

# Arduino Bootcamp : From Novice to Professional - Learning Through Projects

Controlling a Piezo Buzzer with a Push Button Switch

# Project Objectives

- In this project you will learn:
  - How a Piezo Buzzer Works
  - How to wire Piezo Buzzer in a circuit
  - The difference between an active and a passive buzzer
  - Using the tone() function
  - Using the noTone() function

# Parts

- Arduino Uno
- USB A-B cable
- Breadboard
- Piezo Buzzer
- 330 ohm resistor and 1 k ohm resistor
- Push Button Switch
- Connecting wires

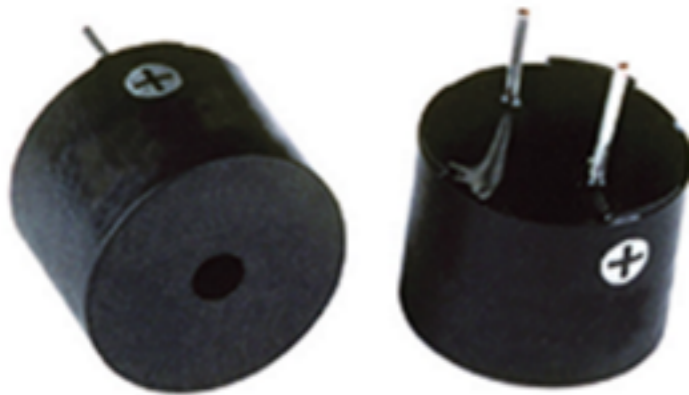
# Buzzers

- Active Buzzers

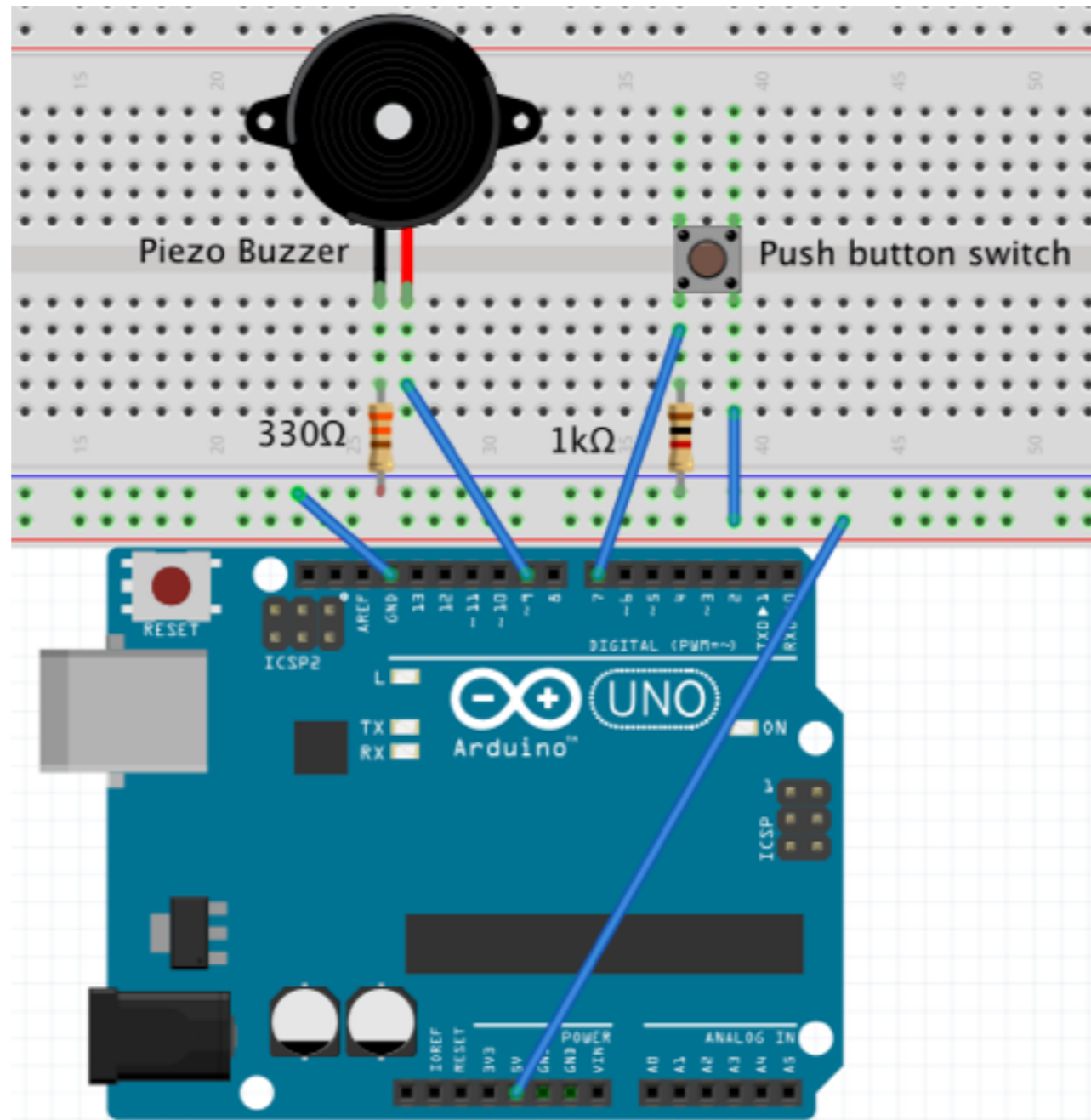
- Generates the sound itself using an internal oscillator
- All that is needed is DC voltage
- You can turn it on/off with just like an LED
- You might need a transistor to boost power due to higher current/voltage requirements

- Passive Buzzers

- Need to provide an AC signal to control sound
- Arduino uses the tone() function to accomplish this
- Piezo passive speaker can be driven from the Arduino
- Pitch can be controlled



# Circuit Diagram



# Summary

- In this project you learnt:
  - How a Piezo Buzzer works
  - The difference between active and passive buzzers
  - How to a piezo in a circuit
  - Using the `tone()` function
  - Using the `noTone()` function