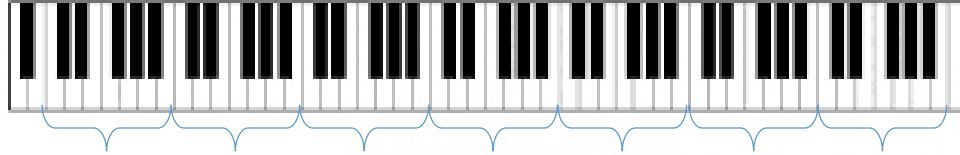


The piano

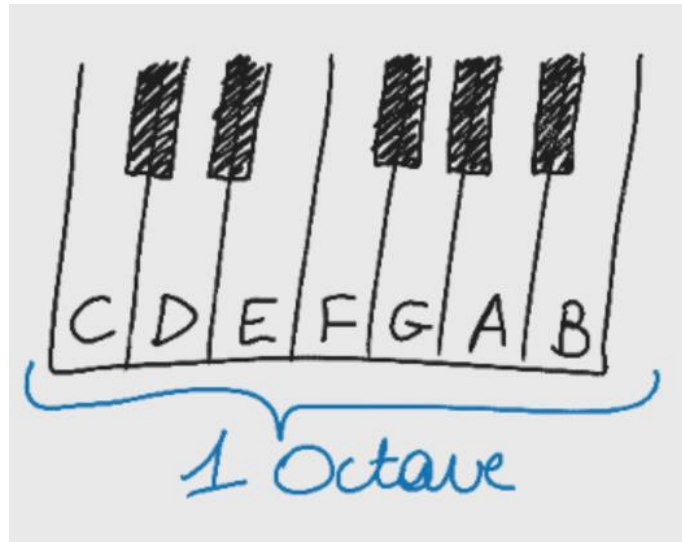
- Full :

- 7 octaves (a bit more)



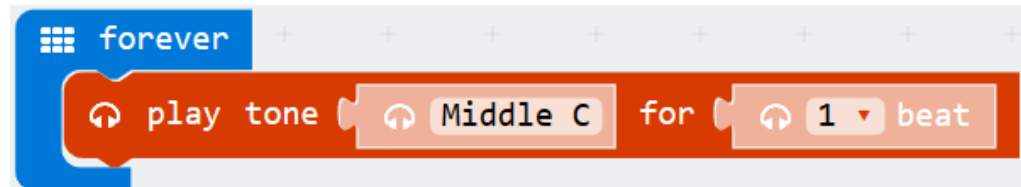
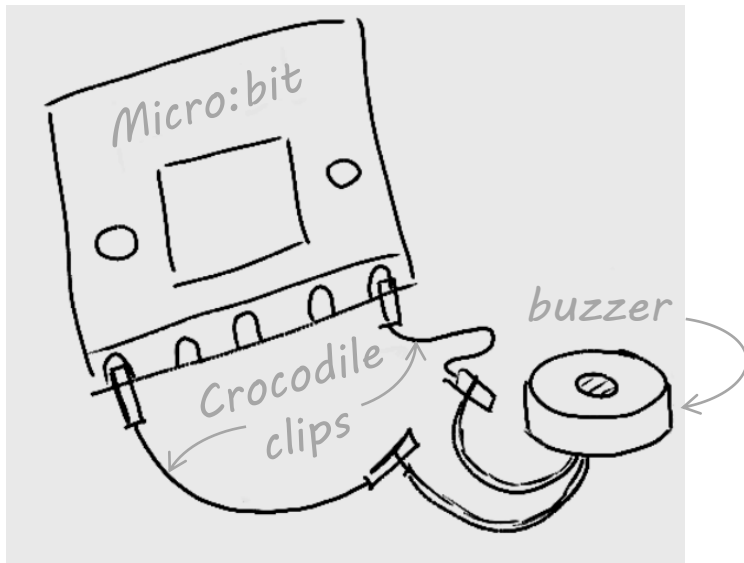
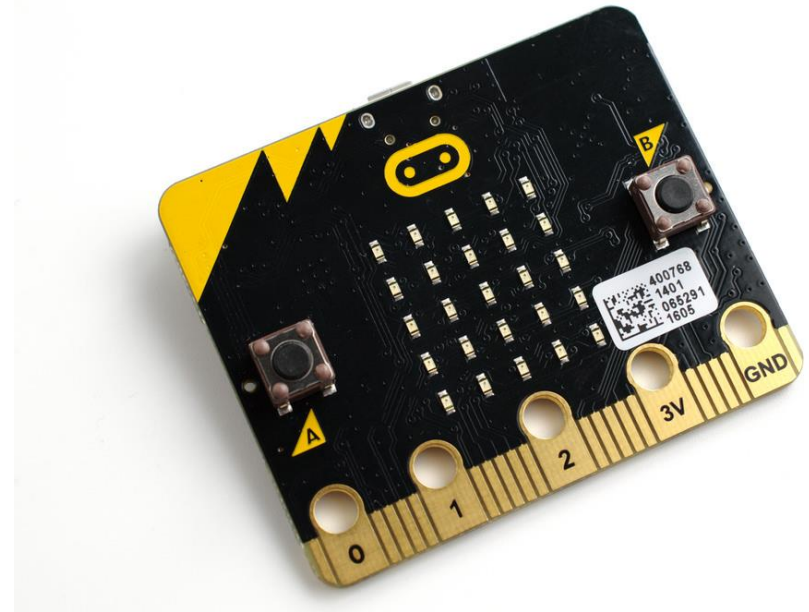
- 1 octave :

