones out!

6 To create your own image, it's easiest to first draw it out on paper. You have a matrix of 5 x 5 LEDs, so start by drawing a 5 x 5 grid on your paper.

Each LED can have its brightness set between 0 and 9. '0' indicates that the LED is switched off and '9' indicates that it is on full brightness.

Using the example grid and program below, design your own image and send it to your Micro:Bit.

```
from microbit import *

star = Image("90209:"
             "09290:"
             "77977:"
             "09290:"
             "90209")

display.show(star)
```

9	0	2	0	9
0	9	2	9	0
7	7	9	7	7
0	9	2	9	0
9	0	2	0	9