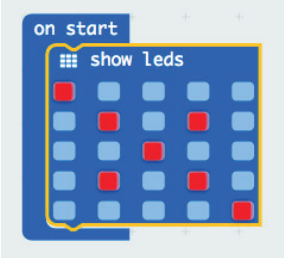
Make a crowd display with BBC micro:bits and MakeCode blocks

Design your image

1. Connect the micro:bit to your computer using the USB cable.

2. Open the MakeCode webpage (makecode.microbit.org) or run the offline version via the app if the app is already on your device (download the app at makecode.microbit.org/offline).

3. Drag these blocks from the **Basic** group:



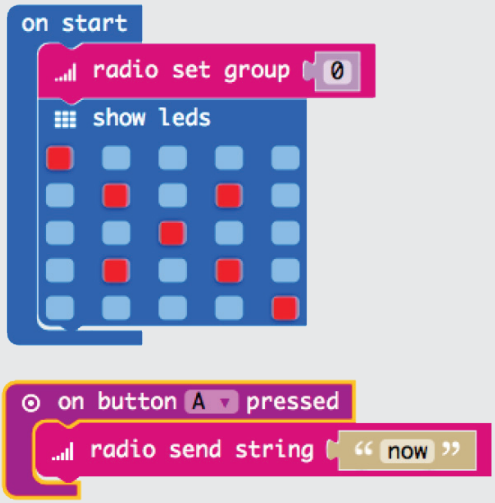
4. Design your own image for LEDs.

5. Click **Download**, and then follow the instructions to copy the `.hex` file to your micro:bit. The LEDs on the micro:bit should light up and show your pattern.

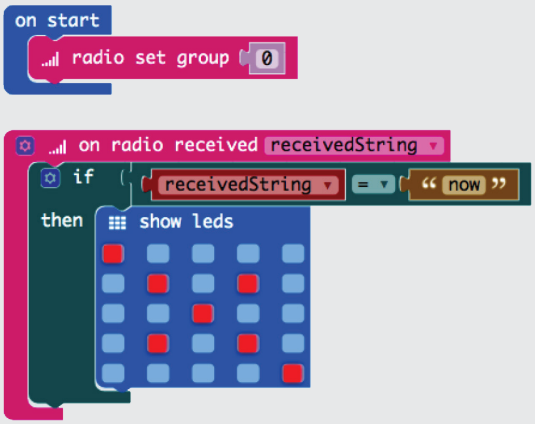
Set up the radio

1. Add the `radio set group` block.

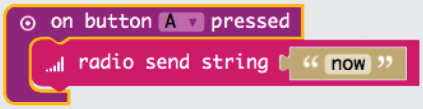
2. Now add an `input` block that will be triggered when Button A is pressed, and fill it with a `radio send string` block. Enter some text to send as the message (the example uses "now").



1. Move your `show leds` block and add an `if...then` block so that the LEDs are only triggered when your message (with the same text) is picked up via the `on radio received` block.



2. Find someone else who is at the same point and test your code. Does pressing your A button make their image appear on their micro:bit?



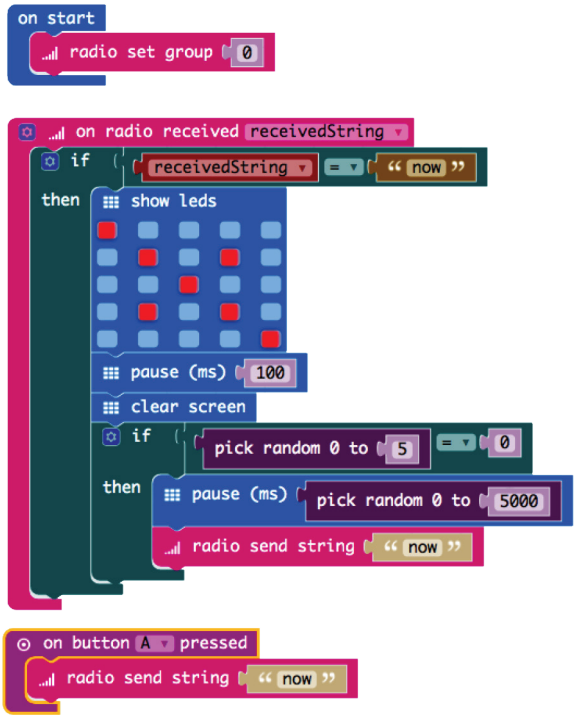
3. Can you add a `pause` and a `clear screen` block so that the image disappears after a few seconds?

Trigger an avalanche of messages

1. To trigger an avalanche, have the micro:bits re-broadcast the message sometimes, but not always, after they receive it: use the `pick random` function to choose a number, and only broadcast the message again if the number matches a specific value.

2. Use the `random` block again to include a slight pause of up to five seconds before re-broadcasting.

3. Test your code as a group and adjust the values in the `random` blocks so that avalanches occur as often as you like.



4. Work as a group to extend the project:

- Modify the code so that pressing your B button has a different effect to pressing your A button.
- Can you coordinate your micro:bits so that pressing a button on one of them causes a text message to be displayed on the others one letter at a time?

Learn how to do more with your micro:bit and earn yourself a digital badge at **rpf.io/microbit-intro**. To see this card online or print out more, go to **rpf.io/microbit-crowd**.