- 7 notes



The micro:bit

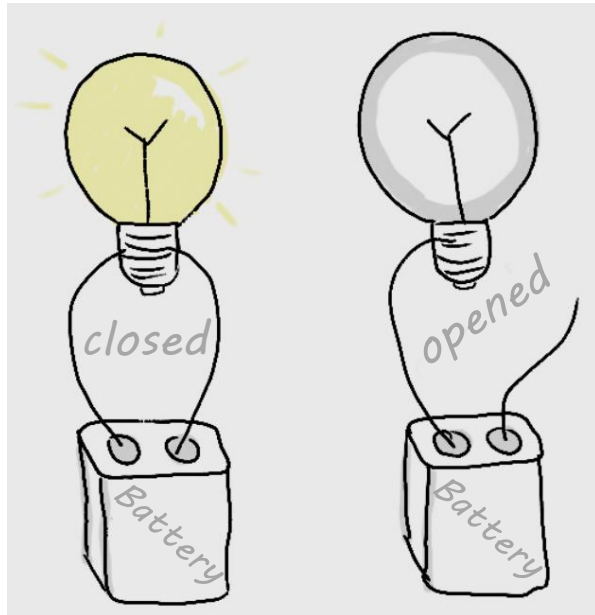
- This is a micro computer
 - With buttons (A and B)
 - With sensors (light, temperature...)
 - With a small screen (5x5 leds)
- It can also play music!



