DOCUMENTATION

ACTIVITY

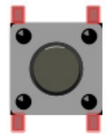
ASSESSMENT

USEFUL LINKS

HOW TO USE A

PUSH BUTTON TO TURN ON AN LED

WITH ARDUINO



PUSH BUTTON

LED

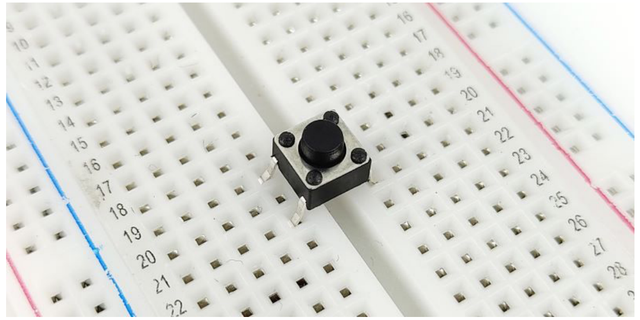
DOCUMENTATION

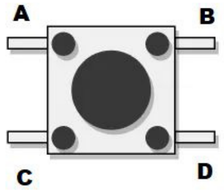
ACTIVITY

ASSESSMENT

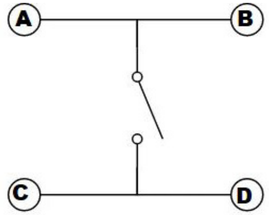
USEFUL LINKS

PUSH BUTTON

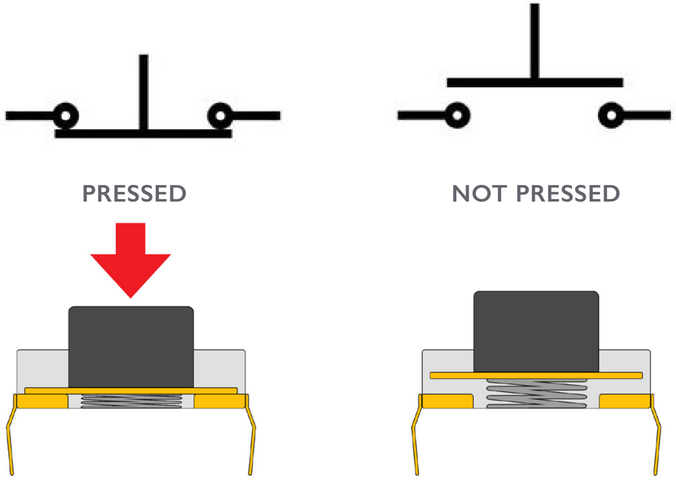




Chanel 1: pins A-B are internally connected



Chanel 2: pins C-D are internally connected



HOW DOES IT WORK?

Buttons open and close the flow of electricity in a circuit. When the button is pressed, we connect the button's internal pins (A-B to C-D) creating a bridge that allows the flow of electricity. While the button is not pressed, the connection is broken, therefore, electricity cannot pass through the circuit..

WARNING! The choice of pins does matter. Make sure you are connecting the correct pins.

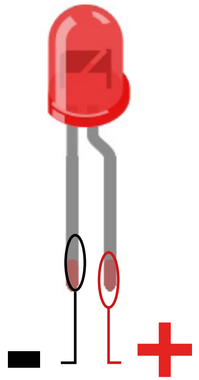
DOCUMENTATION

ACTIVITY

ASSESSMENT

USEFUL LINKS

LED (Light-Emitting Diode)



SHORTER LEAD
Ground (-)

LONGER LEAD
Power (+)

RESISTOR 220ohms

HOW DOES IT WORK?

LEDs are electronic components (diodes) that emit light when electricity flows through them.

WARNING! Polarity Matters
LEDs are polarized components, meaning electricity flows only in one direction—from positive to negative.

The longer lead must be connected to the positive side of the circuit (e.g., a data pin from the Arduino). You a resistor!

The shorter lead must be connected to ground (GND).

WARNING! Use a Resistor
Arduino pins output 5V—too much for an LED. Use a 220Ω resistor to prevent it from burning out.

DOCUMENTATION

ACTIVITY

ASSESSMENT

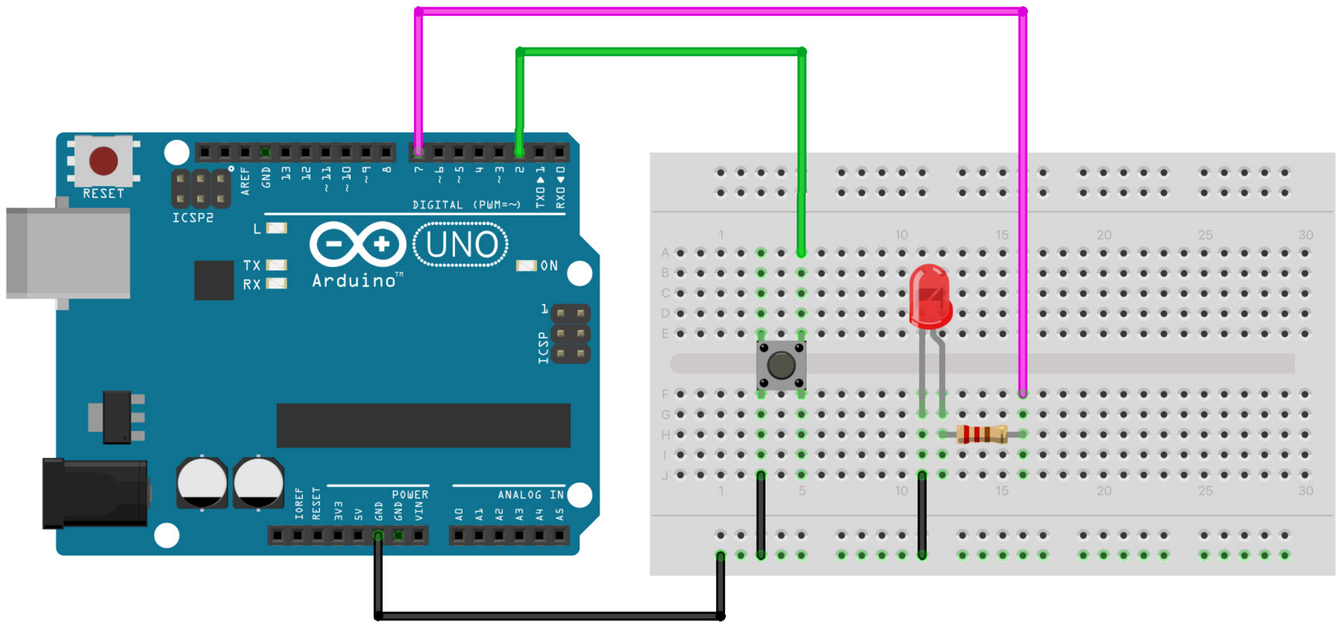
USEFUL LINKS

LED ON-OFF

Control a LED using a push-button (internal pull-up)

Visit ‘Useful Links’ for further learning.

DIAGRAM



CODE

DOWNLOAD

DOCUMENTATION

ACTIVITY

ASSESSMENT

USEFUL LINKS

CHALLENGE:

1. Build a circuit with two buttons and two LEDs:
   - Button A controls LED A
   - Button B controls LED B
   - Each LED should light only while its button is pressed.

2. Upload a video (max 10 seconds) showing your achievements.

VIDEO UPLOAD

DOCUMENTATION

ACTIVITY

ASSESSMENT

USEFUL LINKS

FURTHER LEARNING

- Push-Button more tutorials
- Understanfing Pull-up and Pull-Down
- How to connect a push button or switch