



Micro Python

Mood Maker

02

- Are you happy or sad?
- Create a program which displays a happy or sad face, depending on which button you press



10 mins

1. Overview

Your micro:bit has two buttons on the front, marked **A** and **B**. This program will show a happy face when you press button **A**, and a sad face when you press button **B**.

Go to www.microbit.org/code

Scroll down to *Python Editor* and click the orange *Let's Code* button beneath it.

The code editor will open.

2. Enter the code

Makes the program run all of the time

If button A is pressed, do the indented commands

If button A is not pressed, do the indented commands

```
from microbit import *  
  
while True:  
    if button_a.is_pressed():  
        display.show(Image.HAPPY)  
    else:  
        display.show(Image.ASLEEP)
```

Show a happy face

Show a sleeping face

Type in this program, download it to your computer, then transfer it to your micro:bit.

It will show a sleeping face. When you press the A button, it changes to a sleeping face.

3. Add another face

You have used an `if-else` statement to decide whether the micro:bit should show a sleeping or a happy face. We can add more conditions to an `if-else` statement by adding `elif` conditions.

`Elif` means "If Else".

Lets add an `elif` condition to show a sad face when we press button **B**.

ELIF statements must always go between the IF and ELSE commands

```
from microbit import *  
  
while True:  
    if button_a.is_pressed():  
        display.show(Image.HAPPY)  
    elif button_b.is_pressed():  
        display.show(Image.SAD)  
    else:  
        display.show(Image.ASLEEP)
```

Type in this program, download it to your computer, then transfer it to your micro:bit.

4. One more face

Finally, lets add a 'fabulous face' to our program. Each if statement must start with `if` and end in `else`, but can have many `elif` conditions in between them.

Because the micro:bit only has two buttons, our program will show the fabulous face when both are pressed at the same time.



Note: because the micro:bit needs to check if button A *and* button B are pressed together, this needs to be placed as the first condition.

```
from microbit import *

while True:
    if button_a.is_pressed() and button_b.is_pressed():
        display.show(Image.FABULOUS)
    elif button_a.is_pressed():
        display.show(Image.HAPPY)
    elif button_b.is_pressed():
        display.show(Image.SAD)
    else:
        display.show(Image.ASLEEP)
```

Type in this program, download it to your computer, then transfer it to your micro:bit.

4. Challenge

Modify your program to also display a message when a button is pressed. For example, pressing button A will show the happy face and a message saying "I am happy!"; pressing button B will show "I am sad!"

Use the commands from the previous worksheet. How

will each new command need to be indented so that the correct message shows with each button?

You can use `sleep(1000)` to your program to add a one-second delay between the face displaying and the text appearing.