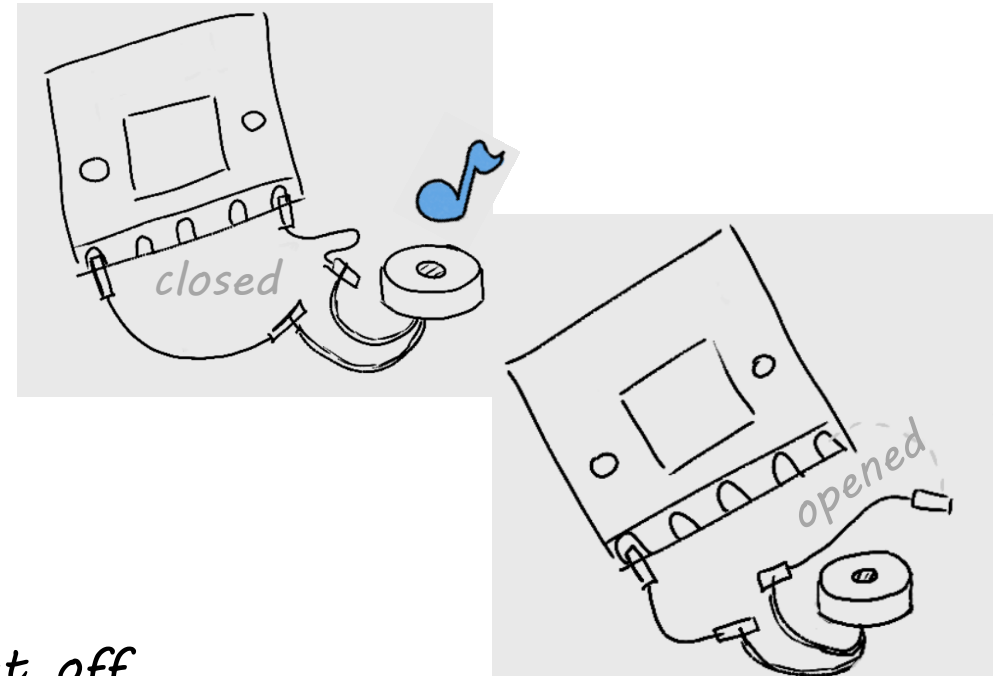
Electrical circuits

- How does it work?

- If the circuit is closed, the current flows : the light bulb lights on
- If the circuit is opened, the current doesn't flow : the light bulb stay off



It is the same
with the micro:bit

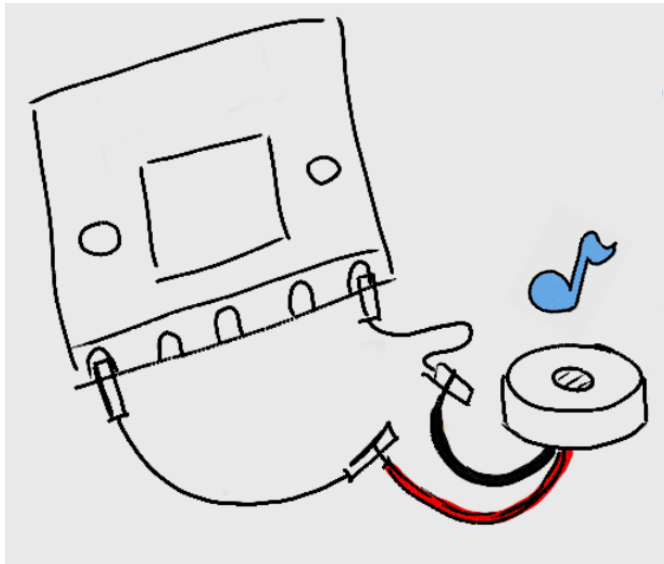


- ▶ When you push on a switch to switch the light off,
- the switch just opens the circuit !

Electrical circuits

- *How does it work?*

- *If the circuit is closed, the current flows : the light bulb lights on*
- *If the circuit is opened, the current doesn't flow : the light bulb stay off*
- *There is a convention (like '+' and '-' on a battery)*



*It is the same with
the micro:bit*

Electrical circuits

- *How does it works?*

- *If the circuit is closed, the current flows : the light bulb lights on*
- *If the circuit is opened, the current doesn't flow : the light bulb stay off*

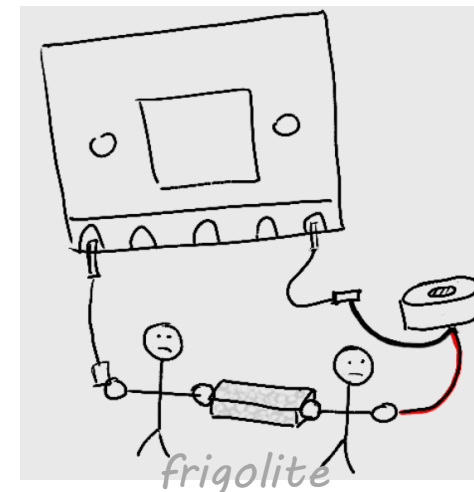
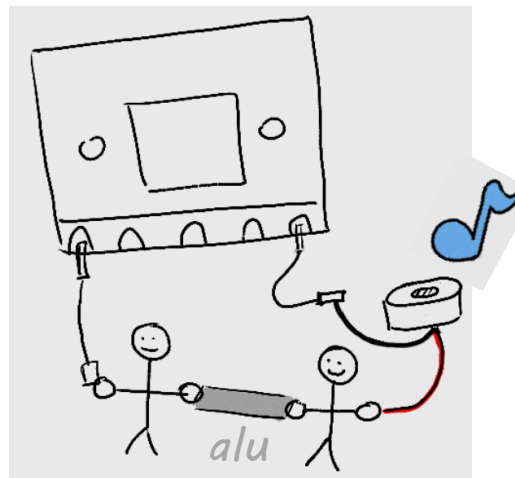
- *There is a convention (like '+' and '-' on a battery)*

