

## Basic Course8 --- Wireless communication

### Learning goals:

This lesson learns to use wireless communication by Python programming.

### Code:

```

1 # -*- coding: utf-8-*# Encoding cookie added by Mu Editor
2 from microbit import display, Image, button_a
3 import radio
4
5 display.show(Image.HEART)
6 radio.on()
7 radio.config(group=1)
8 a = 0
9
10 while True:
11     if button_a.was_pressed():
12         radio.send('flash')
13     incoming = radio.receive()
14     if incoming == 'flash':
15         a = a + 1
16         display.show(a)
17

```

### Programming and downloading:

1. You should open the Mu software, and enter the code in the edit window, , as shown below.

**Note! All English and symbols should be entered in English, Tab key for indentation, and the last line must be a space.**

The Mu Editor interface includes a toolbar with icons for Mode, New, Load, Save, Flash, Files, REPL, Plotter, Zoom-in, Zoom-out, Theme, Check, Help, and Quit. The code editor shows the following Python code:

```

Serial communication.py x
1 # -*- coding: utf-8-*# Encoding cookie added by Mu Editor
2 from microbit import uart, sleep, display
3
4 uart.init(115200)
5 a = 0
6 display.show(0)
7 buf = ""
8
9 while True:
10     if uart.any():
11         buf = uart.read()
12         uart.write(buf)
13         a = a + 1
14         if a > 9:
15             display.show("A")
16         else:
17             display.show(a)

```

2. You need to click the “Check” button to check if our code has an error. If a line appears with a cursor or an underscore, the program indicating this line is

wrong. If there is no cursor or underline, it means that the code is correct, and the bottom left will prompt that the check is OK.

```

Wireless communication.py
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```

Awesome! Zero problems found.

3. You need to connect the micro data cable to micro:bit and the computer. Click “Flash” to download program to **two micro:bit boards**.

```

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```

Copied code onto micro:bit.

## Experimental phenomena

After download is complete. We can see two micro:bit board display a “heart”, when we press A button on No.1 micro:bit board, No.2 micro:bit will display “1”; when we press B button on No.2 micro:bit board, No.1 micro:bit will display “1”.