

# TD 2

## Using several components together

**Hardware** (not exhaustive) :

- 1 Arduino (UNO)
- 1 Arduino USB power cable
- 1 Breadboard
- 1 Push button
- 4 LED
- Resistors 220 ohm
- 1 Buzzer
- 1 Potentiometer
- About 10 Dupont cables male/male
- About 10 Dupont cables male/female

### 1. Blink! 🚦

🎯 **Goal:** Flashing 3 LEDs connected to 3 different GPIOs on the Arduino

📖 **Rules:**

1. A push button will be used to change the flashing direction of the LEDs
2. A buzzer will beep each time the button is pressed
3. A potentiometer will be used to adjust the flashing speed of the LEDs

👍 Call the teacher for verification once the setup is complete

### 2. Jukebox 🎵

🎯 **Goal:** Make a mini music player with 3 tunes. You can find different ones on sites like:  
<https://github.com/robsoncouto/arduino-songs>

📖 **Rules:**

1. The potentiometer is used to adjust the volume
2. The button allows to change music
3. LEDs indicate the selected music
4. The buzzer reads the music
5. The start and end of the program are done by sending "start" and "stop" on the serial port
6. The RGB LED varies from red to blue depending on the volume

Be careful not to put too heavy music, the memory available on the Arduino being **quite limited**

👍 Call the teacher for verification once the setup is complete