- *The composants of the circuit must be a « conductor »*

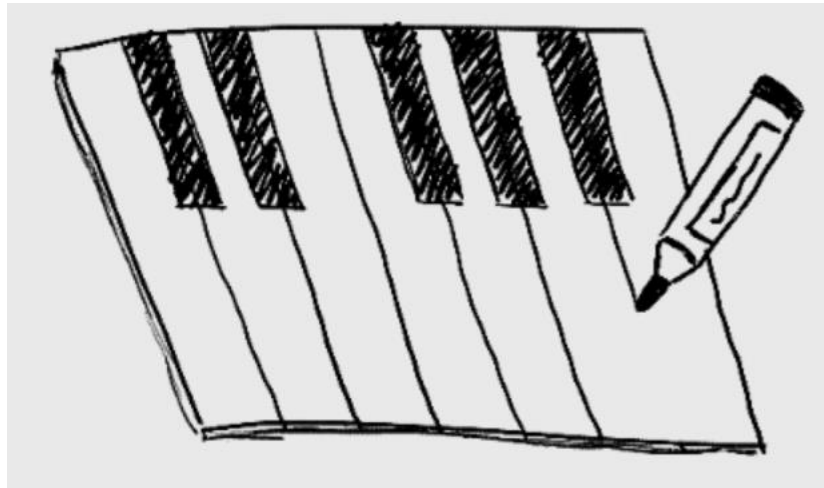
- *Electric cord*
- *Aluminium*
- *Human body*
- *...*

These aren't conductors :

- *A sheet of paper*
- *polystyrene*
- *...*



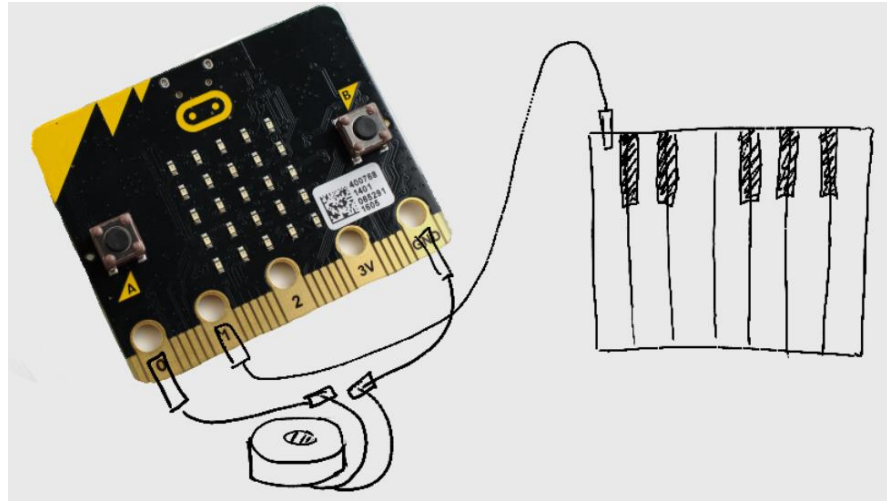
How to make a piano with micro:bits ?



With cardboard

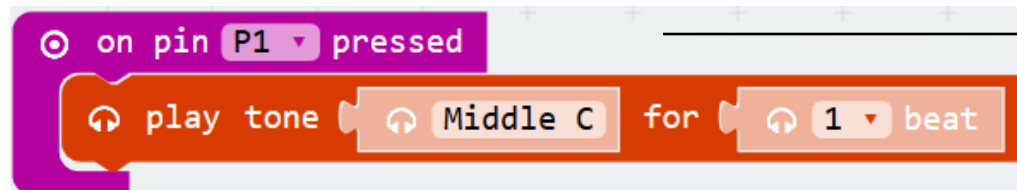
How to make a piano with micro:bits ?

