

Import

```
from microbit import *
```

```
import random
```

```
import music
```

```
import radio
```

You *always* need to have the `from microbit import *` line at the start of your program

If you use random, music or radio in your program you need to remember to also import them at the top of your program as well

General

```
sleep(1000)
```

```
temp = temperature()
```

```
time = running_time()
```

sleep tells the Microbit to stop doing anything for as long as you tell it

temperature gets the current temperature

running_time gets the amount of time since the Microbit started running the program

Buttons

```
if button_a.is_pressed():
    display.show(Image.HAPPY)
if button_b.is_pressed():
    display.show(Image.SAD)
```

Show a happy face if button A is being pressed or show a sad face if button B is being pressed.

Random

```
import random
```

```
randrange(1, 10)
```

```
random.choice(things)
```

randrange picks a random number in the range

random.choice picks a random thing out of a list of things

Display

```
display.clear()
```

```
display.show(Image.DUCK)
```

```
display.show(customImage)
```

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

```
display.set_pixel(0, 0, 9)
```

```
display.show(IMAGE.shift_up(1))
```

Radio

```
import radio
```

```
radio.on()
```

```
message = radio.receive()
```

```
radio.send("Hello World!")
```

```
radio.config(channel=20)
```

When you have more than 1 Microbit, you can send and receive messages using the radio.

If there are other Microbits using the radio around you, make sure that you are using a different channel number (using `radio.config`) so that you aren't accidentally receiving their messages

Gestures

```
gesture == "up"
```

```
gesture == "down"
```

```
gesture == "left"
```

```
gesture == "right"
```

```
gesture == "face up"
```

```
gesture == "face down"
```

```
gesture == "shake"
```

Speech

```
import speech
```

```
speech.say("Hello World")
```

Music

```
import music
```

```
music.play(music.BIRTHDAY, wait=False, loop=True)
```

```
music.stop()
```

```
tune = ['C4:4', 'D4:4', 'A4:4']
```

```
music.play(tune)
```

Setting `wait=False` tells the Microbit to play the music and keep going with the rest of the program, otherwise it will wait until the music is done

Setting `loop=True`, will keep looping the music over and over instead of just playing once



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Music

music.DADADADUM

music.ENTERTAINER

music.PRELUDE

music.ODE

music.NYAN

music.RINGTONE

music.FUNK

music.BLUES

music.BIRTHDAY

music.WEDDING

music.FUNERAL

music.PUNCHLINE

music.PYTHON

music.BADDY

music.CHASE

music.BA_DING

music.WAWAWAWAA

music.JUMP_UP

music.JUMP_DOWN

music.POWER_UP

music.POWER_DOWN

Accelerometer

```
gesture =  
accelerometer.current_gesture()  
if gesture == " shake":  
    display.show(Image.SAD)
```

This code checks what the current gesture is that is happening to the Microbit and shows a sad face if it is a shake



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