

### Experiment 3.2 – BUZZER Control Buzzer By Push Button (Challenge)

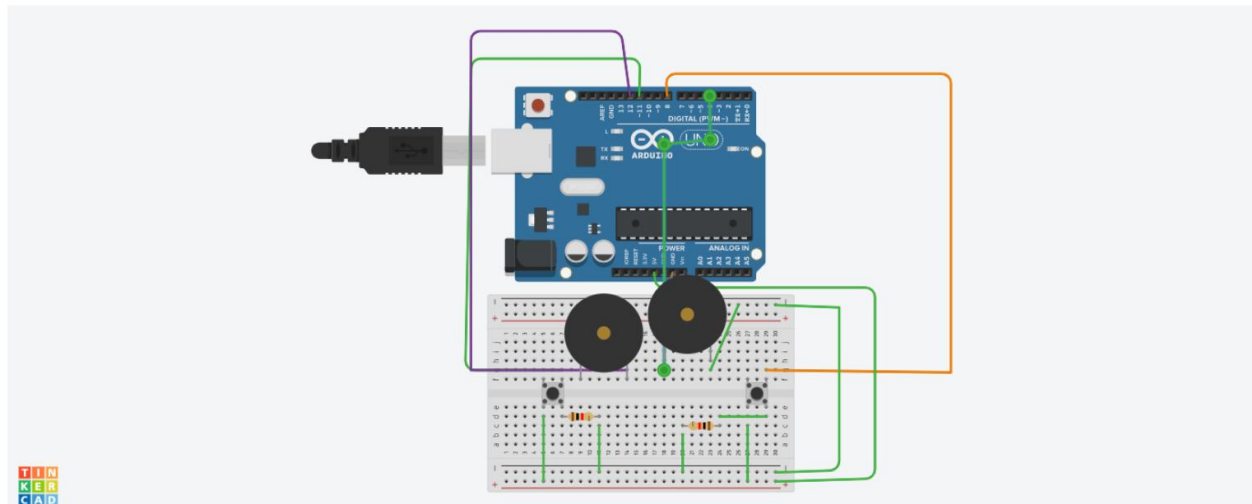
Aim:

To design a Push Button controlled Buzzer such that when we push the button one time, the Buzzer starts glowing and when we push the button second time, the BUZZER stops glowing.

Apparatus:

Arduino Board, Buzzer, Resistance - 220ohm, Breadboard, Wires.

Circuit Diagram:



Theory:

Concepts Used - BUZZERS: An BUZZER is a small light that works with relatively little power. The Arduino board has one built-in on digital pin 13. An external BUZZER can also be used by specifying the pin number it is using on the Arduino. In electronics, polarity indicates whether a circuit component is symmetric or not. BUZZERS, being diodes, will only allow current to flow in one direction. And when there's no current-flow, there's no light. The positive side of the BUZZER is calBuzzer the "anode" and is marked by having a longer "lead," or leg. The other, negative side of the BUZZER is calBuzzer the "cathode." Current flows from the anode to the cathode and never the opposite direction. A reversed BUZZER can keep an entire circuit from operating properly by blocking current flow. So don't freak out if adding an BUZZER breaks your circuit. Try flipping it around. Learning and Observations -

1. We can recognize the positive and negative terminals of an BUZZER even without using a Multimeter. The longer leg of the BUZZER is the positive terminal (or the anode) and the smaller leg is the negative terminal (or the cathode). 2. Another way of finding the positive and negative terminals of an BUZZER is

to see the parts inside the BUZZER. The larger part is the negative side (i.e. the cathode) and the smaller part is the positive side (i.e. the anode).

#### Problems and Troubleshooting:

1. The first problem that we faced was due to the cable of the Arduino which was not working properly. This problem was solved by using another cable. 2. The proper port of the Arduino was not selected. After it was selected the Arduino worked perfectly. 3. The code had some errors like proper pin was not mentioned, etc. But after modifying the code, everything worked perfectly fine.

#### Precautions:

1. The Arduino and its cable should be working properly. 2. Proper port of the Arduino should be selected. 3. The connections should be made neat and clean. 4. Desired resistance should be used.