- We'll connect one micro:bit to one key (thanks to pins)



Now, we want the behaviour
« on key pressed, the
micro:bit plays tone C »

- We'll ask to the micro:bit to do this:

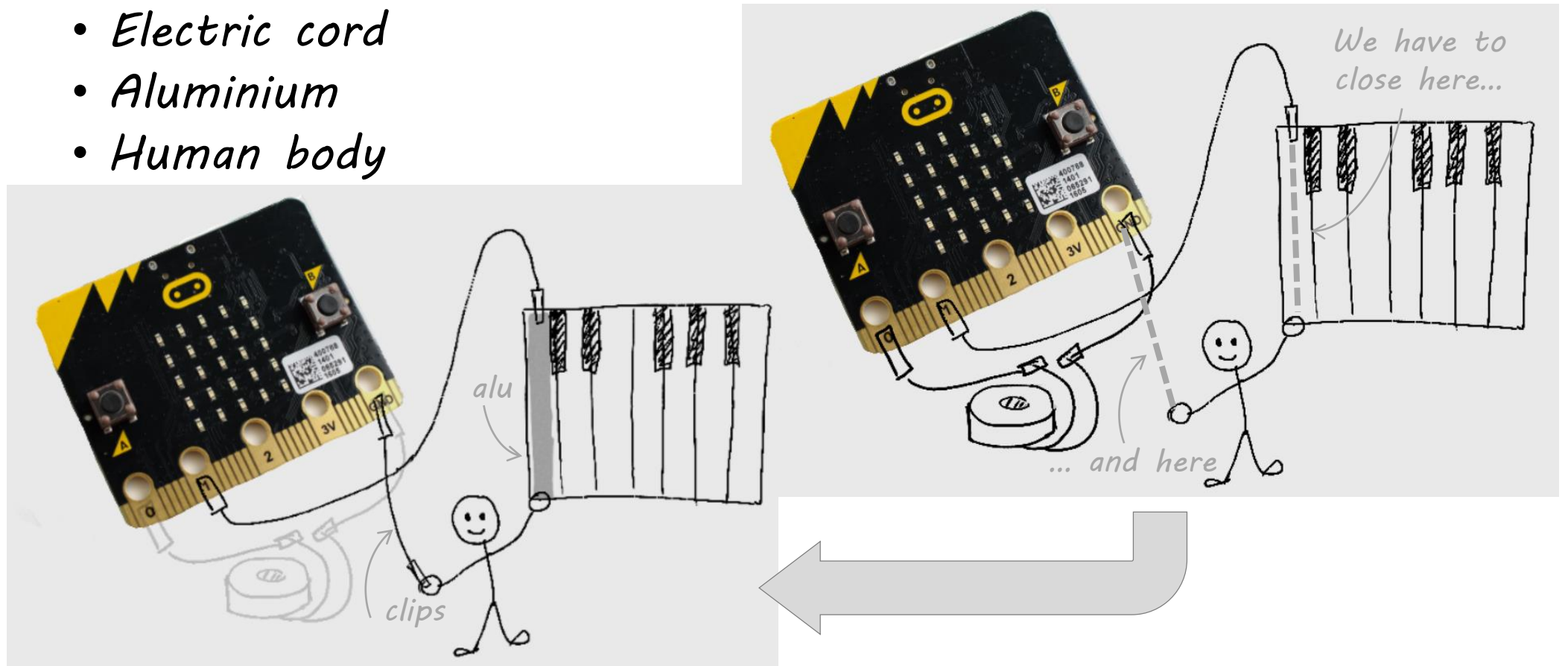


Mean in fact:
« when the circuit from P1 and
GND is closed »

- All we have to do is to make sure that when the key is pressed, the circuit closes !

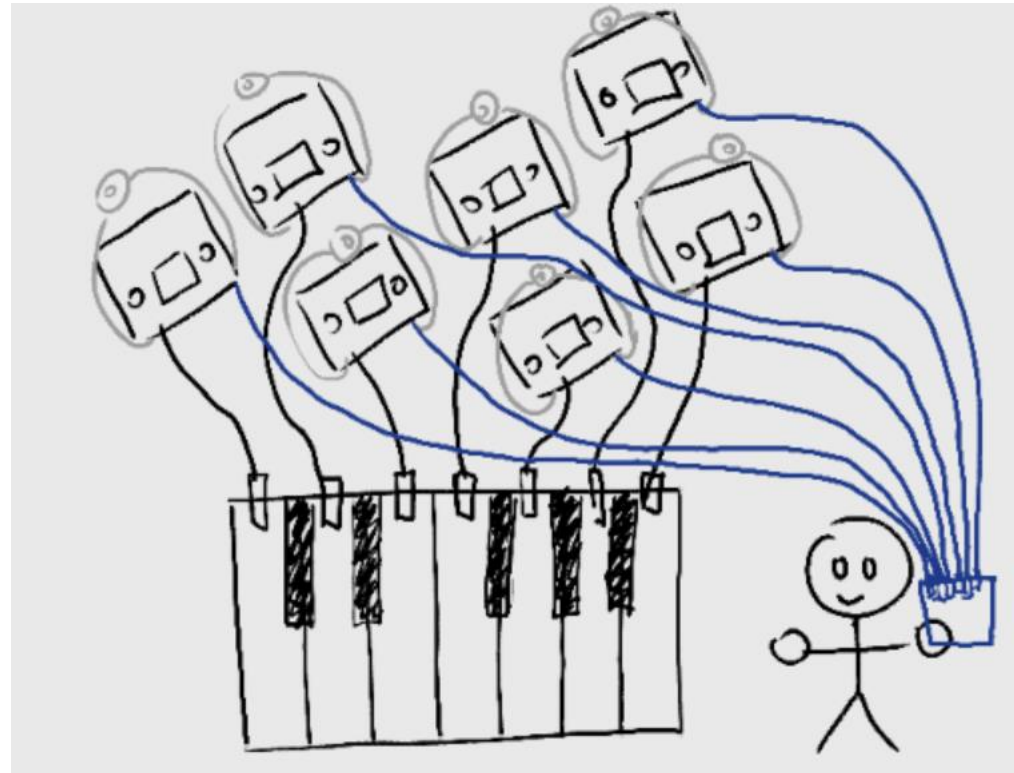
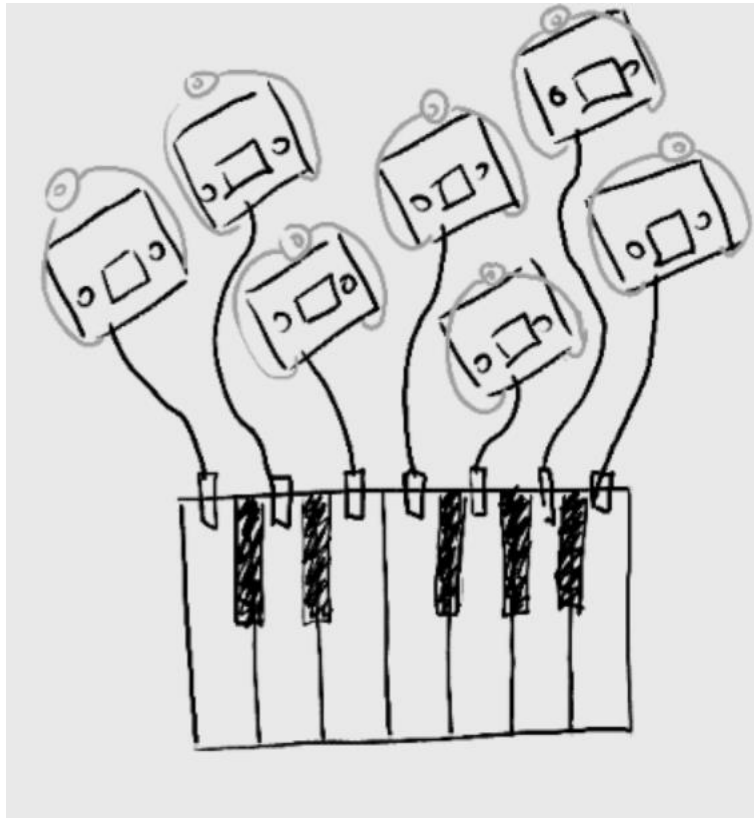
All we have to do is make sure that when the key is pressed, the circuit closes ...

- For that, we'll use conductor components:
 - Electric cord
 - Aluminium
 - Human body



For a whole octave

- We'll connect each micro:bit to one key
- Then, we'll connect each micro:bit to the person



Here is the result:

